

PRELIMINARY SCOPING STATEMENT

Case 18-F-0440: Morris Ridge Solar Energy Center

Town of Mount Morris, Livingston County, New York

Prepared For:



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COMMONLY USED TERMS

Facility: Collectively refers to all components of the proposed project, including PV panels, access driveways, buried and above ground collection lines, collection substation, point of interconnection switchyard, and staging areas.

Facility Area: An area of land within which all Facility components will ultimately be located (depicted on various figures included in this Preliminary Scoping Statement).

Facility Site: Those parcels currently under, or being pursued, for purchase, lease (or other real property interests) by the Applicant for the location of all Facility components.

Project: Refers to construction and operation of the Morris Ridge Solar Energy Facility.

COMMONLY USED ACRONYMS AND ABBREVIATIONS

Applicant	Morris Ridge Solar Energy Center, LLC, an indirect subsidiary of EDF Renewables, Inc.
AC/DC	Alternating current/direct current
BBA	Breeding Bird Atlas (New York State)
BMP	Best management practice
CEF	Clean Energy Fund
CES	Clean Energy Standard
DMM	Document and Matter Management System
GHG	greenhouse gas
GIS	geographic information system
kW/kWh/kV	Kilowatt/kilowatt hour/kilovolt
LSR	large-scale renewables
MRSEC	Morris Ridge Solar Energy Center, LLC
MW/MWh	Megawatt/megawatt hour
NYNHP	New York Natural Heritage Program
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NYISO	New York Independent System Operator
NYSDAM	New York State Department of Agriculture and Markets
NYSDEC	New York State Department of Environmental Conservation
NYSDPS	New York State Department of Public Service
NYSERDA	New York State Energy Research and Development Authority
NYSOPRHP	New York State Office of Parks, Recreation, and Historic Preservation
NYSORPS	New York Office of Real Property Services
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PILOT	payment in lieu of taxes
PIP	Public Involvement Program
POI	point of interconnection
PSL	Public Service Law
PSS	Preliminary Scoping Statement
REV	Reforming the Energy Vision
SEP	New York State Energy Plan
Siting Board	New York State Board on Electric Generation Siting and the Environment
SPCC	Spill Prevention, Control, and Countermeasure
SPDES	State Pollutant Discharge Elimination System
SWPPP	Stormwater Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VIA	Visual Impact Assessment

1.0 INTRODUCTION

Morris Ridge Solar Energy Center, LLC (MRSEC or the Applicant), an indirect subsidiary of the EDF Renewables, Inc. (EDF Renewables) intends to submit an Application to construct a major electric generating facility (the Facility) under Article 10 of the Public Service Law (PSL) in the Town of Mount Morris, Livingston County, New York (the Morris Ridge Solar Energy Center or the Facility). Pursuant to the rules of the New York State Board on Electric Generation Siting and the Environment (Siting Board), not less than 90 days before the date on which an applicant files an Application to construct a major electric generating facility under Article 10, the applicant must submit a Preliminary Scoping Statement (PSS). In addition, under 16 NYCRR § 1000.5(c), an applicant can file a PSS with the Siting Board no earlier than 150 days following the submission of a Public Involvement Program (PIP) Plan.

The initial PIP for the Facility was filed on July 16, 2018, and after receipt of comments from the New York State Department of Public Service (DPS) staff, a Final PIP was filed on September 14, 2018. This PSS for the Morris Ridge Solar Energy Center is intended to satisfy the filing requirements set forth by 16 NYCRR § 1000.5(c). 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 this PSS by serving such comments on the Applicant and filing a copy with the Secretary to the Siting Board. Further details for filing comments on this PSS are provided in the Notice, included in Appendix A of this PSS.

A PSS generally provides an outline and summary of what will eventually become the Applicant's formal Article 10 Application, which MRSEC hopes to file in 2019. While the PSS will provide the scope and methodology of the many environmental studies the State will require for this Facility, as well as the information required to satisfy the regulations, the PSS will not provide the level of specific detail about the Facility layout and components that many stakeholders and members of the public may be seeking. For example, the PSS cannot yet identify the precise locations of solar panels or inverters. This is because the PSS and related "scoping" process are designed to gather stakeholder input at a relatively early stage, before an Applicant has a fully developed proposal, so that issues and resources of particular concern to the community can be identified and incorporated into final Project design. The studies and information outlined in this document will be used to develop the Morris Ridge Solar Energy Center facility's layout, and to create the formal Article 10 Application, which will provide a much greater level of detail on MRSEC's proposed Project.

Stakeholders and members of the public have the opportunity at this early stage to ask questions or submit comments on the proposed scope and methodology of MRSEC's studies through their PSS comments. These comments will help to ensure that local issues of concern are identified and addressed in the Application and will allow MRSEC the opportunity to adjust its approach to certain studies and/or information-gathering efforts before the Application is filed. MRSEC will then gather the PSS comments and provide responses to those comments, within 21 days after the closing

of the comment period. This comment-and-response process will also help to narrow the number of issues that parties might potentially disagree about during later phases of the proceeding, which can help to reduce the cost and burden for stakeholders participating in the Article 10 process. This resolution can occur through a formal Stipulations process, which can commence once it is authorized by the Presiding Examiner in this Article 10 case—usually about 60 days after the PSS is filed, once a Pre-Application Conference is held. This PSS contains a preliminary version of Stipulations proposed by the Applicant within the sub-sections of Section 2.0. MRSEC will post notices if and when it intends to proceed to a Stipulations phase for this Project. Before any Stipulations could be formally signed, they would be posted for public review and comment; and additional notices would be circulated.

Once the Article 10 Application is submitted, the Chair of the Siting Board has 60 days to review the Application and identify any deficiencies that the Applicant would need to address. Once the agencies determine the Application is complete, the Siting Board will have one year to make a decision on the Application. During that one-year period, the Siting Board will hold Public Statement Hearings to solicit public comments. Discovery and evidentiary hearings would likely be held, through a formal litigation phase. If all issues are resolved, the proceeding could be settled through a Joint Proposal executed by interested parties. Alternately, a Recommended Decision would be issued by the Presiding Examiners to the Siting Board, for its review and consideration. The Siting Board would then decide whether to grant, grant with conditions, or deny the requested Certificate of Environmental Compatibility and Public Need (CECPN) that is required of all electric generation facilities over 25 MW in size under Article 10 of the Public Service Law.

Given the complexity and timelines involved in the process, it is important to MRSEC that stakeholders come forward as soon as possible to identify potential issues, impacts, or interests which should be addressed in the Application. By law, the Town of Mount Morris will be party to this proceeding at all stages, as will numerous State agencies. Other local parties who meet the eligibility requirements set forth in the law will also be permitted to participate formally as ad hoc members to the Siting Board. Comments and questions will be accepted from all stakeholders and members of the public throughout all stages of the proceeding on the Siting Board's website, under Case 18-F-0440, through the Project website, or via email to the Applicant's Project representative. Prior to the filing of this PSS, Open Houses were held on June 21, 2018 and February 6 and 7, 2019 regarding the Project. MRSEC will update its Project Website, and will continue its outreach efforts with local, regional, state and federal stakeholders, to ensure that its Application provides a complete picture of the benefits, potential impacts, and details of the proposed Morris Ridge Solar Energy Center project.

Additional information on the Article 10 process is available at the Siting Board's website: <http://www.dps.ny.gov/SitingBoard>.

1.1 FACILITY DESCRIPTION

The Morris Ridge Solar Energy Center project is a proposed 177 megawatt (MW) solar photovoltaic (PV) energy generating project located within the Town of Mount Morris, Livingston County, New York.

The regional Facility location and Facility Site are depicted on Figures 1 and 2, respectively. The lands being evaluated to host the Facility infrastructure (Facility Site) are rural in nature. Not all land included in the Facility Site will ultimately be developed as part of the Facility. The Facility Site includes approximately 1,350 acres of leased private land, which consists primarily of agricultural land. The Applicant is leasing land from private landowners, which will provide a stable and predictable revenue stream to these landowners. The location of the Facility Site and Facility components will be identified in detail in the Article 10 Application. However, in accordance with 16 NYCRR § 1000.5(l)(1), a preliminary map showing areas being considered for solar infrastructure is depicted on Figure 3. This Figure essentially represents a preliminary build-out scenario, which has not yet fully considered avoidance and minimization of impacts to the various sensitive resources. The layout to be presented in the Article 10 Application will be reflective of such avoidance and minimization efforts and may include additional parcels of land as the Facility evolves over the coming months leading to the Article 10 Application.

Throughout this PSS, references to Facility (the Facility Site) include the physical generation, collection and transmission components of the utility-scale solar facility, including temporary features installed during construction, in addition to those areas used for the construction and operation of the Facility components, as well as the designation of conservation areas, vegetative buffers and screening, mitigation measures, and other efforts which MRSEC proposes related to its Facility. The Facility will consist of rows of PV panels in discrete sub-arrays dispersed throughout the Facility Site. These arrays will be enclosed by fences for safety and security purposes. In addition, the Facility will include electrical direct current (DC) collection cables that connect the PV solar panels to inverters and energy storage enclosures, and medium voltage alternating current (AC) cables that run from the medium voltage transformers and bring the electricity to a Point of Interconnection (POI) switchyard, in addition to other Facility components. The Facility may incorporate energy storage technologies; however, design and engineering of the Facility is ongoing, and this design component has not been finalized. A preliminary conceptual map of the Facility Site, showing the concept of dispersed arrays of PV panels within a larger landscape of undeveloped areas, is included as Figure 3: Proposed Areas for Solar Infrastructure.

The anticipated components of the Facility include:

- A field of PV solar panels producing DC electricity mounted on fixed-tilt racking structures, with a maximum height of no more than 12 feet;

- Internal infrastructure including access roads and fencing;
- Inverters placed throughout the Facility (internal to the panel arrays) to convert DC electricity to AC electricity.
- Medium voltage transformers co-located with the inverters that will increase the voltage of the electricity from approximately 1,500 V to 34.5 kV
- A medium voltage collection system that will aggregate the AC output from the transformers co-located with the inverters placed throughout the Facility;
- A substation where the Facility's electrical output voltage will be combined, and its voltage increased to the transmission line voltage of 230 kV via step-up transformers;
- A POI switchyard to be built to the specifications of New York State Electric and Gas Corporation (NYSEG);
- A potential Operations and Maintenance (O&M) building to be located within the Facility Area;
- A short (i.e. less than 1,000 ft) above ground 230 kV line connecting the new equipment from the POI switchyard to the existing South Perry – Meyers 230kV transmission line; and
- Temporary laydown areas for equipment staging during construction.

Power generated at the Facility will be stepped up to the interconnection voltage (230 kV). NYSEG is the Connecting Transmission Owner for this Facility. The Facility will interconnect with the grid via the POI, which will connect to the 230 kV South Perry - Meyers transmission line, which bisects the Facility Site. The Article 10 Application will include a general arrangement plan view drawing of the POI switchyard.

The Morris Ridge Solar Energy Center project will have a nameplate capacity of up to 177 MW, that may include approximately 50 MW (200 MWh) of battery energy storage capacity. This will be enough electricity to meet the average annual consumption of more than 38,000 households, based on average annual electric consumption of 6.719 MWh for New York State. Solar energy is most beneficial during the summer demand to meet air conditioning loads. Solar panels have followed the same cost pattern as many other electrical devices. Solar panel costs have fallen significantly over the last 10 years, dramatically accelerating their role in wholesale power supply.

1.2 FACILITY BENEFITS

New York has adopted aggressive policies to combat climate change and modernize the electric system to improve the efficiency, affordability, resiliency, and sustainability of the electric system most notably reflected in the 2015 State Energy Plan (SEP), issued June 25, 2015, by the New York State Energy Planning Board. The SEP recognizes the importance of ensuring that New York's power system is modern, clean, and diverse and that "renewable resources will . . . play a significant role in shaping New York's energy future, providing resilient power, reducing fuel cost volatility, and lowering [Greenhouse Gas (GHG)] emissions." The SEP describes the State's energy future through a series of

goals such as a 40% reduction in GHG emissions from 1990 levels, procurement of 50% of electricity generation from renewable energy sources by 2030.¹

On August 1, 2016, in accordance with the statutory obligation that agency actions must be reasonably consistent with the most recent SEP, the Commission approved the Clean Energy Standard (CES), which formally adopts and implements the SEP's goals that 50% of New York's electricity is to be generated through renewable sources by 2030. This goal is part of a strategy to reduce statewide greenhouse gas emissions by 40% by 2030.

The proposed Facility should also improve fuel diversity within the State by increasing the amount of electricity produced by non-fuel dependent solar power. Consequently, there will be no adverse impact on fuel delivery constraints. Rather, by generating electricity without the need for fuel delivery and offsetting the need for facilities that rely on fuel for electrical generation, it is expected that the Facility will contribute toward reducing the demand for fuel thereby alleviating fuel delivery constraints. The Article 10 Application will contain an analysis of the Facility's impact on fuel delivery constraints.

The goals contained in the SEP and CES program are ambitious and require grid-scale solar projects, like the Facility, to achieve targeted levels of new renewable generation. At an anticipated size of up to 177 MW, the Facility will contribute significantly to the State's clean energy goals.

Further, it is anticipated that the proposed Facility will have positive impacts on socioeconomics in the area through employment opportunities, specifically by generating temporary construction employment. Local construction employment will primarily benefit those in the construction trades, including equipment operators, truck drivers, laborers, and electricians. In addition, Facility operation will generate full time employment for a site manager and solar technicians and part time contracting service opportunities for electricians, laborers and fencing contractors, and landscaping maintenance crews. The Facility will also result in increased revenues to county, local municipality and school district tax bases, and lease and easement revenues to participating landowners.

1.3 SUMMARY OF PRE-APPLICATION ACTIVITIES

Prior to this PSS, the Applicant prepared a PIP plan in accordance with 16 NYCRR § 1000.4, which was filed with the Siting Board, and the Facility was assigned a case number (Case No. 18-F-0440). The initial draft of the PIP was

¹ By Executive Order, it is also a goal of the State of New York to reduce current greenhouse gas emissions from all sources within the State 80% below levels emitted in the year 1990 by the year 2050. Executive Order No. 24 (2009) [9 N.Y.C.R.R. 7.24; continued, Executive Order No. 2 (2011) 9 N.Y.C.R.R. 8.2].

submitted to the Siting Board on July 16, 2018, comments on the PIP were received from the DPS on August 15, 2018, and the PIP was updated, finalized and filed by the Applicant on September 14, 2018. The PIP can be accessed, viewed and downloaded on the online case record maintained by the Siting Board on its Document Matter Management Website:

<http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=18-F0440&submit=Search> and on the Facility-specific website maintained by the Applicant (<https://www.morrisridgesolar.com>).

According to 16 NYCRR § 1000.4(c), a PIP plan must include: (1) consultation with the affected agencies and other stakeholders; (2) pre-application activities to encourage stakeholders to participate at the earliest opportunity; (3) activities designed to educate the public as to the specific proposal and the Article 10 review process, including the availability of funding for municipal and local parties; (4) the establishment of a website to disseminate information to the public; (5) notifications; and (6) activities designed to encourage participation by stakeholders in the certification and compliance process. It is anticipated that this will be an ongoing, evolving process throughout all phases of the Article 10 review process (pre-application phase, application phase, hearing and decision phase, and post-certification phase) intended to disseminate information regarding the Facility to stakeholders, solicit information from those stakeholders during public outreach events and generally foster participation in the Article 10 review.

The Applicant has established the following contacts and document repositories that will be available through the duration of the Article 10 Process:

Public Contact Information (for the public stakeholders to contact with questions, concerns, etc.):

Morris Ridge Solar Energy Center, LLC
195 Montague Street, 14th Floor
Brooklyn, NY 11201
(646)-898-3690

Kevin Campbell, Development Manager
Phone 1-833-333-7369
NewYorkSolar@edf-re.com

- Local Document Repositories:
 - Mount Morris Town Offices
103 Main Street
Mount Morris, NY 14510

Phone: (585) 658-2730

Open: 9:00 AM to 5:00 PM Monday - Thursday

- Mount Morris Public Library

121 Main Street

Mount Morris, NY 14510

Open: 2:00 PM – 5:00 PM Monday, 9:00 AM – 12:00 PM and 2:00 PM – 8:00 PM Tuesday, 2:00 PM – 8:00 PM Thursday, 2:00 PM – 5:00 PM Friday, and 11:00 AM – 3:00 PM Saturday

- Nunda Town Hall

4 Massachusetts Street

Nunda, NY 14517

Open: 9:00 AM – 4:30 PM Monday, Tuesday, Wednesday, and Friday, 4:00 PM – 7:00 PM Thursday

- Bell Memorial Library

16 East Street

Nunda, NY 14517

Open: 12:00 PM – 8:00 PM Tuesday, Wednesday, and Thursday, 9:00 AM – 5:00 PM Friday, and 10:00 AM – 1:00 PM Saturday

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). All such consultations have been documented in a Meeting Log maintained by the Applicant, which will be updated and submitted to the Siting Board on a regular basis (also available on the case record website referenced above). The most recent Meeting Log is included with this PSS as Appendix B. The Applicant will continue to prepare and file a Facility-specific Meeting Log on a regular basis throughout the duration of the Article 10 review process. Additional details regarding PIP implementation and outreach to stakeholders is provided in Section 2.2 of this PSS.

1.4 POTENTIAL IMPACTS

The following information regarding potential impacts associated with solar powered electric generating facilities is provided in accordance with 16 NYCRR § 1000.5(l)(2)(ii):

Relative to conventional energy generation methods of a similar scale, solar facilities result in minimal impacts to the environment. Conventional electrical generation facilities such as coal and natural gas create atmospheric emissions which contribute to climate change which create negative consequences on public health (Confalonieri, et al. 2007).

The Facility will aid in decreasing dependency on fossil fuels and will contribute to a more sustainable and forward-thinking energy generating system in New York State.

Potentially positive impacts to the local community resulting from development of the Facility include significant long-term economic benefits to participating landowners, as well as to the Town of Mount Morris, the local school districts, and Livingston County. When fully operational, the Facility will provide up to 177 MW of electric power generation with no emissions of pollutants or greenhouse gases to the atmosphere and without the need for the use of significant quantities of water. The positive environmental and health impacts associated with generating electricity from a renewable resource such as solar energy rather than other fuel sources, along with socioeconomic benefits, will be addressed in the Article 10 Application.

Over approximately the last 5 years, approximately 665 MW of solar capacity has been developed in New York State (NYSUN, 2017). These projects have returned important insights and information regarding the potentially adverse environmental impacts to be assessed and studied related to the operation and construction of a solar generating facility. Despite the minimal impacts anticipated as a result of the construction and operation of the Facility, its construction and operation will inevitably result in certain unavoidable and potentially adverse impacts to the environment.

Impacts from the construction and operation of solar energy generation are largely the result of the fact that utility-scale solar energy facilities require a large contiguous area for the collection and distribution of energy. The Applicant has sited the Facility in a rural agricultural region in order to minimize the need for land clearing. The Applicant is also choosing to build the Facility on a fixed tilt racking system to minimize the amount of land needed to meet the Facility's capacity target.

There are approximately 209,500 acres in farm ownership or use in Livingston County, which is approximately 52% of the total overall land area within the county according to the County's Agricultural and Farmland Protection Plan. The Applicant's preliminary estimates indicate that approximately 1,000 acres of agricultural land will be required to develop the Facility; which is approximately 0.5% of the land currently dedicated to agriculture in Livingston County. However, construction of the Facility will not permanently remove these lands from future use for agriculture.

Construction of solar energy projects does not typically require significant soil disturbance. Solar panels will be installed on a low-profile racking system, which typically consists of small I-beam posts, helical piles or ground screw piles driven or screwed into the ground, without the need for excavation, concrete, or other foundations. In some cases where bedrock is shallow, there may be a need to drill into the bedrock, place the piles in the hole, and grout. Limited grading

may be necessary in some areas. In those limited areas where soil disturbance is necessary, topsoil will be stripped and stockpiled for restoration purposes. Following construction, any disturbed areas will be restored with topsoil, and a cover of native grass and/or other vegetation species will be established underneath and around the solar panels. In addition, during operation of the Facility, the soils within the Project Site will not be treated with fertilizers, herbicides or pesticides as routine practice. However, treatments may be required from time to time based on changing conditions. Allowing the on-site soils to “rest” over the life of the Facility will result in an added benefit of restoring nutrients and productivity to the soils. Because construction of the Facility will require minimal soil disturbance, the land will remain available to revert to agricultural use following decommissioning of the Facility.

Facility construction will also result in impacts to vegetation and wildlife habitat. However, the siting of Facility components has been designed to minimize impacts to undisturbed habitat by utilizing previously disturbed areas and avoiding forest and shrubland communities to the extent possible. The Facility is being designed to avoid or minimize the need for tree-clearing where practicable. Construction-related impacts to vegetation may include cutting/clearing, removal of stumps and root systems, and may result in increased exposure/disturbance of soil. These impacts can result in a loss of wildlife food and cover, potential increased soil erosion and sedimentation, a disruption of normal nutrient cycling, and the introduction or spread of invasive plant species. These potential impacts will be addressed in consultation with appropriate agencies (e.g., the New York State Department of Environmental Conservation [NYSDEC]) to assess potential impacts to wildlife and terrestrial habitats associated with the construction of the Facility (see Section 2.22 of the PSS for additional information). These potential impacts are discussed in more detail in this PSS, and will be fully addressed in the forthcoming Article 10 Application.

During construction, permanent or temporary impacts to wetlands and surface waters may also occur. The Applicant has conducted a preliminary stream and wetland reconnaissance via a site visit by its consultants to facilitate a project design that will avoid or minimize wetland impacts to the greatest extent practicable (see Section 2.22 of this PSS). Formal field-delineation of wetlands and streams are required to identify potential impacts. Field delineations will be conducted prior to the submittal of the Article 10 Application and summarized in a Wetland and Stream Delineation Report. The extent of wetland impacts will be assessed following completion of the Facility’s preliminary design and will be presented in the Article 10 Application. Potential conversion of wetland communities as a result of construction activities (e.g. forested to scrub-shrub), and soil disturbance from burial of the electrical 34.5 kV collector lines may occur. Indirect impacts to wetlands and surface waters may result from sedimentation and erosion caused by adjacent construction activities (e.g., removal of vegetation and soil disturbance).

Solar energy projects do not result in the visual impacts comparable to other large-scale energy projects that require tall structures, smokestacks, or generate plumes, such as wind energy projects and natural gas-fired power plants.

Photovoltaic panels have a low-profile (i.e., typically lower than 12 feet in height), which limits their visibility and potential visual effect in terms of the distance from which the panels will be visible. However, the large areas required to achieve the necessary scale of electrical production for utility-scale solar projects can result in visual impacts for viewers located in areas immediately adjacent to the project. In addition, glare is frequently raised as a possible concern for solar PV installations. PV panels are designed to absorb as much of the solar spectrum as possible to maximize efficiency. The potential for reflectivity or glare from a given PV system is decisively lower than the glare and reflectance generated by common reflective surfaces in the environments surrounding the given PV system. There is an inverse correlation between light absorption and reflection. Consequently, virtually all PV panels installed in recent years have at least one anti-reflective coating to minimize reflection and maximize absorption. Therefore, although frequently raised as a concern, PV panels do not typically produce glare (see Section 2.24 of this PSS for additional information).

Similarly, solar projects do not produce noise that results in significant impacts or annoyance to neighboring residences, wildlife, or other sensitive receptors. Any possible concerns about the sound emissions from a solar project are largely confined to the step-up transformer in the substation, electrical inverters and medium voltage transformers installed within the interior of the various PV solar panel arrays and some short-lived activities during construction. The potential noise impact from any substation is essentially a matter of how prominent and audible the tonal sound emissions from the transformer(s) are at the nearest residences, of which there are few close by. Transformer noise is typically described as a hum near the step-up transformer unit; however, the prominence of this noise diminishes quickly with distance. The noise from the equipment within the Facility is generally inaudible at distances greater than 150 feet from the inverters/transformers, which are typically sited within the interior of a given solar project. Typically, sound from solar facility equipment is inaudible at distances greater than 50 to 150 feet from the fenced boundary of a given facility. In addition, noise will be generated during project construction and maintenance, primarily from vehicles and equipment operating along access routes and at work areas. However, these are temporary activities that will not typically generate sounds louder than routine noise sources such as farm equipment and vehicles passing on the road.

Additional information regarding potential environmental impacts that could result from construction or operation of the Facility is included in Section 2.0 below. Potential impacts to wetlands, wildlife, cultural (i.e., historic and archaeological) resources, and visual impacts will be evaluated through project/site-specific studies that are described in this PSS, and the results of the studies will be provided in the Application.

With careful planning and design, many of the potential impacts associated with solar facilities can be completely avoided or minimized to be compatible with the surrounding areas. At this time, because the studies characterizing these impacts have not yet been completed, and/or the results of such studies are being used to support the preliminary layout and design of the Facility, many specific avoidance, minimization, and mitigation measures cannot be identified.

However, the studies conducted in furtherance of the Article 10 Application (the scope and methodologies of which are detailed in this PSS), will identify measures taken by the Applicant to avoid potential impacts as well as minimization and mitigation measures that will reduce impacts to the extent practicable.

1.5 IMPACT AVOIDANCE MEASURES

Compliance with the Conditions of the Article 10 Certificate, and various federal regulations, as well as certain applicable local regulations governing the development, design, construction and operation of the proposed Facility, will serve to avoid and minimize adverse impacts. Despite the fact that a final Facility layout and design has not yet been completed, based on the historical information regarding typical impact avoidance, minimization and mitigation measures for solar-powered electric generation projects, the following information is provided in accordance with 16 NYCRR § 1000.5(l)(2)(v) and (vi):

Proper siting considerations for solar projects include avoidance of areas with significant aesthetic or scenic resources and selection of sites that are not used by the public for recreation. Siting a project in open fields minimizes the potential need for tree clearing and associated visual impacts, and the network of existing woodlots and hedgerows around agricultural fields serve to minimize project visibility from nearby areas. In addition, collocating electrical facilities (such as the substation) with existing electrical infrastructure minimizes visual impacts. The Facility has been sited in a relatively flat to gently sloping open, rural agricultural area. It is anticipated the land within the Facility Site that will host the equipment will require relatively little work to prepare it for construction. The solar fields will be designed to minimize the need to remove trees in the Facility Site, particularly those associated with wetlands or containing potential protected wildlife habitat. Specific methods to be used to remove trees and vegetation and perform minimal grading have not been determined but are anticipated to be standard for the commercial construction industry. Most of the land surface within each solar field, including almost all of the area below the arrays themselves, will be planted with a robust, low-growing seed mix, primarily native grasses and/or other low-maintenance vegetation species.

Construction activities and Facility engineering will be in compliance with applicable state and local building codes and federal Occupational Safety and Health Administration (OSHA) guidelines to protect the safety of workers and the public. Federal and state permitting typically required by the United States Army Corps of Engineers (USACE) and/or the NYSDEC, and associated avoidance and minimization measures, will serve to protect water resources, along with implementation of a Stormwater Pollution Prevention Plan (SWPPP) in accordance with a state-approved State Pollutant Discharge Elimination System (SPDES) permit. Coordination between the Applicant and state and federal agencies will ensure that natural resource impacts are avoided to the extent practicable and that minimization and mitigation programs are in place to monitor potential impacts and ensure effective mitigation is in place. Consultation with the necessary local, county, and state highway entities will assure that safety is maintained, and that congestion,

and damage to highways in the area is avoided or minimized. In addition, the final Facility layout will be in accordance with various siting criteria, guidelines, and design standards that serve to avoid or minimize adverse environmental impacts. These include:

- Minimizing the number of stream and wetland crossings.
- Designing all electrical lines in a manner that minimizes any possibility of stray voltage.
- Siting PV solar panels (where feasible) in open field areas to minimize forest clearing and impacts to habitat.
- Construction procedures will follow Best Management Practices for sediment and erosion control.
- Designing, engineering, and constructing the Facility in compliance with various codes and industry standards to assure safety and reliability.
- Utilizing the New York State Department of Agriculture and Markets (NYSDAM) guidelines to minimize impacts on agricultural land and farming practices.

There are a variety of visual mitigation options that have been or could be applied to solar projects. For a given project, visual mitigation options are typically evaluated based on the existing visual character, aesthetic features, vegetation, and visual sensitivity of a given project setting. Appropriate setback distances should be determined based on the sensitivity of the adjacent uses and in accordance with the Town of Mount Morris Solar code. For instance, smaller setbacks may be appropriate for limited use county roads than for more highly used roadways. Larger setbacks may be appropriate for areas adjacent to residences or public recreational areas, but smaller setbacks would be acceptable in areas adjacent to agricultural, industrial, forest, or vacant land. Although security fencing can result in a significant visual impact for solar projects sited in rural areas, it is important to understand that security fencing is required for solar projects for safety and security purposes. That being said, specific vernacular fence styles in selected locations can be considered if there are specific existing styles, materials, or designs that relate to existing features in the landscape of a given project area. In these cases, selection of fence styles is typically based on precedent examples on adjacent properties or within the local community so that when installed the project would better blend into the existing visual setting. Visual screening can include use of earthen structures (i.e., berms) or planting of vegetation intended to block or soften views of the project. Common approaches to visual screening include:

- *Evergreen Hedges:* Use of vegetation for mitigation can include installing a screening hedge made up of evergreen trees and shrubs along roadways and/or selected portions of the exterior fence line of the Project. This approach is effective and commonly implemented in many different settings, both urban and rural.
- *Native Shrubs and Plantings:* An alternative to evergreen hedges, which may not appear naturalized or appropriate in many settings, is use of native shrubs and plantings along road frontages and/or selected portions of the exterior fence line of a project. This approach does not typically result in plantings that

completely screen views of the project, but instead serve to soften the overall visual effect of the project and can help to better integrate the project into the surrounding landscape. Plantings should be selected based on aesthetic properties, to match with existing vegetation in the project vicinity, and the ability to grow in the specific conditions of a project area. In addition to helping to blend the project into the surrounding landscape, use of native plant species will also provide environmental benefits to the local animal and insect communities.

- *Pollinator-Friendly Grasses and Wildflowers*: In many agricultural areas, installation of hedges or shrubs may not be in keeping with the existing visual setting, which is typically characterized by open fields backed by occasional hedgerows or woodlots. Trees, shrubs, or tall vegetation along roadsides are often atypical in these settings. An alternative form of vegetative screening that may be appropriate in these areas is use of tall native grasses and wildflowers along selected roadsides and other fence lines to soften the appearance of the project and better integrate the project into the landscape. Regionally appropriate plantings can also provide habitat for pollinator species when planted around the periphery of the site and/or in locations on site where mowing can be restricted during the summer months. Leaving the taller plants un-mowed during the summer provides benefits to pollinators, habitat to ground nesting/feeding birds and cover for small mammals, in addition to softening the appearance of the project. Following this approach, low growing/groundcover native species should be planted under the solar panels and between arrays.
- *Earthworks/berms*: In select locations altering the topography to aid in the screening of a project from adjacent areas and/or sensitive sites can be a viable option. However, in many areas (such as relatively undeveloped agricultural areas) the introduction of earthen berms (or other earthworks) would result in new visual elements that are not in keeping with the existing landscape and would not be appropriate.

Facility development, construction and operation will also include specific measures to mitigate potential impacts to specific resources, which could include the following types of measures:

- Developing and implementing various plans to minimize adverse impacts to air, soil, and water resources, including a dust control plan, sediment and erosion control plan, and Spill Prevention, Control, and Countermeasure (SPCC) plan;
- Employing an environmental monitor/inspector to ensure compliance with all certificate and permit conditions, including best practices to be employed at sensitive areas such as stream and wetland crossings;
- Implementing an Invasive Species Control Plan;
- Developing and implementing a Complaint Resolution Plan to address local stakeholder concerns throughout Facility construction and operation;
- Preparing a historic resource mitigation program, if needed, to be developed in consultation with the State Historic Preservation Office (SHPO);

- Preparing a compensatory wetland mitigation plan, if needed, to mitigate impacts to streams and wetlands;
- Entering into a payment in lieu of taxes (PILOT) agreement with the local taxing jurisdictions to provide a significant and predictable level of funding for the host town, County, and school districts;
- Developing a preliminary Operations and Maintenance Plan;
- Developing a preliminary Health and Safety Plan;
- Developing a preliminary Site Security Plan;
- Developing an Emergency and Fire Response Plan with local first responders;
- Implementing a Decommissioning Plan.

It should be noted that EDF Renewables is a leading developer of renewable energy projects, with a primary focus on solar and wind energy facilities. EDF Renewables ranks among the most reputable full-service renewable energy companies in North America with 16 GW of renewable energy projects developed, including 700 MW of commercial and utility-scale solar installations placed in service. Previous solar energy development experience has given EDF Renewables a strong understanding of how to effectively avoid, minimize and mitigate impacts that can result from the development of a solar generating facility.

1.6 ORGANIZATION OF THE PSS

The Applicant is required to comply with various Article 10 Application requirements, as set forth in the Siting Board's regulations at 16 NYCRR § 1001.1 through 1001.41. To aid readers in better understanding the intended content and organization of the Article 10 Application, and to identify the proposed methodology or scope of the studies to be conducted in support of those Application exhibits, this PSS has been organized in accordance with the exhibit structure set forth in the regulations at 16 NYCRR § 1001 (Content of an Application). Specifically, all sub-sections of Section 2.0 (Content of the Application) of this PSS correspond directly to each Exhibit that will be included in the Application as set forth in 16 NYCRR § 1001 (e.g., Section 2.1 corresponds to 16 NYCRR § 1001.1, Section 2.2 corresponds to 16 NYCRR § 1001.2, etc.). Exhibits that are not necessarily applicable to the Facility have been included as individual PSS sections in order to maintain consistency, but they are called out in this PSS as not being applicable to the Morris Ridge Solar Energy Center (e.g., Natural Gas Power Facilities, Nuclear Facilities).

With respect to the remaining PSS content requirements set forth at 16 NYCRR § 1000.5(l), a matrix is provided in Section 3.0 (Summary and Conclusions) of this PSS, which cross-references the requirements of 16 NYCRR § 1000.5(l) with sections of this PSS that provide the required information.

In addition to complying with the various service and notice requirements set forth in 16 NYCRR § 1000.6 for filing and service of an Application, MRSEC will provide GIS Shapefiles of the Facility Site and related resource information, to

the New York State Departments of Public Service, Health, and Environmental Conservation, and to other parties upon request, at the time of Application submission.

2.0 CONTENT OF APPLICATION

2.1 GENERAL REQUIREMENTS

(a) Applicant Information

Morris Ridge Solar Energy Center, LLC
195 Montague Street, 14th Floor
Brooklyn, NY 11201
1-833-333-7369
NewYorkSolar@edf-re.com

Morris Ridge Solar Energy Center, LLC (MRSEC) is an indirect subsidiary of EDF Renewables, Inc. (EDF Renewables). For over 30 years, EDF Renewables has dedicated its efforts to creating a green energy economy through the deployment of renewable energy resources while building mutually beneficial relationships with the local communities.

MRSEC and its affiliates possess the technical expertise, financial resources and commitment to deliver this new, proficient solar facility in accordance with New York's Clean Energy Standard. With United States headquarters in San Diego, California, and offices in more than 20 countries, EDF Renewables is a global market leader in green electricity production, as well as a leading IPP and service provider. With 16 gigawatts (GW) of renewable energy projects developed, including more than 1,600 megawatts (MW) of commercial and utility-scale solar installations placed in service or in construction, MRSEC ranks among the most reputable full-service renewable energy companies in the United States. Throughout our significant experience, we have built long-standing relationships with key stakeholders, including utilities, corporate buyers, regulatory agencies, and the communities in which we operate, enabling us to expertly navigate the development process, ensuring successful completion and operation of our projects.

(b) Facility Website

The Project Website can be found at: www.morrisridgesolar.com.

(c) Public Contact

The Project's public contact is Kevin Campbell, Development Manager

(d) Principal Officers

The Officers for Morris Ridge Solar Energy Center, LLC are:

- John Marchand, President
- Cory Basil, Vice President
- Robert Miller, Secretary

(e) Document Service

Comments or questions about the Facility should be directed to Kevin Campbell, Development Manager.

Contact information is:

Phone 1-833-333-7369

Email: newyorksolar@edf-re.com

(f) Type of Business

Morris Ridge Solar Energy Center, LLC is an indirect subsidiary of EDF Renewables, Inc.

(g) Documents of Formation

The Facility will be owned by Morris Ridge Solar Energy Center, LLC, an indirect subsidiary of EDF Renewables, Inc. The certificate of formation for Morris Ridge Solar Energy Center, LLC is included as Appendix C to this PSS.

2.2 OVERVIEW AND PUBLIC INVOLVEMENT SUMMARY

2.2.1 Discussion

The proposed Facility is a utility-scale solar project located in Livingston County, New York. The proposed Facility's components will be located in the Town of Mount Morris. The regional Facility location and preliminary Facility Site is depicted on Figures 1 and 2, respectively. The Facility will be located on private land that is rural in nature, with a footprint that will encompass approximately 1,000 acres within the Facility Site.

The Facility will consist of approximately 600,000 photovoltaic solar panels. The total size of the Facility will be up to 177 MW alternating current (AC). Proposed components will include: PV panels, mounting systems, collection lines, inverters, a step-up substation, potentially an O&M building, potential battery storage containers, gravel access roads, fencing, and temporary laydown/construction areas.

The initial draft of the Public Involvement Program (PIP) plan was submitted to the Siting Board on July 16, 2018; comments on the PIP were received from the DPS on August 16, 2018; and the PIP was updated, finalized and filed by the Applicant on September 14, 2018. Before the PIP was filed, Morris Ridge Solar Energy Center representatives had commenced meetings and discussions with local officials to discuss the proposed project (see Appendix B for meeting details).

The first goal of the PIP is to identify stakeholders and other interested parties. The PIP presented this information in Exhibit A – Master List of Stakeholders. Since the PIP’s final submission, that master list has been updated based on the Applicant’s consultations and meetings with stakeholders. An updated Master List of Stakeholders is presented in Appendix D of this PSS.

The Applicant held an open house June 21, 2018 at Mount Morris Central School. Notice of the public meeting was published in two local newspapers. The session was well attended by approximately 40 individuals, not including the Morris Ridge Solar Project Team. Participants were able to view posters with information on topics of interest, such as environmental impact assessments; to make written or oral comments at the session, or to receive instructions on filling comments on the Siting Board’s online Document and Matter Management System (DMM) in the future; and to provide their contact information for future outreach efforts.

During its first Open House in June, 2018, the Applicant collected names and email addresses from individuals interested in hearing more information about the project. The Applicant has initiated other consultations, such as with State agencies and local groups, and the results and summary of these meetings/consultations are in the Meeting Log, which is presented in Appendix B of this PSS. The Meeting Log will continue to be updated and filed on the DPS website through the Article 10 Application process.

The Applicant held two additional open houses on February 6 and 7, 2019 at the Genesee River Restaurant and Reception Center in Mount Morris. Notice of the public meeting was mailed to residents located within 2-miles of the Facility Area and published in two local newspapers. The sessions were well attended by approximately 200 individuals, not including the Morris Ridge Solar Project Team. Participants were able to view updated posters with information on the proposed Project, to view preliminary participating project parcel maps, and to learn about planned studies that will be undertaken. Participants were also invited to make written or oral comments to the Applicant, to file comments on the Siting Board’s online DMM, and to provide their contact information for future outreach efforts.

Since the Open Houses were held, the Applicant has scheduled several follow-up discussions with stakeholders who attended the event, and/or who have submitted questions or concerns regarding the proposed Facility. Those meetings

and discussions will be documented in the Morris Ridge Solar PIP Tracking Logs, and filed on the DMM as the project moves through the Article 10 Process.

In addition to the open house meetings, the Applicant has a Facility specific website (www.morrisridgesolar.com), a toll-free number (1-833-333-7369) and an email address (newyorksolar@edf-re.com) for stakeholders to communicate questions or comments. Electronic copies of significant Facility documents (i.e., PIP, PSS, Stipulations, Article 10 Application) are, or will be posted on the Applicant's website and placed at local repositories. All relevant documents and filings are on the Facility-specific DMM website maintained by the Siting Board:

- <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=18-F-0440&submit=Search>

The Applicant has provided paper copies of documents and meeting boards presented at the open house at the following document repositories:

Mount Morris Town Office 103 Main St, Mount Morris, NY 14510 Phone: (585) 658-2730 Fax: (585) 658-3021 Hours: 9:00 AM to 5:00 PM Monday - Thursday	Mount Morris Public Library 121 Main St, Mount Morris, NY 14510 Phone: (585) 658-4412 Fax: (585) 658-3642 mtmorrislibrarydirector@owwl.org
Nunda Town Hall 4 Massachusetts St, Nunda, NY 14517 Phone: (585) 468-5177 Fax: (585) 458-5548 Email: clerk@town.nunda.ny.us	Bell Memorial Library 16 East St., Nunda, NY 14517 Phone (585) 468-2266 Fax: (585) 468-2266 Email: nundalibrarydirector@owwl.org

The Applicant is planning to open an office space in the local area of the Facility during the construction phase of the project. However, the Applicant is available to meet with stakeholders one on one at a location near the Facility Site as appropriate.

The Applicant conducted a mailing of all stakeholders just prior to the submission of this PSS to provide an update on the Facility and invite comments and remind the stakeholders of the comment period timeframe. The full PSS legal notice was published in local newspapers and mailed to the Master Stakeholder List, including to host and adjacent landowners. Note that one of the newspapers (the Genesee Sun) that was used to provide notice of the June 2018 open house appears to have closed; therefore, a replacement local newspaper was identified, and notice published therein. This notice was also emailed to those who provided their email address at the June, 2018 Open House, at the

February 2019 Open Houses, members of the Siting Board's Party List, and those identified on the Master Stakeholder List for whom an email address was available. Proof of those mailings will be submitted separately to the Secretary.

During the time before the submission of the Article 10 Application, the Applicant intends to continue stakeholder outreach. There are numerous resource-specific consultations which will need to occur with stakeholders, such as visual stakeholder outreach on viewpoint locations for the Visual Impact Assessment, and private well surveys. Those consultations will be tracked and listed in the PIP Tracking Logs and/or the Application at Exhibit 2. The Applicant will also continue to attend the Town of Mount Morris board meetings and meet with other local public stakeholders such as the Town and County highway departments as needed.

As will be described in the Application, the Applicant will develop and implement a Facility-specific Complaint Resolution Plan during construction, operation and decommissioning of the Facility to address potential community complaints and concerns, as well as outreach to provide important information, following Certification of the Facility. A draft of this plan will be provided in the Application, and will identify procedures to be used to track, investigate and address complaints, report issues to DPS Staff, and provide notifications and information to stakeholders and members of the public. Several sections of this PSS refer to addressing resource or impact-specific complaints, such as potential noise or construction complaints; all such issues will be addressed comprehensively in the Facility's Complaint Resolution Plan, and sections of the Plan will be referenced in the relevant Application Exhibit.

2.2.2 Proposed Content of the Application

Consistent with the requirements of 1001.2 of the Article 10 Regulations, Exhibit 2 of the Application will contain the following information:

(a) Brief Description of the Proposed Facility

Exhibit 2(a) shall include a brief description of the major components of the Facility, including all proposed PV panel locations and the footprint of all other Facility components. The Applicant agrees that the major components of the Facility, are to be described as follows:

- **Facility:** Proposed components will include: PV solar panels and their rack/support systems; direct current (DC) and communications cables connecting the panels to inverters; the inverters, with their support platforms, control electronics, and step-up transformers; energy storage devices; buried and/or overhead alternating current (AC) medium voltage collector circuits; fencing and gates around each array of panels; access roads; temporary laydown/construction support areas; medium voltage-to-transmission

voltage substation with associated equipment and fenced areas; a short length of transmission voltage line connecting the substation to a switchyard containing switching gear, the POI switchyard, associated equipment, and fenced area; a short length of 230kV line, with possible support poles to connect to the existing NYSEG 230kV transmission line; and potentially an operations and maintenance (O&M) building with fenced and parking/storage areas as well as any other improvements subject to the Siting Board's jurisdiction.

- **Project:** Collectively refers to construction and operation of the Facility, as well as proposed environmental and cultural preservation areas, and other efforts proposed by the Applicant.
- **Facility Site:** The parcels proposed to host the Facility components. This includes parcels currently under, or being pursued, for lease or easement (or other real property interests) by the Applicant for the location of all Facility components. A preliminary Facility Site is identified in this PSS, and the final Facility Site will be identified in the Application.

(b) Brief Summary of the Application Contents

Exhibit 2(b) shall include a detailed table that provides a brief summary of all applicable exhibits required under 16 NYCRR Part 1001. This will follow the organization of the Application's Table of Contents and will satisfy the requirements of Part 1001.2(b).

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

Exhibit 2(c) shall contain 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 (if any) as a result of the public involvement program. Specific components of the PIP conducted as of the date of Application filing will be described, including:

- Opportunities for public involvement;
- Development and use of stakeholder list, including host and adjacent landowners;
- Consultation with affected agencies and stakeholders;
- Reference to existing website, email and toll-free phone number established for the Facility;
- Local project office location and established office hours (expected to be open during construction phase only);
- Timeline for responding to public comments received through these communication portals;
- When public document repositories will be updated;

- Applicant's efforts relating to language access;
- Identification of any environmental justice areas;
- Use of document repositories;
- Factsheets on the Article 10 process and intervenor funding and other outreach materials; and
- Use of meeting logs tracking PIP activities, significant questions and/or issues raised by the public and the applicant's response or follow-up action.

The PIP and all other submissions under Article 10 to remain available at the designated repositories and online (website) throughout the application review processes.

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

Exhibit 2(d) shall include a summary of post-Application PIP activities. The Applicant will continue to engage stakeholders following submission of the Article 10 Application, to be documented as follows:

- In addition to notifications required under 16 NYCRR 1000.6 and 1000.7, the Applicant will mail notice of the Application submittal to a project mailing list comprised 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.
- In addition to newspaper publication as required under 16 NYCRR 1000.7(a), the Applicant will publish notification about the project in at least one free local community newspaper circulated in the project and study areas, if available.
- The Applicant agrees to provide a brief description of the public involvement program to be conducted by the Applicant after the submission of the Application, such as hearings, notification of construction activities, complaint resolution procedures (including the Complaint Resolution Plan described in Stipulation 12).

(e) Brief Overall Analysis

Exhibit 2(e) shall include an overall analysis of the relevant and material facts from the Article 10 Application, together with the information and analysis from the studies conducted in support of the Article 10 Application, regarding the nature of the probable environmental impacts of the construction and operation of the Facility on:

- Ecology, air, ground and surface water, and wildlife and habitat;
- Public health and safety;
- Cultural, historic and recreational resources;
- Transportation, communications, utilities and other infrastructure, as required by Article 10 regulations.

In addition, this section will summarize the facts in the Article 10 Application that will provide the Siting Board with the information needed to determine:

- That the Facility is a beneficial addition or substitution for electric generation capacity of the State;
- That the construction and operation of the Facility will serve the public interest;
- That the adverse environmental effects of the construction and operation of the Facility will be minimized or avoided to the maximum extent practicable;
- If the Facility results in or contributes to a significant and adverse disproportionate environmental impact in the community in which the Facility would be located, that the Applicant will avoid, offset or minimize impacts caused by the Facility upon the local community for the duration of certificate to the maximum extent practicable using verifiable measures;
- That the Facility is designed to operate in compliance with applicable state and local laws and regulations, or in the alternative that such laws and regulations as applied to the Facility are unreasonably burdensome and therefore not applicable.

Ultimately, this information will provide a basis for the Siting Board to make the required Findings on the proposed Facility and support a decision to grant the Certificate in accordance with PSL Section 168.

2.3 LOCATION OF FACILITIES

2.3.1 Discussion

Exhibit 3 of the Application shall contain maps, drawings and explanations showing the location of the proposed Facility, including all interconnections, and any ancillary features such as roads, which together comprise the proposed Major Electric Generating Facility, in relation to municipalities (county, city, town and village) by showing municipal boundaries and taxing jurisdictions associated with any part of the overall development proposal.

2.3.2 Proposed Content of the application

Consistent with the requirements of 1001.3 of the Article 10 Regulations, Exhibit 3 will contain the following information:

(a) Topographic Maps

Exhibit 3(a) shall include mapping showing the location of the components of the major electric generation and interconnection facilities associated with the proposed Facility including the PV panels, access roads, electrical collection system, collection substation, potential O&M building, and staging/laydown area. These components, collectively referred to as the Facility, will be mapped on the U.S. Geological Survey “(USGS) Topo” topographic tile cache base map service displayed at a scale of 1:24,000 or greater. This map service combines the most current data (Boundaries, Elevation, Geographic Names, Hydrography, Land Cover, Structures, Transportation, and other themes) that make up The National Map (USGS, 2017). The National Map is a collaborative effort between the USGS and other Federal, State, and local partners to improve and deliver topographic information for the United States (USGS, 2018). The “USGS Topo” map service is designed to provide a seamless view of the data in a geographic information system (GIS) accessible format and depicts information consistent with the USGS 7.5-minute (1:24,000) quadrangle topographic maps at large scales (USGS, 2017). Shapefiles will also be provided to NYSDPS and NYSDEC Staff.

(1) Proposed Major Electric Generating Facility Locations

The required maps will depict all Facility components that can be clearly depicted at the required scale. More detail regarding specific Facility components (e.g. fencing and similar details) will be provided as part of the site plan drawings, as described in Section 2.11 of this PSS. With respect to the substation, a separate map will be prepared (at an appropriate scale) to depict the collection substation, POI and associated voltage. With respect to alternatives, the mapping will depict those alternatives as defined in Exhibit 9 of the Application. With respect to the potential O&M building, any preliminary locations under consideration will be identified in the Application however, this location may change post-Certification.

Although unlikely, to the extent any information is known at the time of the submission of the Article 10 Application regarding potential locations of permanent mitigation/offset sites for wetlands or historic resources, such locations will also be mapped.

(2) Interconnection Location

All Facility components, including the interconnection facilities, will be mapped as indicated in Section 3(a)(1), above.

(3) Location of Ancillary Features

It is anticipated that the only off-site ancillary features that could be required for the Facility would be temporary public road improvements, if needed. These features will be depicted on mapping/figures in the Article 10 Application.

(4) Location of Article VII Transmission Lines Not Subject to Article 10

The Facility does not include any components that are subject to Article VII of the PSL.

(5) Study Area

The Facility will be subject to a number of studies in support of the Application. The various studies undertaken in support of the Application will apply appropriate, resource-specific study areas, which will be described in this section of the Application along with a reference to the exhibit in which more information is provided.

(b) Municipal Boundary Maps

Exhibit 3(b) will contain mapping/figures depicting the location of the proposed Facility with respect to village, town, county, and school district boundaries.

(c) Description of Proposed Facility Locations

Exhibit 3(c) will contain a description of the locational relationship of the Facility to village, town, county, and school district boundaries.

(d) Facility Shapefiles

The Article 10 Application will include Facility shapefiles and will show the proposed PV panel locations, access driveways, inverter, energy storage and transformer equipment pad locations, medium voltage collection lines, collection substation, POI switchyard, potential O&M building (as applicable) and construction staging areas.

2.4 LAND USE

2.4.1 Discussion

The Application will evaluate the Facility's impact on land uses both within the Facility Site and in the broader Study Area. As described in the PIP for the Morris Ridge Solar Energy Center, due to the nature of the technology and the

rural setting specific to this proposed Facility, a 2-mile radius Study Area around all proposed Facility components is considered appropriate. This Study Area encompasses most of the host Town of Mount Morris and includes portions of the Towns of Groveland, Leicester, Nunda, and West Sparta, in addition to a portion of the Village of Mount Morris in Livingston County. Also included is a section of the Town of Castile in Wyoming County. Any potential impacts to land use resulting from Facility construction and operation will be evaluated within this 2-mile Study Area.

Besides some rural residences and small patches of successional forest and shrub land, the primary land use within the proposed Facility Site is agriculture. The Application will provide more detail on current land uses within the Facility Site and the surrounding Study Area and evaluate how the Facility may impact such uses. In addition, the Application will describe other publicly known proposed land uses and/or development within the Study Area. This will include a discussion of any other large-scale renewable energy projects known to the Applicant within the Study Area.

The Application will discuss the reduction in active agricultural lands resulting from Facility construction, in relation to the rest of the designated Agricultural District (Livingston County #3) and identify non-agricultural development and cumulative impacts on the District. New York State Department of Agriculture & Markets (NYSDAM) guidelines for solar projects will be followed (NYSDAM, 2018), and consultation with NYSDAM will continue throughout the Application process. Note that lease agreements with landowners will provide a steady and predictable revenue stream for the life of the Facility and affected agricultural lands will be available for future agricultural use upon decommissioning of the Facility. The Applicant will also engage with bee keepers and sheep farmers to attempt to accommodate pollinators and grazing within the Facility Site.

Although the Livingston County Agricultural and Farmland Protection Plan (2006) makes no reference to solar energy generation specifically, a primary conclusion of the Plan is the need for mixed economic development, in addition to the retention of productive farmland in the face of pressures to develop lands and the encroachment of rural residences on farmland activities. The proposed Facility would provide an opportunity for diversified income and farmland preservation (due to the proposed Facility being a reversible land use) to agricultural landowners on whose property Facility components are proposed.

The Town of Mount Morris' Solar Farm Law (2018) states that solar farms are allowed in all zoning districts within the Town subject to special use permit requirements, unless the Town has an agricultural and farmland protection plan, in which case no solar farm shall be permitted on any prime farmland, as designated in such a plan. To the Applicant's knowledge, the Town of Mount Morris does not have an agricultural and farmland protection plan, however, the Facility has been sited to avoid impacts to prime farmland. .

The proposed Facility is located less than one mile east of Letchworth State Park. It is bounded to the east by the Genesee Valley Greenway State Trail, with portions of the trail adjacent to the Facility Site. Additionally, Sonyea State Forest is directly adjacent to a parcel where Facility components are proposed. These sensitive sites and recreational resources and their proximity to the Facility Site are shown in Figure 10. The Facility may be visible from these resources, but visual screening could be used to minimize visual impact on these sensitive sites. No direct impacts to sensitive sites are anticipated as a result of Facility construction. More information on the potential impacts of the Facility on recreational resources/activities will be included with the Application.

The proposed Facility will result in significant, reversible changes to land use within the footprint of the Facility components. This area will be occupied by Facility components for the life of the Facility. The PV panels to be utilized for the Facility will require minimal excavation and will not require concrete foundations, and construction and operation of the Facility will not require extensive land clearing. Following construction, disturbed areas will be restored with topsoil, if necessary, and a cover of native grasses and/or pollinator-friendly plant species will be established underneath and around the solar panels. As mentioned previously, the Facility Site could accommodate some form of pollinators and/or grazing during the life of the project. In any event, the Facility Site could be returned to agricultural use following decommissioning at the end of its operational life.

2.4.2 Proposed Content of the Application

Consistent with the requirements of 1001.4 of the Article 10 Regulations, Exhibit 4 of the Application will contain the following information:

(a) Map of Existing Land Uses

Exhibit 2(a) shall map existing land uses associated with the properties containing any component of the Facility, and all properties adjoining such properties, together with a description of each property's use. Existing land use will be determined using publicly available data, including the classification codes of the New York Office of Real Property Services (NYSORPS), which are generally included with parcel data available for Livingston County. For parcels that are classified as "vacant land," the Applicant will provide applicable information on the existing use of these lands based on field observations and consultation with landowners and/or local municipalities.

A separate map of lands enrolled in NYS Agricultural Districts, conservation programs, 480-a Forest Management Programs, or similar long-term conservation agreements within or adjacent to the Facility Site will be included with the Application. If known, the Applicant will discuss the status of conservation enrollments, upcoming renewals or recertifications for any property within the Facility Site, and the implications of Facility construction on these properties.

(b) Transmission Facilities Map

Exhibit 4(b) shall include existing overhead and underground transmission facilities for electric, gas, and telecommunications within a 2-mile radius of the Facility, which will be identified and mapped. This information will be based on publicly available data sources and information obtained by the Applicant through consultation with various public (i.e., NYSDPS) and private (i.e., NYSEG) entities. Additionally, any gas lines or wells within the Facility Site will be identified, and the owners of utilities identified.

(c) Tax Parcel Map

Exhibit 4(c) shall include a map of all properties with proposed PV panels, inverters and medium voltage transformer, ancillary facilities, collection lines, or related uses, and all properties adjoining those hosting the Facility. Parcels and land use data will be obtained from Livingston County and/or the host Town of Mount Morris. The map will depict: property lines, land use, tax parcel number, owner of record, and any publicly known proposed change in land use.

(d) Zoning District Map

Exhibit 4(d) shall include a description of existing and proposed zoning districts within the Study Area, based on data obtained from each municipality and Livingston County. The Applicant will review zoning regulations for each municipality, and a summary of the zoning regulations will be presented in the Article 10 Application. This summary will focus on the permitted and prohibited uses within each zoning district where Facility components will be located, as they apply to solar energy generation.

(e) Comprehensive Plan

Exhibit 4(e) shall include a review of existing comprehensive plans adopted by municipalities in the Study Area, and will discuss whether the proposed Facility is consistent with these Plans.

(f) Map of Proposed Land Uses

Exhibit 4(f) shall include information gathered by the Applicant about proposed land uses within the 2-mile Study Area through discussions with local planning officials, public input at open houses, the PIP implementation/PSS development process, and other sources. The Article 10 Application will present, in acres, the permanent (if any), temporary (i.e. during construction) and reversible impacts to each of the existing and proposed land use classes to be directly affected by the Facility.

(g) Map of Specially Designated Areas

Exhibit 4(g) shall include maps showing any designated inland waterways, agricultural districts, special flood hazard areas, and other specially designated areas potentially occurring within a 2-mile radius of the Facility. Data depicted in these maps will be from publicly available datasets maintained by NYSDEC, NYSGIS, and FEMA, among others. There are no designated Local Waterfront Revitalization Program (LWRP) communities or Critical Environmental Areas (CEAs) in the designated Study Area.

(h) Map of Recreational Areas and Other Sensitive Land Uses

Exhibit 4(h) shall include maps depicting recreation areas and sensitive land uses known to the Applicant within a 2-mile radius of the Facility. Data depicted in this map will be from publicly available datasets maintained by state, federal, and private sources (e.g., NYSDOT, NYSGIS, NYSDEC, NYSDPS, ESRI, etc.). The Article 10 Application will address the potential for the Facility to have direct and/or indirect impacts on the recreational resources and other sensitive areas identified.

(i) Compatibility of the Facility with Existing and Proposed Land Uses

Exhibit 4(i) shall include an assessment of the compatibility of the proposed Facility with existing and proposed land uses, as well as local and regional land use plans. This assessment will also include an assessment of the Facility's compatibility with State and County planning documents, including but not limited to:

- The 2016 New York Open Space Plan (OSP);
- The New York State Historic Preservation Plan 2015-2020;
- The Statewide Comprehensive Outdoor Recreation Plan 2014-2019;
- The New York State Office of Parks, Recreation and Historic Preservation Sustainability Plan (April 22, 2009);
and
- The Livingston County Agricultural & Farmland Protection Plan.

(j) Compatibility of Above-Ground Interconnection with Existing and Proposed Land Uses

Exhibit 4(j) shall include the compatibility of any above-ground collection line with land uses within 300 feet of the interconnect lines. To the extent that a land use impact is identified, such information will be briefly discussed in this section.

(k) Compatibility of Underground Interconnections with Existing and Proposed Land Uses

Exhibit 4(k) shall include a discussion of compatibility of proposed underground interconnections, and temporary disturbances associated with construction of these Facility components.

(l) Conformance with the Coastal Zone Management Act

The proposed Facility is not located within a Coastal Zone Management Area. Therefore, Exhibit 4(l) will not be addressed in the Application.

(m) Aerial Photographs

Exhibit 4(m) shall include aerial photographs within a 2-mile radius of the Facility. This mapping will likely be prepared using 1-meter resolution natural color orthoimagery from the USDA National Agriculture Imagery Program's (NAIP) most recently available dataset for the area.

(n) Aerial Photograph Overlays

Exhibit 4(n) shall include a preliminary map of Facility components overlaid on aerial photographs at a readable scale. These maps will be created using ArcGIS software. Line symbols will be used to depict the centerlines of proposed access roads and electrical collection lines and polygon symbols will be used to depict panel locations, the substation, any operation and maintenance buildings, and, if necessary, construction laydown areas. Buffers around each Facility component will show the limits of clearing and disturbance required (e.g., 20-foot permanent width and 50-foot temporary width for access roads).

(o) Source of Aerial Photographs

Exhibit 4(o) shall include the information required by this section. Mapping will likely be prepared using 1-meter resolution natural color orthoimagery from the USDA NAIP most recently available dataset for the area.

(p) Community Character

Exhibit 4(p) shall include the information required by this section. Information used to describe community character will be based on on-site observations and information included in Town, County, and/or regional master plans, among other sources. A discussion of current land uses and agricultural productivity within the Facility Site will be included.

2.5 ELECTRIC SYSTEM EFFECTS

2.5.1 Discussion

The Application will evaluate the effects of the Facility's interconnection on the reliability of the electric system. The Applicant proposes to electrically interconnect the Facility to the New York State Bulk Power System via a new POI switchyard and collection substation on the NYSEG 230 kilovolt (kV) South Perry to Meyer transmission line.

The Applicant has filed an interconnection request with the New York Independent System Operator (NYISO), operator of New York's transmission system, for interconnection of 177 MW (AC) to the NYSEG 230 kV transmission system. With NYSEG's support, the NYISO's process to conduct a Feasibility Study, a System Reliability Impact Study (SRIS) and a Facility Study is underway. As of February 2019, the Feasibility Study is complete. The NYISO conducts its Facility Study as part of its Class Year process. In this process, projects that have reached certain milestones and are ready to move forward are treated as a single study group. The Applicant is working towards entering into the NYISO 2019 Class Year Facilities Study. The Applicant will file the SRIS separately under confidential cover, pursuant to Section 87(2)(d) of the New York State Public Officers Law and the Commission's regulations, as well as NYCRR 6-1.4.

Dependent on the NYISO scope, the SRIS is performed for Summer Peak, Winter Peak and Light Load system conditions. The study system includes the Central Zone (Zone C) in the NYISO system. The Article 10 Application will describe the impact of the proposed Facility and interconnection on transmission system reliability in the State in more detail.

The Facility components will be designed in accordance with applicable standards, codes, and guidelines. For portions owned by the Applicant (e.g., collection system), best industry practices will be used, along with any standards/preferences set by the companies designing the Facility. For the POI switchyard, NYSEG requirements will be followed. Additionally, the Application will include descriptions of procedures and controls for facility inspection, testing, and commissioning. The substation will be inspected, tested and commissioned in accordance with various ANSI, IEEE, NFPA, IETA, ASTM, etc. requirements, as necessary. All tests shall be performed with the equipment de-energized, except where specifically required for it to be energized for functional testing. The Applicant will be responsible for the operation, inspection, and maintenance requirements of all Facility components, except for the POI Switchyard. These activities can generally be classified as scheduled inspection/maintenance, unscheduled maintenance/repairs, or electrical system inspection/maintenance.

The Facility will have a written inspection, testing and commissioning plan, that is adhered to during all stages of construction as well as a post-construction inspection and testing phase. When completed, all documentation will be provided to the Siting Board and stored at the Facility Site for easy review/access in the future.

The Applicant will prepare a Preliminary Operations and Maintenance Plan (O&M Plan), which will be included in the Application. This plan is intended to be the foundation of the final O&M Plan that will be implemented at the Facility once it becomes operational and will be based on the Applicant's experience and typical O&M maintenance requirements for solar power projects. Ultimately the Applicant's Facility Operators will be responsible for the O&M Plan's implementation. The objective of the O&M Plan is to optimize the Facility's operational capacity and availability through best in class maintenance guidelines and inspections that are designed to proactively detect any significant safety or maintenance issues. The O&M Plan will also identify vegetation management practices for the proposed POI switchyard (if required) and collection substation.

2.5.2 Proposed Content of the Application

Consistent with the requirements of 1001.5 of the Article 10 Regulations, Exhibit 5 of the Application will contain the following information:

(a) System Reliability Impact Study

Exhibit 5(a) shall include a SRIS performed in accordance with the NYISO's Open Access Transmission Tariff approved by the Federal Energy Regulatory Commission 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 will include the new electric interconnection between the facility and the POI, as well as any other system upgrades required.

(b) Potential Reliability Impacts

Exhibit 5(b) shall include an analysis and/or statement of the impact of the proposed Facility on transmission system reliability in the State of New York, as evaluated in the SRIS.

(c) Benefits and Detriments of the Facility on Ancillary Services

Exhibit 5(c) shall include a discussion of the benefits and detriments of the Facility on ancillary services and the electric transmission system as evaluated in the SRIS, including impacts associated with reinforcements and new construction necessary as a result of the Facility.

(d) Reasonable Alternatives to Mitigate Adverse Reliability Impacts

Exhibit 5(d) shall include a summary of reasonable alternatives that would mitigate adverse reliability impacts (if such impacts are identified), as evaluated in the SRIS.

(e) Estimated Change in Total Transfer Capacity

Exhibit 5(e) shall include an estimate of the increase or decrease in the total transfer capacity across each affected interface based on the analysis in the SRIS. If a forecasted reduction in transfer capability across affected interfaces violates reliability requirements, the Article 10 Application will include an evaluation of reasonable corrective measures that could be employed to mitigate or eliminate said reduction.

(f) Criteria, Plans, and Protocols

Exhibit 5(f) shall include a description of criteria, plans, and protocols for generation and ancillary facilities design, construction, commissioning, and operation, including as appropriate to generation technology:

- (1) Applicable engineering codes, standards, guidelines, and practices
- (2) Generation facility type certification
- (3) Procedures and controls for inspection, testing, and commissioning
- (4) Maintenance and management plans, procedures, and criteria

(g) Heat Balance Diagrams

Since there will be no thermal component to the Facility, this requirement is not applicable to the proposed Facility and will not be addressed in the Application.

(h) POI Switchyard Transfer Information

Since the new POI Switchyard to be built will be transferred to the transmission owner (NYSEG), Exhibit 5(h) shall include:

- (1) A description of POI Switchyard facilities to be transferred and the contemplated future transaction, including a timetable for transfer
- (2) A description of how the POI Switchyard design will meet the transmission owner's requirements
- (3) A description of the operational and maintenance responsibilities for the POI Switchyard and how they will meet the transmission owner's standards.

(i) Facility Maintenance and Management Plans

Exhibit 5(i) shall include Facility maintenance and management plans, procedures and criteria, specifically addressing the following topics:

- (1) Electric transmission gathering and interconnect line inspections, maintenance, and repairs, including
 - i) Vegetation clearance requirements
 - ii) Vegetation management plans and procedures
 - iii) Inspection and maintenance schedules
 - iv) Notifications and public relations for work in public rights-of-way
 - v) Minimization of interference with distribution systems

(j) Vegetation Management Practices for Substation and POI Switchyard

Exhibit 5(j) shall include vegetation management practices for the POI switchyard (if required) and collection substation, and for danger trees (trees that due to location and condition are a particular threat to fall on and damage electrical equipment) around the substation and POI switchyard, specifications for clearances, inspection and treatment schedules, and environmental controls to avoid off-site effects.

(k) Criteria and Procedures for Sharing Facilities with Other Utilities

If the Applicant will entertain proposals for sharing above-ground facilities with other utilities (communications, cable, phone, cell phone relays, and similar facilities), Exhibit 5(k) shall include the criteria and procedures for review of such proposals.

(l) Availability and Expected Delivery Dates for Major Components

Exhibit 5(l) shall include a status report on equipment availability and expected delivery dates for major components including heat recover steam generators, towers, turbines, transformers and related major equipment.

(m) Blackstart Capabilities

Solar facilities are not suitable for blackstart because there is no guarantee that the Facility will be generating electricity at a sufficient level at a given time—for example, during the night. Therefore, the Application will not address blackstart capabilities.

(n) Identification and Demonstration of the Degree of Compliance

Exhibit 5(n) shall include the information provided through the SRIS, developed in consultation with NYISO and NYSEG.

2.6 WIND POWER FACILITIES

The proposed Facility is not a wind power facility, and as such, the requirements of 1001.6 are not applicable and will not be addressed in the Article 10 Application.

2.7 NATURAL GAS POWER FACILITIES

The proposed Facility is not a natural gas power facility, and as such, the requirements of 1001.7 are not applicable and will not be addressed in the Article 10 Application.

2.8 ELECTRIC SYSTEM PRODUCTION MODELING

2.8.1 Discussion

The Article 10 Application will include the results of electrical system production modeling, identify the experts conducting that modeling, and include their resumes. Prior to start of the modeling, the Applicant will consult the appropriate agencies to develop an applicable dataset to conduct electrical system modelling. Portions of the data to be provided will include Critical Energy Infrastructure Information (CEII), which will be filed under a protective agreement, as required by law.

An 8,760 hourly generation profile will be developed using PVsyst Photovoltaic Software for the first production year 2022-2023. Using the PVsyst generation profile, energy production will be forecasted, based on the established dataset and user inputs, utilizing the computer simulation program PROMOD. The gross average energy yield for each month will be determined from the generation profile with each monthly dataset adjusted to the monthly long-term. Monthly energy yield averages will be determined from the observed solar production profile data in each specific month, and long-term adjustments will be made to the monthly data set and included in the Application. Based on the

long-term adjusted average energy yield for each month, a gross monthly energy distribution for the year can be determined. Monthly specific loss assumptions for availability and environmental factors will be taken from the gross monthly production distribution to yield the 12 estimated monthly productions in MWh. An annual production output will be determined from the sum of all monthly net energy yields in MWh.

In addition, a Generation Dispatch Forecasting Analysis will be prepared. To conduct the analysis, the NYISO 2022-2023 system will be modeled to the extent that information is available, with and without the proposed Facility, and compared to the generation dispatch of must-run resources with the NYISO service territory between the two scenarios. This comparison will be performed using simulator software heavily utilized for market studies within the NYISO service territory. The first step in the analysis will be to complete a power flow study to identify any critical constraints in the vicinity of the proposed Facility, followed by conducting a generation and transmission nodal market study based on 8,760 hours-per-year simulation for the 2022-2023 study year, while taking into consideration system constraints including the critical constraints identified in the power flow calculations. The analysis will simulate the effect of energy schedules from energy resources on must-run resources and re-dispatching to reliably serve the grid and avoid curtailment.

2.8.2 Proposed Content of the Application

Consistent with the requirements of 1001.8 of the Article 10 regulations, Exhibit 8 of the Application will contain the following information:

(a) Computer-based Modeling Tool

Exhibit 8(a) will include analyses, as described below, that will be developed using PROMOD, or a similar computer-based modeling tool. The Applicant will conduct the required consultation with NYSDPS and NYSDEC regarding appropriate inputs, assumptions and parameters used in the preparation of this Exhibit and related modeling. In addition, the following information will be included in the Application:

(1) Estimated Statewide Levels of Greenhouse Gas Emissions

The estimated statewide levels of SO₂, NO_x, and CO₂ emissions, both with and without the proposed Facility.

(2) Estimated Prices Representative of all NYISO Zones

The estimated minimum, maximum, and average annual spot prices representative of the NYISO Zones within the New York Control Area, both with and without the proposed Facility.

(3) Estimated Capacity Factor

An estimated capacity factor for the Facility.

(4) Estimated Annual and Monthly Output Capability Factors

The estimated monthly, on-peak, shoulder, and off-peak MW output capability factors for the proposed Facility.

(5) Estimated Annual and Monthly Production Output

The average annual and monthly production output of the proposed Facility in MWh.

(6) Estimated Production Curve Over an Average Year

An estimated production curve for the Facility over an average year.

(7) Estimated Production Duration Curve over an Average Year

An estimated production duration curve for the Facility over an average year.

(8) Effect of the Facility on the Energy Dispatch of Existing Must-run Resources

The estimated effects of the proposed Facility on the energy dispatch of existing must-run resources (which includes 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) Digital Copies of Inputs Used in the Above Simulations

Digital copies of all inputs used in the simulations required in subdivision (a) of this section.

2.9 ALTERNATIVES

2.9.1 Discussion

The Siting Board's regulations (16 NYCRR 1001.9) recognize that it is not practicable for a private applicant to simultaneously procure land contracts, perform environmental and engineering due diligence studies, enter and progress through multiple interconnection permit processes, and conduct community outreach for locations which are

only being considered for purposes of assessing alternatives. Unlike state or municipal agencies, private developers do not have the power of eminent domain or condemnation. Accordingly, a project of this size is limited in the range of potential sites that might be considered for siting a facility by virtue of the need to form contractual relations with willing landowners. For private applicants such as Morris Ridge Solar Energy Center, LLC, Article 10 limits the scope of the required alternatives analysis to the identification and description of siting alternatives to sites owned by, or under option to, the Applicant or its affiliates. Therefore, the identification and description of reasonable and available siting alternatives to be addressed in the Article 10 Application will be limited to lands owned by or under contract/option to Morris Ridge Solar Energy Center, LLC or its affiliates. These options are further limited by what the landowner considers to be a reasonable dedication or space and resources to Facility Components. In the Article 10 Application, this exhibit will provide information regarding the general criteria used to evaluate the suitability of the site for the Facility. These criteria are described in more detail below. Ultimately, the Application will demonstrate that the proposed Facility Site is suitable for utility-scale solar energy generation, and why the selected location best serves the public interest and the environment.

2.9.2 Proposed Content of the Application

Consistent with the requirements of 1001.9 of the Article 10 Regulations, Exhibit 9 of the Application will contain the following information:

(a) Description of Reasonable Alternative Location Sites

The Applicant does not have and does not anticipate seeking eminent domain authority. In accordance with the Article 10 regulations, the identification and description of reasonable and available siting alternatives to be addressed in the Application will be limited to lands owned by or under contract/option to the Applicant within the proposed Facility Site.

(b) Comparison of Advantages and Disadvantages of Proposed and Alternative Locations

Given the limitations faced by a private Facility Applicant, the Applicant is not providing an evaluation of comparative advantages and disadvantages of alternate locations. As described above, the Siting Board's regulations (16 NYCRR 1001.9) provide that the Applicant need only identify and describe alternative sites owned by, or under option to, the Applicant or its affiliates. However, the general site selection process and relevant information/analyses associated with the Facility will be provided in relation to Exhibit 9(b)(1) through (11).

(c) Description of Reasonable Alternatives to the Proposed Facility at the Proposed Location

Traditional energy generation such as fossil fuels and nuclear energy do not meet New York State's energy

generation and sustainability goals. Accordingly, other power generation technologies are not reasonable alternatives and will not be considered in the Application. Rather, 1001.9(c) of the Application will provide information on chosen design and technologies of the Facility, including:

- The general arrangement and design (detailed information will be presented in Exhibit 3).
- PV panel and energy storage technology.
- Alternate scale, interconnection configuration and magnitude of the facilities in the context of interconnection position, and information on the economic benefit available to local communities because of the introduction of a utility-scale facility.
- The proposed Facility is not a wind power facility, and as such, the requirements of 1001.9(c)(4) do not apply. Notwithstanding this, the Applicant agrees to provide in the Application a discussion of practicable and commercially reasonable alternative arrangements of Facility components within the Facility Site, including alternative layouts for PV solar panels and their rack/support systems. This discussion will include a comparative assessment of the environmental impacts, including impacts on vegetation, wildlife, and wildlife habitats for alternative layouts. This assessment of alternative layouts will include a discussion of how alternative layouts for the Facility could help to avoid, minimize, or mitigate environmental impacts from the Facility.
- The Applicant will provide the information required by 1001.9(c)(5).

(d) Why the Proposed Location Best Promotes Public Health and Welfare

The Applicant agrees to provide the information required by 1001.9(d).

(e) Why the Proposed Facility Best Promotes Public Health and Welfare

The Applicant agrees to provide the information required by 1001.9(e).

(f) No Action Alternative

The Applicant agrees to provide the information required by 1001.9(f). “No Action/No Build” alternative refers to not building the Facility.

(g) Energy Supply Source Alternatives

This information is not applicable to the Facility, and therefore will not be included in the Application.

- (h) Source and Demand-Reducing Alternatives Comparison of Advantages and Disadvantages of Proposed and Alternative Energy Sources

Source and demand-reducing alternatives will not be identified in the Article 10 Application.

- (i) Why the Proposed Project Best Promotes Public Health and Welfare

The Applicant agrees to provide the information required by 1001.9(i).

2.10 CONSISTENCY WITH ENERGY PLANNING OBJECTIVES

2.10.1 Discussion

In the Article 10 Application, Morris Ridge Solar Energy Center will be required to demonstrate that the proposed Facility is consistent with New York State's energy planning objectives, including the most recent New York State Energy Plan (SEP). The Application will provide a statement demonstrating the Facility's degree of consistency with the SEP and other important State policies and initiatives. Further, the Application will highlight how the Facility supports the five "Guiding Principles" identified in the SEP and will comment on how the Facility supports the seven goals listed in the "Initiatives and Goals" section of the Plan. The Application will also comment on how the Facility supports the New York 2030 targets in the Plan. While these discussions will focus on the proposed Facility's consistency with the SEP, and with the subsequently adopted Clean Energy Standard (CES), the Applicant will also touch upon some of the broader themes and challenges which motivated these State policies, and the ways in which the Applicant's unique proposal will advance broader societal goals such as sustainability, cooperative use and management of land and resources, reduction in harmful air pollution, and scientific research and advancement.

One of the core goals of the SEP and the Reforming the Energy Vision (REV) initiative is to spur innovation and creative problem-solving in New York, allowing market participants to develop new strategies and solutions to the many challenges facing the State today. The Application will offer a discussion of the diverse benefits offered by the proposed Morris Ridge Solar Energy Center, above and beyond the provision of renewable solar energy and, potentially, battery storage in NYISO Zone C.

The Morris Ridge Solar Energy Center's marriage of solar energy generation and energy storage, if economically feasible, would advance the State's broader climate and public health goals, particularly by helping to reduce the likelihood that future energy needs will be met by fossil fuel-burning plants, and by continuing to reduce harmful air emissions, from greenhouse gases driving climate change to toxic compounds. As the Morris Ridge Solar Energy Center will discuss, the transition from fossil fuels to renewable energy in New York will not only play a critical role in

the State's efforts to combat climate change, it will aid efforts to reduce deadly air pollution, and advance principles of environmental justice by eliminating significant sources of pollution from the State's most vulnerable neighborhoods.

2.10.2 Proposed Content of Application

Consistent with the requirements of 1001.10 of the Article 10 Regulations, Exhibit 10 of the Application will contain the following information:

(a) Consistency with State Energy Plan

New York has adopted strongly proactive policies to combat climate change, reduce harmful air pollution, and modernize the electric system to improve the efficiency, affordability, resiliency, and sustainability of the system, most notably reflected in the 2015 State Energy Plan, issued June 25, 2015, by the New York State Energy Planning Board. The SEP recognizes the importance of ensuring that New York's power system is modern, clean, and diverse and that "renewable resources will . . . play a significant role in shaping New York's energy future, providing resilient power, reducing fuel cost volatility, and lowering [Greenhouse Gas (GHG)] emissions." The SEP describes the State's energy future through a series of goals such as a 40% reduction in GHG emissions from 1990 levels, and procurement of 50% of electricity generation from renewable energy sources by 2030.²

The goals set forth in the SEP are ambitious and will require utility-scale solar projects, such as the Morris Ridge Solar Energy Center, to achieve targeted levels of new renewable generation. On August 1, 2016, the Public Service Commission adopted the SEP's goals that 50% of New York's electricity is to be generated by renewable sources by 2030 as part of a strategy to reduce statewide greenhouse gas emissions by 40% by 2030 and approved the Clean Energy Standard (CES). As part of the implementation of the CES, New York State Energy Research & Development (NYSERDA) conducts competitive solicitations for renewable projects. The Morris Ridge Solar Energy Center was awarded a contract by 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.

While the State has acknowledged that small-scale and community solar installations will play an important role in advancing the State's energy policies and meeting the SEP and CES goals, the State has also emphasized that small-scale facilities alone will not be enough. In acknowledging that small-scale and distributed renewable generation sources "are a major focus of the REV strategy," the SEP emphasizes that "central generation and transmission will

² By Executive Order, it is also a goal of the State of New York to reduce current greenhouse gas emissions from all sources within the State 80% below levels emitted in the year 1990 by the year 2050. Executive Order No. 24 (2009) [9 N.Y.C.R.R. 7.24; continued, Executive Order No. 2 (2011) 9 N.Y.C.R.R. 8.2].

continue to serve as the backbone of [the State's] power grid.” (NYSEPB. 2015, p. 70). Accordingly, the SEP emphasizes the critical need for significant additional “large-scale renewables” (LSRs) in New York. (NYSEPB. 2015., pp. 70-72). Specifically, the total amount of energy needed for the State to meet the CES target of 50% renewable generation by 2030 is between 29,000 and 40,000 Gigawatt hours of additional LSR generation, approximately 50% of which would come from wind energy, while approximately 3,217 to 8,110 MW will need to come from utility-scale solar energy, primarily in Western and Central New York, the Hudson Valley and Long Island. Importantly, the State assumes that offshore wind energy will not be available prior to 2021, and that no new impoundment hydroelectric dams of significant size will be constructed in the State, leaving utility-scale on-shore wind and solar to make up the bulk of new renewable generation in the near term. Overall, the State anticipates that the CES-driven procurement of LSR generation between 2017 and 2021 will be more than twice the level of generation that was procured under the RPS, which added approximately 2,137 MW in renewables (NYSERDA. 2016; CES Order. 2016, p. 16). At an anticipated size of 177 MW-AC, the Project will contribute significantly to the State’s clean energy generation and GHG emissions reduction goals.

The Article 10 Application will explain how the Facility advances the objectives of the State Energy Plan and the CES, and assists the State in achieving the renewable energy generation objectives.

(b) Impact on Reliability

A System Reliability Impact Study (SRIS) is expected to be completed for the Facility on behalf of the New York Independent System Operator (NYISO) in 2019, and the results will be presented in Exhibits 5 and 8 of the Article 10 Application, with certain issues such as reliability addressed in greater detail in Exhibit 10. The objectives of the SRIS are to: (1) confirm that the proposed new or modified facilities associated with the project comply with applicable reliability standards, (2) assess the impact of the proposed project on the reliability of the pre-existing power system, (3) evaluate alternatives to eliminate adverse reliability impacts, if any, resulting from the proposed interconnection, and (4) assess the impact of the proposed project on transmission transfer limits, considering thermal, voltage and stability limitations, and estimate the increase or decrease in the Transfer Capability of affected transmission interfaces. The scope and methodology of the SRIS is set by the NYISO, and is uniform across projects of this nature. A number of power flow base cases will be evaluated both with and without the proposed Facility in service, including 2019 summer peak, winter peak, and light load.

The Article 10 Application will contain an analysis of the impact of the proposed Facility on electrical system reliability based on the results of the SRIS and subsequent studies/analyses conducted by/with the NYISO. The SRIS will be submitted with the Article 10 application under separate confidential cover. In particular and if applicable at the time

the Article 10 application is submitted, the proposed inclusion of energy storage in the Morris Ridge Solar Energy Center will be discussed in the context of reliability. A common concern raised about solar energy generation is that its output is variable, and generally does not provide electricity when the sun is not shining. However, pairing energy storage with solar will enable facilities like the Morris Ridge Solar Energy Center to capture and store solar energy when it is valued less by the NYISO's wholesale electricity market, to be dispatched into the system when it is most valuable. This is anticipated to aid in the reduction of demand for less efficient, marginal and polluting "peaker" plants, often very old oil-burning plants in poor urban areas, which do not operate during most of the year, but exist to preserve reliability on summer days with the highest electricity demand.

(c) Impact on Fuel Diversity

The proposed Facility will likely improve fuel diversity within the State by increasing the amount of electricity produced by non-fossil fuel dependent solar power. In 2008, the NYISO found that New York's electric utility system relies on supply from numerous fuel sources, including coal, water, wind, nuclear and natural gas, as well as interconnections with its neighbors and demand-response resources. According to the NYISO, "[m]aintaining and improving fuel diversity in New York will lead to less volatile electric prices, improved reliability, and positive environmental impacts."³ State regulators have raised concerns in recent years that New York may suffer from an over-reliance on natural gas, which results in price volatility and market fluctuation. By 2013, the NYISO determined that "gas has effectively displaced both coal and oil,"⁴ and, since 2000, approximately 2,000 megawatts of generation fueled by coal have retired or suspended operation, while Governor Andrew Cuomo has vowed to shutter all of New York's coal-fired electric generation by 2020.⁵ Accordingly, the retirement of coal and large nuclear power sources make the need for alternative, non-gas forms of electric generation such as solar increasingly important to maintain fuel diversity in New York. The Article 10 Application will include discussion of the current electric generation capacity by fuel type to demonstrate that the addition of the Facility will contribute to fuel diversity.

(d) Impact on Regional Requirements for Capacity

Since 2000, private power producers and public power authorities have added more than 11,655 megawatts of new generating capacity in New York State. This additional generation represents approximately 30 percent of New York's

³ NYISO: Fuel Diversity in the New York Electric Market, A NYISO White Paper (2008), available at:

http://www.nyiso.com/public/webdocs/media_room/publications_presentations/White_Papers/White_Papers/fuel_diversity_11202008.pdf.

⁴ NYISO, WHAT WILL FUEL DIVERSITY LOOK LIKE IN 2022, November 15, 2013, available at:

http://www.nyiso.com/public/webdocs/markets_operations/committees/environmental_advisory_council/meeting_materials/2013-15-11/Cap_Energy_Changes_P_Carney.pdf.

⁵ In the 2018 State of the State, Governor Cuomo called for the adoption of regulations that would end the use of coal in New York's power plants by 2020. See <https://www.governor.ny.gov/news/governor-cuomo-unveils-20th-proposal-2018-state-state-new-yorks-clean-energy-jobs-and-climate>.

current generating capacity. Over 80 percent of that new generation is located in the eastern and southern regions of New York (Zones F-K) -- where power demand is greatest. New York's wholesale electricity market design, which includes locational-based pricing and regional capacity requirements, encourages investment in areas where the demand for electricity is the highest. Other additions to New York's power-producing resources resulted from upgrades to existing power plants in upstate regions, or were largely influenced by physical factors, such as the suitability of wind conditions in the northern and western regions of the state, and with respect to solar, availability of sufficient and suitable land to site grid-scale projects. In the Article 10 Application, the Applicant will describe in detail how the Facility impacts regional electricity and capacity demands taking into consideration the need for additional renewable generation and locational constraints.

(e) Impact on Electric Transmission Constraints

New York State has a diverse mix of generation resources compared to many other states. However, much of the renewable power is provided by hydroelectric projects and wind farms located in the western and northern portion of the State, while the southeastern region hosts power plants fueled primarily by natural gas. Taking full advantage of statewide fuel diversity will require upgrades and enhancements of the transmission system (NYISO, 2014). These transmission enhancements will help transfer energy from upstate regions with a surplus of generating capacity to more populous areas with higher power demands, such as the Hudson Valley, New York City, and Long Island (NYISO, 2014). The Article 10 Application will discuss Facility impacts on electric transmission constraints, based on the *New York State Transmission Assessment and Reliability Study* and other NYISO reports/data.

(f) Impact on Fuel Delivery Constraints

The proposed Facility will generate electricity without the use of fuel. Consequently, there will be no adverse impact on fuel delivery constraints. Rather, by generating electricity without the need for fuel delivery and creating an energy source that does not rely on fuel for generation, it is expected that the Facility will contribute toward reducing the demand for fuel thereby alleviating fuel delivery constraints and emissions related to coal and gas exploration, mining, refining and transportation. The Article 10 Application will contain an analysis of the Facility's impact on fuel delivery constraints.

(g) Impact on Energy Policy

The need for additional renewable generation and a decreased reliance on fossil-fueled generation has been a mainstay of New York Energy policy for almost two decades. Notably, in 2004, the Public Service Commission implemented the Renewable Portfolio Standard (RPS) program to facilitate investment in renewable generation. The

RPS program initially envisioned an increase in renewable energy production in the State by 25% by the year 2013. In 2010, the PSC expanded the RPS target from 25% to 30% and extended the target date from 2013 to 2015. Renewable projects approved under the RPS are expected to reduce CO₂ emissions by 50 million tons over the life of the projects. Recent policy initiatives also include a comprehensive Clean Energy Fund (CEF) proposed by NYSEDA to ensure continuity of the State's clean energy programs after 2015. The CEF is one part of New York State's Reforming the Energy Vision (REV) initiative, a program designed to support clean energy market development and innovation and to secure renewable energy resources as part of New York's clean energy future. LSR's, which are larger utility-scale renewable energy project developments, such as the Facility, are a key component of REV and the CES. In fact, REV recognizes that large-scale renewables, which require more capital and take more planning than other facilities, will be critically important to meeting greenhouse gas emissions reduction goals.

New York continues its drive toward increased renewable generation in the policies contained in the SEP and the Commission's CES program. In the SEP, New York seeks to achieve a 40% reduction in GHG emissions from 1990 levels by 2030 and reducing total carbon emissions 80% by 2050. In addition, the State Energy Plan calls for 50% of generation of electricity from renewable energy sources by 2030. The CES program adopts these goals and provides the mechanisms for their achievement. The proposed Facility's consistency with and furtherance of these goals will be discussed in detail in the Article 10 Application.

(h) Comparison of Advantages and Disadvantages of Proposed and Alternative Locations

Given the unique nature and constraints associated with the siting of solar-powered electric generation facilities (i.e. level, affordable, naturally screened suitable land, landowners willing to enter into agreements with the Applicant, and adequate access to the bulk power transmission system), a full comparison between the proposed Facility Location and alternative locations will not be contained in the Application. Instead, the Article 10 Application will focus on comparing alternative facility configurations (layout, interconnection, potential use of storage, DC/AC ratio and row-spacing, type of PV module etc.) within the proposed Facility Area. Such alternatives may include alternative project layouts and/or alternative project size and a no action alternative and as identified in Section 2.9.

(i) Why the Proposed Location and Source Best Promotes Public Health and Welfare

The Facility will have a positive impact on public health and welfare by producing electricity with zero emissions. Electricity delivered to the grid from solar energy projects can reduce the growth of existing conventional power plants. The Morris Ridge Solar Energy Center will reduce New York's dependency on the combustion of fossil fuels (coal, petroleum, and natural gas) which not only have negative consequences for public health but also the atmosphere (NYSEDA, 2015). Natural gas is the most frequent marginal fuel unit in New York's power pool, or the one that is turned

on or off as the load fluctuates (Patton et al., 2015). When the proposed Facility is generating power, electricity generation from natural gas would be reduced within the region, thereby eliminating the associated emissions.

2.11 PRELIMINARY DESIGN DRAWINGS

2.11.1 Discussion

Preliminary Design Drawings will be prepared in support of the Article 10 Application. The drawings will depict the location of all proposed Facility components (e.g., PV panels, access roads, electric collection lines, inverter/transformer stations, collection substation, POI switchyard, potential O&M building, approximate limits of disturbance, stormwater management features), delineated wetlands, and anticipated construction staging/material laydown areas.

The Article 10 Application will include a landscaping plan that will include approximate locations of plantings along the fence line of the Facility that may be proposed as part of visual mitigation. With respect to those areas where trees may be removed due to Facility construction and operation, the Preliminary Design Drawings will depict the Facility footprint using recent aerial imagery. The Article 10 Application will also include a construction operations plan and a lighting plan for the Facility.

The Preliminary Design Drawings prepared in support of Exhibit 11 of the Article 10 Application will be prepared using computer software (e.g., AutoCAD, MicroStation), will be labeled “preliminary” and/or “not for construction purposes,” and will be prepared under the direction of a professional engineer, landscape architect or architect who is licensed and registered in New York State. Four full sized copies of the drawing set, utilizing a common engineering scale, will be provided to NYSDPS Staff. A single, full sized drawing set will also be provided to the NYSDEC Central Office and Region 8 Staff (total of two full sized sets provided to NYSDEC), and to NYSDAM. All other printed copies (included with the Application) will be at a legible and reduced size (i.e., 11 x 17), also utilizing a common engineering scale. Additionally, a CD-ROM containing electronic PDF files will be submitted to NYSDPS, NYSDEC, and NYSDAM Staff.

2.11.2 Proposed Content of the Application

Consistent with the requirements of 1001.11 of the Article 10 regulations, Exhibit 11 of the Application will contain the following information:

(a) Site Plan

Exhibit 11(a) shall include

- i. Site plan drawings of all Facility components at a common engineering scale. The drawings will depict site boundaries and adjoining property, all delineated wetlands (including the 100-foot adjacent areas if NYSDEC jurisdictional), and streams. Specific to construction of a solar facility, the Site Plan drawings will include the following proposed features:
 - PV panel locations, and associated racking structures;
 - Access roads (temporary and permanent);
 - Perimeter fencing;
 - Turn-around areas to be used during construction;
 - Grading showing proposed final contours;
 - Electric collection lines – the required number of circuits for each collection line route will be indicated on site plans; also, overhead (if any) and underground cable routes will be differentiated with specific line-types;
 - Approximate limits of disturbance for all Facility components (PV panels, inverters, access driveways, buildings, electric collection lines, substation, POI switchyard, etc.) based on impact assumptions;
 - Indication of permanent rights-of-way (ROW) for all electric cable installations;
 - Locations that will utilize trenchless methods of electric cable installation, such as Horizontal Directional Drilling (HDD) (including layout of trenchless installation distances);
 - Location of property lines, existing utility lines and equipment, and utility easements;
 - Applicant's proposed setbacks from occupied structures, property lines and easements, existing overhead electric lines, gas transmission pipelines and associated easements, and roads;
 - Any back-up generators and fuel storage areas;
 - Collection substation and POI switchyard outlines, including local setbacks, access driveway and fence line; and
 - Preliminary location of the potential O&M building and associated setbacks, access driveway, parking area, equipment storage areas, and any associated septic or water systems.

(b) Construction Operations Plan

Exhibit 11(b) shall include a construction operations plan indicating all materials lay-down areas, construction preparation areas, any major excavation and soil storage areas, though not anticipated, and construction equipment and worker parking areas.

(c) Grading and Erosion Control Plans

Exhibit 11(c) shall include:

- i. Soil type and depth to bedrock information based on publicly available data and test borings at representative locations within the Facility Site. Preliminary cut and fill calculations along with a general description of typical cut and fill scenarios. Exhibit 21 of the Application will provide this information as well as boring logs and maps indicating location of the pre-Application test borings.
- ii. Existing and proposed contours and any permanent stormwater retention areas (if known at the time of Application submittal), as shown on the Preliminary Design Drawings.

(d) Landscaping Plan

Exhibit 11(d) shall include:

- i. A discussion of the need for landscaping or other forms of visual screening, and preparation of conceptual screening plans if needed.
- ii. To determine those areas where trees may be removed, the Facility footprint will be depicted on recent aerial imagery, and the acreage of tree removal will be discussed. However, on-site inventory and survey of individual trees to be removed will not be included.
- iii. A range of contingency measures to be developed to address potential visual screening needs for mitigation of impacts at historic resources, community or cultural sites, visually sensitive resources, or public use areas, if such measures are proposed in Exhibit 20 and/or Exhibit 24.

(e) Lighting Plan

Exhibit 11(e) shall include a Lighting Plan showing type, location, and height of installation of proposed exterior lighting fixtures for all Facility components, and an indication of the measures to be taken to prevent unnecessary light trespass beyond the Facility property lines. Lighting specifications for lighting associated with the substation and potential O&M building, if applicable, will also be provided. Manufacturer cut sheets of proposed lighting fixtures will be provided, if available.

(f) Architectural Drawings

Exhibit 11(f) shall include architectural drawings for the potential O&M building, substation, POI switchyard, and perimeter fencing (including the type(s) of site perimeter fencing to be installed), as applicable, in final or preliminary form, depending on availability.

(g) Typical Design Detail Drawings

Exhibit 11(g) shall include typical details for Facility components, including:

- Typical PV panel details, including the configuration of PV panel arrays and mounting details.
- Typical plan and sections of underground facilities, including single and multiple-circuit layouts with dimensions of proposed depth and level of cover, separation requirements between circuits, clearing width limits for construction and operation of the Facility, limits of disturbance, and required permanent ROW.
- Elevation plans for buildings and overhead structures, if applicable, including height above grade, structure layouts, clearing width limits for construction and operation of the Facility, and permanent ROW widths, average span lengths for each proposed layout, and structure separation requirements (for installations requiring more than one pole, etc.) for all single and multiple-circuit layouts.
- Typical support structures to be used for solar panel installations.
- Typical details of any potential protection measures of existing pipelines.
- A circuit map indicating overhead and underground installations and the number of circuits per proposed run.
- Typical details associated with stream crossings and trenchless installations, including typical staging areas, construction machinery arrangements, and bore pits.
- Examples of typical technical and safety manuals for the types of solar panels that are anticipated to be used in the Facility.

(h) Interconnection Facility Drawings

Exhibit 11(h) shall include a single line drawing of the POI switchyard in the SRIS, and the general arrangement of the POI switchyard.

(i) Engineering Codes, Standards, Guidelines, and Practices

Exhibit 11(i) shall include a list of engineering codes, standards, guidelines and practices that the Applicant intends to conform with when planning, designing, constructing, operating, and maintaining the Facility. A thorough list of codes, standards, and guidelines will be included in the Application.

(j) Protective Measures

Exhibit 11(j) shall include details and descriptions of any protective measures for Facility components within or adjacent to "Flood Hazard Areas." If this information is not available, a description of potential measures to be utilized will be included.

2.12 CONSTRUCTION

2.12.1 Discussion

Ground-mounted PV projects typically require minimal impacts to the environment during construction. The Applicant is considering a variety of racking foundation options in order to accommodate the range of existing geotechnical features and slopes anticipated within the Facility and minimize site disturbance. In some places, limited earth moving may be required to level access driveways and areas for solar panel installation, create stormwater management structures, level the earth under inverter/substation equipment pads, and dig vaults for step-up transformers. Additionally, tree removal may also involve some soil disturbance, though the layout design is attempting to maximize use of cleared fields in order to minimize the need for tree removal. The Applicant will consult with local stakeholder groups to determine which construction activities, if any, may create significant impacts to the surrounding community.

Temporary and permanent access roads will use gravel surfacing that may include stabilized cement and would be designed to follow existing driveways and tractor paths to the maximum extent practical. Large equipment like inverters, step-up transformers, and potentially energy storage enclosures and associated batteries, may require placement with 25-50 foot cranes. Access driveways to inverter/medium voltage transformer and substation locations will generally be designed to accommodate cranes and multi-axle delivery trailers. Equipment laydown areas will be sited near these driveways to minimize the need for an extensive access driveway network.

It is anticipated that more than 5 acres of soil will be disturbed at some point during construction in order to minimize construction duration and impacts to the community. As such, the SWPPP will most likely include a written request to disturb more than 5 acres under the SPDES General Permit. The Article 10 Application will elaborate on any phasing of construction proposed as a part of the overall design.

Regular site inspections will be performed to ensure construction is in compliance with engineering designs and regulatory requirements. The Applicant will provide a preliminary Quality Assurance and Control Plan that will be included in the Application.

In addition, to assure compliance with various environmental protection commitments and permit conditions, the Applicant will provide funding for an independent, third party Environmental Monitor to oversee Facility construction and to ensure compliance with all applicable environmental conditions. The reporting procedures for the Environmental Monitor will be described in the Article 10 Application. The Applicant will submit the final Quality Assurance and Control Plan to the Siting Board prior to construction.

The Applicant will require its contractors to conform to the requirements of the Public Service Commission's regulations regarding the protection of underground facilities (16 NYCRR Part 753) and the Applicant will become a member of Dig Safely New York. Because the Facility area is rural in nature, rather than a more suburban or urban setting, there are fewer existing utility systems with which the Facility may interfere. Information on the location of existing utilities will be taken into account during Facility component siting in order to avoid and minimize conflicts with utilities.

The Applicant will also coordinate with public (i.e., NYSDPS) and private (i.e., NYSEG) entities regarding other available underground utilities. Post-construction, the Applicant will register with one-call to ensure that its utilities and any underground collection lines are registered so that they are not impacted by future earth work.

The Applicant will develop a Complaint Resolution Plan that will be provided in the Article 10 Application. The Complaint Resolution Plan will discuss specifically how public complaints and disputes should be raised, documented and resolved during Facility construction and operation. Exhibits 2 and 25 of the Application will include discussion of methods the Applicant intends to use to notify members of the public regarding anticipated road closures and other construction activities which might be disruptive to the normal flow of traffic.

2.12.2 Proposed Content of the Application

Consistent with the requirements of 1001.12 of the Article 10 regulations, Exhibit 12 of the Application will contain the following information:

(a) Preliminary Quality Assurance and Control Plan

Exhibit 12(a) shall include:

- i. A preliminary Quality Assurance and Control Plan, which will include a discussion of the Applicant's proposed environmental compliance monitoring plan (e.g., duties of the monitor(s) and reporting responsibilities) and a description of how the Applicant will ensure conformance with applicable design, engineering, and installation standards, including construction codes applicable to solar panel structures.

- ii. A description of the procedures the Applicant will follow to notify the public regarding construction activities and schedule.

(b) Conformance with Public Service Commission Requirements

Exhibit 12(b) shall include:

- i. A statement from a responsible company official that the Applicant and its contractors will conform to the requirements for protection of underground facilities contained in the Public Service Law §119-b, as implemented by 16 NYCRR Part 753.
- ii. A statement from a responsible company official that the Applicant will comply with pole numbering and marking requirements, as implemented by 16 NYCRR Part 217.

(c) Plans to Avoid Interference with Existing Utility Systems

Exhibit 12(c) shall include:

- i. Preliminary plans and descriptions indicating:
 - Design, location, and construction controls to avoid interference with existing utility transmission and distribution systems.
 - Locations and typical separations of proposed Facility components from existing electric, gas, and telecommunications infrastructure.
 - Identification of measures to minimize interferences where avoidance cannot be reasonably achieved.
- ii. A section regarding consultations with pipeline owners operating gas pipelines in the Facility Site. The following will be included in this section, incorporating and listing any requirements or recommendations from the pipeline owners:
 - A description of design and proper layout of the proposed Facility to avoid effects on existing pipeline integrity and rights-of-way.
 - An explanation of the need for any potential protection measures for pipelines, indicating agreement by specific pipeline owners and typical details of any potential protection measures showing proposed Facilities relative to existing pipeline locations (will also be included as part of the drawings in Exhibit 11).

(d) Procedures for Addressing Public Complaints and Disputes

Exhibit 12(d) shall include a formal Complaint Resolution Plan, which includes procedures for public notification of upcoming construction activities, addressing public complaints, and for dispute resolution during Facility construction and operation. The complaint resolution plan will be easily accessed, tracked to time of resolution, include input from construction managers as appropriate, and clearly define the responsibilities for issue resolution. The complaint resolution process will have assigned personnel to track the resolution of the complaint from the time of receipt through confirmation of resolution. In addition, the Complaint Resolution Plan will:

- Include a procedure for transmittal of complaint logs to NYSDPS. The complaint log will list all complaints and resolutions, be maintained during construction and operation of the Facility, and be available to NYSDPS upon request.
- Describe actions the Applicant will take if a complaint remains unresolved after all steps are followed.
- Indicate how complaints will be accepted, such as from the toll-free lines, electronically through e-mail, and/or via the Facility website. The Applicant will address both written and verbal complaints. Verbal complaints received during construction will be converted to written documents that can be tracked by the certificate holder and contractors and be reported to NYSDPS Staff.
- Identify and include any procedures or protocols that may be unique to each phase of Facility construction and operation. For example, during construction, complaint calls regarding noise or dust need to be handled locally and quickly.

2.13 REAL PROPERTY

2.13.1 Discussion

The Application will include a survey showing the boundaries of parcels (leased, owned, or subject to easement) on which Facility components are proposed to be located. The Application will also provide tax parcel maps for Facility Site parcels, indicate public and private roads on or adjoining Facility Site parcels (or proposed for access to Facility Site parcels), the participation status of each parcel, list the owner of record for all adjacent parcels, and identify all existing easements or encumbrances and zoning designations for Facility Site parcels and adjoining properties.

2.13.2 Proposed Content of the Application

Consistent with the requirements of 1001.13 of the Article 10 regulations, Exhibit 13 of the Application will contain the following information:

(a) Real Property Map of Generating Site

Exhibit 13(a) shall include the information required by this section.

(b) Real Property Map of Interconnection Facilities

Exhibit 13(b) shall include a map including all proposed interconnection facilities, associated access roads, construction laydown areas, and lands owned or under contract to the Applicant.

(c) Demonstration that the Applicant Has Obtained Title or Lease Interest in Facility Area

Exhibit 13(c) shall include a description of the agreements for parcels that are secured or under option for the Facility, including ingress/egress access to public roads, easements for collection lines, as well as easement agreements for crossing existing natural gas and/or electric transmission lines, and will provide a statement that the Applicant has obtained, or will obtain, the necessary real property rights for all parcels needed for the Facility. The Applicant will continue its internal due diligence to assure that the Facility parcels are not encumbered in a manner that is inconsistent with future solar power use. The Applicant will continue to work towards securing all land necessary to construct and operate the Facility.

(d) Demonstration that the Applicant Has Obtained Property Rights to Interconnection Site

Exhibit 13(d) shall include a statement that the Applicant has or will obtain the necessary property rights for the Facility interconnects.

(e) Improvement District Extensions

Based on preliminary discussion with local municipal representatives, the Facility will not need any improvement district extensions, and therefore demonstration that the Applicant can obtain such extensions is not anticipated to be needed.

2.14 COST OF FACILITIES

2.14.1 Discussion

The Application will contain an estimate of capital costs of the Project including development costs, construction design and planning, equipment costs, and construction costs. The Application will provide an internal work paper that describes the assumptions in estimating that cost.

2.14.2 Proposed Content of the Application

Consistent with the requirements of 1001.14 of the Article 10 regulations, Exhibit 14 of the Application will contain the following information:

(a) Total Capital Costs

Exhibit 14(a) shall contain an estimate of the total capital costs of the Project and will include development costs, construction design and planning, equipment costs, and construction costs, and will be broken down by:

- PV Panels, Inverters, Storage (if applicable)
- Roads, collection lines, fencing
- Substation and Switchyard
- Engineering
- Construction (including contingency)
- Insurance
- Development (including contingency)

(b) Source of Cost Estimates

Exhibit 14(b) shall include a cost estimate based on the Applicant's historical experience, historical and current price quotes, and solar industry standards.

(c) Work Papers

Exhibit 14(c) shall include an internal work paper that describes the assumptions in estimating the total capital costs as described above in (a).

2.15 PUBLIC HEALTH AND SAFETY

2.15.1 Discussion

This section of the Article 10 Application will provide an evaluation that identifies, describes, and discusses all potential significant adverse impacts of the construction and operation of the Facility, the interconnections, and related facilities on the environment, public health, and safety at a level of detail that reflects the severity of the impacts and the reasonable likelihood of their occurrence, and identifies the current applicable statutory and regulatory framework.

Solar generated power is unlike conventional power generating facilities, as solar facilities produce energy without emitting pollutants that decrease air quality. This is a major public health benefit since, as has been well-established in scientific research and literature, air pollution and climate change have significant impacts on human health and the environment.

New York State's 2015 State Energy Plan involves reducing Greenhouse Gas (GHG) emissions from the energy sector, highlighting those efforts as critical to protecting the health and welfare of New Yorkers. Clean air is essential to New Yorkers' health and quality of life. New York's energy system is the source of many benefits for New Yorkers; however, it is also the cause of significant impacts on the State's natural resources and public health, principally because of emissions of a variety of substances, some of which find their way into water and other resources. Air pollutants emitted when carbon-based fuels are burned are associated with serious health conditions and contribute to climate change that threatens New York's residents and natural resources. Combustion of fossil fuels is the dominant source of energy-related emissions. The kinds of health risks associated with the combustion of carbon-based fuels are not associated with solar, wind, or hydroelectric power generation. Increasing the fraction of New York's electricity needs met by solar, wind, and water will, in general, decrease health risks associated with electricity production. The recognition of the benefits of renewable energy has significantly contributed to New York's nation-leading commitment to renewable energy development through the Clean Energy Standard and is in part a leading reason for New York establishing the 50% by 2030 goal set forth in the New York State Energy Plan.

In the Applicant's experience, when a project such as the Facility is properly sited and designed, significant impacts to public health and safety typically do not occur. The Applicant is committed to develop and operate its projects in a safe and environmentally responsible manner. The Facility will be constructed in accordance with applicable health and safety standards. Public health issues associated with the construction of the Facility are comprised of typical risks associated with commercial construction projects. The Applicant will demonstrate that the aforementioned risks have been identified and evaluated. The Application will also include potential impacts to public health and safety, as determined through consultation with stakeholders and agencies, and by Facility-specific studies. Mitigation measures for any identified impacts will be presented in the Application, as well as a Complaint Resolution Plan.

2.15.2 Proposed Content of the Application

Consistent with the requirements of 1001.15 of the Article 10 Regulations, Exhibit 15 of the Application will contain the following information.

(a) Gaseous, Liquid, and Solid Wastes to be Produced During Construction and Operation

Exhibit 15(a) shall include a discussion of waste generation during construction, which is primarily limited to byproducts and wastes from standard construction activities and equipment, including minor amounts of solid waste, primarily plastic, wood, cardboard, packing materials, and general refuse. Wastes will be handled by the BOP contractor in accordance with all applicable laws and regulations pertaining to such wastes, and materials will be recycled when possible.

The Article 10 Application will provide additional information regarding construction-generated wastes, including sanitary facilities and cleared vegetation. Any defective or broken solar panels would be properly disposed of in accordance with federal and state law. Any solar panels that are found to be defective would be returned to the manufacturer.

O&M activities would consist of routine maintenance and emergency work at the Facility. These activities would generate minimal solid waste.

With respect to operations of the Facility, waste generation will likely be limited to cardboard packaging and vegetation from maintenance. One of the advantages of producing electricity from solar is that it does not produce gaseous wastes during operation, and a minimal amount of liquid and solid wastes during construction only. A minimal amount of water may be required during operations to clean the solar panels based on soiling conditions. Every effort will be made to recycle cardboard and any other materials if services are locally available. Solar panels that are broken would be disposed of in accordance with federal and state law. Solar panels that are found to be defective would be returned to the manufacturer. Depleted energy storage batteries will be recycled. Inverter wear parts and transformers will be repurposed if possible or sent to a local scrap yard if possible.

(b) Anticipated Volumes of Wastes to be Released to the Environment

This is not applicable to solar facilities.

(c) Treatment Processes to Minimize Wastes Released to the Environment

This is not applicable to solar facilities.

(d) Procedures for Collection, Handling, Storage, Transport, and Disposal of construction of waste

Exhibit 15(d) shall include a discussion of the procedures for collection, handling, storage, transport, and disposal of construction of waste.

(e) Wind Power Facility Impacts

This is not applicable to solar facilities.

(f) Public Health and Safety Maps

Exhibit 15(f) shall include maps of the study area and analysis showing relation of the proposed Facility Site to the following:

- Public water supply resources;
- Community emergency response resources and facilities (police, fire and emergency medical response facilities and plans);
- Emergency communications facilities;
- Hospitals and emergency medical facilities;
- Designated evacuation routes;
- Emergency Services mobile land sites;
- Existing known hazard risks (flood hazard zones, storm surge zones, areas of coastal erosion hazard, landslide hazard areas, areas of geologic, geomorphic or hydrologic hazard);
- USEPA-regulated facilities;
- Dams, bridges, and related infrastructure;
- Explosive or flammable materials transportation or storage facilities;
- Contaminated sites; and
- Local risk factors.

The maps will be prepared using data from the NYS GIS Clearinghouse, FEMA, local municipalities, NYSDEC, NYSDOH, the USGS, and local sources for emergency response resources.

(g) Significant Impacts on the Environment, Public Health, and Safety

Exhibit 15(g) shall include a discussion of significant impacts to the environment, public health, and safety, including any short- and long-term impacts resulting from Facility construction and operation.

(h) Unavoidable Adverse Impacts and Appropriate Mitigation/Monitoring Measures

Exhibit 15(h) shall include a discussion of potential adverse impacts on the environment, public health, and safety that cannot be reasonably avoided, and measures for monitoring and mitigating such impacts.

(i) Irreversible and Irretrievable Commitment of Resources

Exhibit 15(i) shall include a discussion of any irreversible and irretrievable commitment of resources that would be involved in the construction and operation of the Facility.

(j) Impact Minimization Measures

Exhibit 15(j) shall include additional detail regarding any proposed measures to minimize public health and safety impacts, if any.

(k) Mitigation Measures

Exhibit 15(k) shall include a discussion of any proposed measures to mitigate or offset any impacts, to the extent impacts are anticipated. This will include reference to a Complaint Resolution Plan, which will outline communications protocols and contacts for construction and operation; procedures for registering a complaint; a process for gathering and analyzing information about complaints; tracking and follow up mechanisms.

(l) Proposed Monitoring

Although not anticipated, Exhibit 15(l) shall include a description of any proposed monitoring programs of the impacts identified in the Application.

2.16 POLLUTION CONTROL FACILITIES

The proposed Facility will not require pollution control facilities, and, as such, the requirements of 1001.16 are not applicable and will not be included in the Article 10 Application. Please see Section 2.17 of this PSS for information on temporary air emissions during construction, and Section 2.23 for information on the Facility's State Pollution Discharge Elimination System (SPDES) General Permit for construction.

2.17 AIR EMISSIONS

2.17.1 Discussion

The Facility will produce electricity without generating any air emissions. Global climate change has been recognized as one of the most important environmental challenges of our time (NYSCAC, 2010; NYSDEC, 2009, 2010). There is scientific consensus that human activity is increasing the concentration of greenhouse gases (GHG) in the atmosphere and that this, in turn, is contributing to climate change. By its nature, climate change will likely continue to impact the environment and natural resources of the State of New York (NYSDEC, 2009). Historically, New York State has been proactive in establishing goals to reduce GHG emissions, including Executive Order 24, which seeks to reduce GHG emissions by 80% by the year 2050 and also includes a goal to meet 45% of New York's electricity needs through improved energy efficiency and clean renewable energy by 2015 (Paterson, 2009). Fuel combustion accounts for approximately 89% of total GHG emissions in New York State (NYSDEC, 2009). The State's most recent emissions reductions goals are contained in the 2015 State Energy Plan (SEP), issued June 25, 2015, by the New York State Energy Planning Board. The SEP recognizes the importance of ensuring that New York's power system is modern, clean, and diverse and that "renewable resources will . . . play a significant role in shaping New York's energy future, providing resilient power, reducing fuel cost volatility, and lowering [GHG] emissions." The SEP describes the State's energy future through a series of goals such as a 40% reduction in GHG emissions from 1990 levels, procurement of 50% of electricity generation from renewable energy sources by 2030.⁶ In addition, on August 1, 2016, in accordance with the statutory obligation that agency actions must be reasonably consistent with the most recent SEP, the Public Service Commission adopted the SEP's goals that 50% of New York's electricity is to be generated by renewable sources by 2030 as part of a strategy to reduce statewide greenhouse gas emissions by 40% by 2030 and approved the Clean Energy Standard (CES).

2.17.2 Proposed Content of the Application

Consistent with the requirements of 1001.18 of the Article 10 Regulations, Exhibit 17 of the Application will contain the following information:

(a) Compliance with Applicable Federal, State, and Local Regulatory Requirements

Exhibit 17(a) shall include a discussion of compliance with applicable federal, state, and local regulatory requirements. Section 111 of the Clean Air Act Extension of 1970, the U.S. Environmental Protection Agency (EPA) established New

⁶ By Executive Order, it is also a goal of the State of New York to reduce current greenhouse gas emissions from all sources within the State 80% below levels emitted in the year 1990 by the year 2050. Executive Order No. 24 (2009) [9 N.Y.C.R.R. 7.24; continued, Executive Order No. 2 (2011) 9 N.Y.C.R.R. 8.2].

Source Performance Standards (NSPSs) to regulate emissions of air pollutants from new stationary sources. These standards apply to a variety of facilities including landfills, boilers, cement plants, and electric generating units fired by fossil fuels. The NYSDEC Division of Air Resources administers an air permitting program as required by the Clean Air Act and 6 NYCRR Part 201. The two most common types of permits for air contamination sources are State facility and Title V facility permits. Since solar facilities generate electricity without releasing pollutants into the atmosphere, the proposed facility will not be subject to NSPSs, and will not require air pollution control permits under the Clean Air Act or New York State law or regulation.

The 1984 State Acid Deposition Control Act required the reduction of sulfur dioxide (SO₂) emissions from existing sources and nitrogen oxides (NO_x) emission controls on new sources in New York State. SO₂ and NO_x in the atmosphere are the primary causes of acid rain. The Acid Rain Program was created under Title IV of the 1990 Clean Air Act Amendments, with the goal of reducing emissions of SO₂ and NO_x for environmental and public health benefits. These regulations are also not applicable to the Facility because it will generate electricity without releasing SO₂ or NO_x.

(b) Assessment of Existing Ambient Air Quality Levels and Trends in the Region

Exhibit 17(b) shall include an assessment of existing ambient air quality levels and trends in the region. The NYSDEC Division of Air Resources publishes air quality data for New York State annually. The most recent summary of air quality data available for the state is the New York State Air Quality Report for 2017 (NYSDEC, n.d.). Included in this report are the most recent ambient air quality data, as well as long-term air quality trends derived from data that have been collected and compiled from numerous state and private (e.g., industrial, utility) monitoring stations across the state. These trends are assessed and reported by NYSDEC regions. The proposed Facility is located in NYSDEC Region 8, which encompasses Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne and Yates counties. There are no air quality monitoring stations in Livingston County. The closest are two monitoring locations in Rochester in Monroe County.

The Clean Air Act requires the EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment. In 2017, Region 8 sampling points in Rochester for carbon monoxide, lead, nitrogen dioxide, ozone, particulates (PM_{2.5} and PM₁₀), and sulfur dioxide were within the acceptable levels established by the NAAQS for all tested parameters. No other local air monitoring data are available to further characterize air quality in the immediate vicinity of the proposed Facility.

(c) Emissions by Combustion Sources Table

Solar generation facilities generate electricity without combusting fuel or releasing pollutants into the atmosphere. Therefore, the table required by 1001.17(c) summarizing the rate and amount of emissions is not applicable to the Facility and will not be included in the Article 10 Application.

(d) Potential Impacts to Ambient Air Quality

The Article 10 Application will include a discussion of the potential impacts to air quality that may be expected from Facility construction and operation. Since solar facilities generate electricity without combusting fuel or releasing significant pollutants into the atmosphere, the specific requirements of 1001.17(d) pertaining to pollutant emissions are not applicable to the proposed Facility operation and will not be included in the Article 10 Application.

The operation of this Facility is anticipated to have an overall positive impact on air quality by producing electricity with zero emissions (except for negligible emissions from vehicles that may periodically service the Facility). In fact, the operation of the Facility will offset air emissions from other sources of electrical generation such as fossil fuel powered generation plants. The Article 10 Application will evaluate the estimated annual displacements resulting from Facility operation.

Potential impacts to ambient air quality resulting from the construction of the Facility will be discussed in the Article 10 Application. Such impacts could occur on a temporary basis as a result of emissions from engine exhaust and from the generation of fugitive dust during earth moving activities and travel on unpaved roads. The increased dust and emissions will not be of a magnitude or duration that will significantly impact local air quality. Dust control procedures will be implemented to minimize the amount of dust generated by construction activities in a manner consistent with the Standards and Specifications for Dust Control, as outlined in the New York State Standards and Specifications for Erosion and Sediment Controls (NYSDEC, 2016b).

(e) Offsite Consequence Analysis for Ammonia Stored Onsite

No ammonia will be stored onsite during Facility construction or operation. Therefore, the offsite consequence analysis required by 1001.17(e) is not applicable to the Facility and will not be included in the Article 10 Application.

2.18 SAFETY AND SECURITY

2.18.1 Discussion

Overall safety and security risks associated with the Facility are anticipated to be minimal. The Applicant will develop, based on its experience with other solar projects and reasonable expectations associated with the Facility, preliminary site security, health and safety, and emergency action plans. The Applicant will coordinate with the County emergency department, local first responders, and the New York State Division of Homeland Security and Emergency Services to ensure appropriate actions are taken in the event of an emergency.

The Balance of Plant (BOP) contractor and all subcontractors will be required to provide a final site security plan for Facility construction, which will be developed by the BOP contractor prior to construction of the Facility, and will be provided to the Siting Board upon completion. The PV panels, inverters, energy storage equipment, and POI switchyard will be contained within perimeter fencing with locked gates. The general public will not be allowed on the construction site and vehicular access will be blocked by fencing and locked gates. Trespassing is generally not an issue during construction and operation of solar facilities, however, video cameras or other surveillance technology may be used should any problems arise.

Security lighting activities associated with Facility construction will include lighting of the POI switchyard. Lighting will be directed downward and manual switches and/or movement sensors will be installed for the security lighting to minimize the effects of light pollution and reduce potential wildlife attraction. Although none are expected, the Article 10 Application will provide an outline related to potential safety concerns and associated setbacks.

The Article 10 Application will provide a discussion on how the Applicant will comply with the North American Electric Corporations (NERC's) Critical Infrastructure Protection (CIP) standards. These mandatory Reliability Standards include CIP standards 001 through 009, which address the security of cyber assets essential to the reliable operation of the electric grid. To date, these standards (and those promulgated by the Nuclear Regulatory Commission) are the only mandatory cybersecurity standards in place across the critical energy infrastructures of the United States. Subject to Federal Energy Regulatory Commission (FERC) oversight, NERC and its Regional Entity partners enforce these standards, which are developed with substantial input from industry and approved by FERC, to accomplish NERC's mission of ensuring the security and reliability of the electric grid (NERC, 2013). The Applicant has a 24/7 NERC-compliant operations control center located in San Diego, CA, where remote monitoring, diagnostics, troubleshooting, and cybersecurity measures are implemented for all wind and solar power farms under operation by EDF. Morris Ridge Solar would also be monitored at this facility.

The Application will also include a Preliminary Emergency Action Plan (EAP) which will outline the safety plans of the Facility throughout its lifecycle, developed in consultation with local emergency service providers and relevant stakeholders. The EAP will be made available to all employees of the BOP and all subcontractors or authorized visitors to the Facility Site and will outline the procedures to follow in the event of an emergency. The information contained in the EAP will be developed in conjunction with local emergency service providers. The plan will be consistent with the response strategies in the Livingston County All-Hazard Emergency Operations Plan, though open-ended enough to grow and evolve as first responder organizations change.

In addition, a Spill Prevention, Control and Countermeasure (SPCC) plan will be prepared, and implemented, for both the construction and operation phases of the Facility. The SPCC plans will provide a detailed assessment of potential hazardous substances that could be utilized during the construction, operation or maintenance of the Facility. Typically, potential hazardous substances would consist of oils such as fuel oil, hydraulic oil, mineral oil, and lubricating oil.

2.18.2 Proposed Content of the Application

Consistent with the requirements of 1001.18 of the Article 10 Regulations, Exhibit 18 of the Application will contain the following information:

(a) Preliminary Plans for Site Security During Facility Construction

Exhibit 18(a) shall include preliminary provisions for security during construction in the Health and Safety Plan, which will include site plans and descriptions of the following site security features:

- i. Access controls including fences, gates, bollards, and other limitations;
- ii. Electronic security and surveillance facilities;
- iii. Security lighting, including specifications for lighting and controls to address work-site safety requirements and to avoid off-site light trespass; and
- iv. Setback considerations for Facility components which may present hazards to public safety.

(b) Preliminary Plans for Site Security During Facility Operation

Exhibit 18(b) shall include a preliminary site security plan for operation, which will likely include the following:

- i. Access controls including fences, gates, bollards, and structural limitations;
- ii. Electronic security and surveillance facilities;
- iii. Security lighting, including specifications for lighting and controls to address work-site safety requirements to avoid off-site light trespass;

- iv. Setback considerations for Facility components which may present a hazard to public safety; and
- v. A description of a cyber security program to be used for the protection of digital communication systems and networks that support the Facility.

(c) Preliminary Safety Response Plan

Exhibit 18(c) shall include a Preliminary Emergency Action Plan (EAP) to ensure the safety and security of the local community. The plan will include:

- i. Identification of contingencies that would constitute an emergency;
- ii. Emergency response measures by contingency;
- iii. Evacuation control measures by contingency; and
- iv. Community notification procedures by contingency.

(d) Provision of Security and Safety Plans to NYS Division of Homeland Security

Exhibit 18(d) shall include documentation of submittal of the preliminary Security Plan and EAP to the New York State Division of Homeland Security and Emergency Services.

(e) Provision of Security and Safety Plans to Local Office of Emergency Management

The Facility Site is not located within any part of a city that has a population of over one million and therefore a review by the local office of emergency management is not required. However, the Applicant will coordinate with the Livingston County Office of Emergency Management and the Town of Mount Morris and provide a copy of the EAP to each of them.

(f) Onsite Equipment to Respond to Fire Emergencies or Hazardous Substance Incidences

In accordance with 1001.18(f), the EAP shall include a detailed list of all equipment available for responding to fire emergencies or hazardous substance incidences.

(g) Contingency Plans for Fire Emergencies or Hazardous Substance Incidences

Exhibit 18(g) shall include a description of all contingency plans to be implemented in response to the occurrence of a fire emergency or a hazardous substation incident.

(h) Provision of Security and Safety Plans to Local Emergency First Responders

Exhibit 18(h) shall include a statement that it has provided a copy of the plans listed above, and requested review and comment of such plans by local emergency personnel and first responders serving the area of the Facility Site, and a review of responses received.

2.19 NOISE AND VIBRATION

2.19.1 Discussion

Compared with most other types of power generation facilities, the potential for any kind of community noise impact from a photovoltaic solar energy project is nearly non-existent. Moreover, such facilities have the unique characteristic of only operating during daylight hours when noise is much less likely to be noticed by neighboring residences. Any possible concerns about the sound emissions from a solar project are largely confined to the step-up transformer in the substation, electrical inverters and medium voltage transformers, and energy storage enclosures installed within the interior of the various PV panel arrays and some short-lived activities during construction.

There are no vibration issues associated with the operation of a solar photovoltaic facility. The construction of the Facility will include the insertion into the ground of the piles on top of which the racking will sit. These piles will be installed with pile driving or drilling machines, which could create vibration impacts in the immediate vicinity during construction. The Applicant will address potential vibration impacts during construction on nearby sensitive receptors, nearby facilities sensitive to vibrations (such as laboratories or medical facilities), wells and buried infrastructure such as gas pipelines, and nearby historic/cultural resource sites which might incur foundational or structural damage as a result of pile driving or drilling.

In addition, in contrast to other forms of power generation, the duration of the construction phase for a PV solar facility is short and the activities that generate significant noise are few. Where a fossil fuel or wind generating project would require the pouring of massive concrete foundations, construction of a solar facility largely involves the installation of mounting posts for the PV panel racking, which generally follow the existing topography. The Article 10 Application will provide a description of the construction process and will evaluate the potential for noise-related disturbance from any construction phase or activity.

The electricity generated by the photovoltaic panels will be collected and routed to a step-up transformer in a new substation associated with the Facility. This substation will be similar in design and operation to other like-sized 34.5/230 kV substations, a typical size for the power industry. The potential noise impact from any substation is a matter of how prominent and audible the tonal sound emissions from the transformer(s) are at the nearest receptors.

Tones at harmonics of 120 hertz (Hz) are generated by all transformers and when audible are typically described as a hum near the unit; however, the prominence of these tonal peaks diminish quickly with distance and are masked by background sounds as that distance increases. The projected sound levels from the substation will be modeled and included in the Article 10 Application.

Apart from the substation transformer, other sound sources of possible significance are the electrical inverters used to convert generated DC power into AC power, medium voltage transformers that increase the voltage of the power from 1500 V to 34.5 kV, as well as energy storage enclosures, if applicable. Typically, the inverter/medium voltage transformers and storage electrical cabinets are situated within and near the center of each solar array, or independent group of solar panels, so they are usually a considerable distance from the perimeter fence and potential neighbors beyond.

A field study of inverter sound emissions at several existing large-scale solar facilities was carried out for the Massachusetts Clean Energy Center, an agency of the Massachusetts state government, in 2007 and indicates that any noise from these cabinets generally drops into the background level and becomes insignificant at distances beyond about 150 feet (Guldberg, 2012). Consequently, any conventional solar field layout will likely result in a situation where the inverters are more than 150 feet from any neighbors. Nonetheless, the impact of projected sound levels from the inverters will be evaluated.

Background sound monitoring surveys during both winter/leaf-off and summer/leaf-on conditions will be carried out to measure the existing sound levels at positions representative of the soundscape around the nearest sensitive receptors to the project substation and inverters as the first step in a modified Composite Noise Rating (CNR) analysis to establish the baseline background conditions and in fulfilling the requirements of Article 10 Exhibit 19 sections b and f. In addition, the Article 10 Application will include a Noise Impact Assessment (NIA) to evaluate the projected sound emissions from the proposed project components. The sensitive receptors nearest to the substation and inverters will be modeled in the NIA.

The model will be used to determine what noise abatement measures, if any, should be incorporated into the Facility design to meet the Project noise design goals and any applicable local noise ordinances. The analysis will include an assessment of possible tonal noise from the Facility and what steps might need to be implemented to prevent any kind of adverse community impact from these sounds.

Given that solar panels themselves are not anticipated to produce significant noise during operation, the only components which may potentially create operational noise impacts are the inverters, medium voltage transformers,

the energy storage enclosures, and substation associated with the Facility. The Article 10 Application will explain why noise from solar panels and other components is not anticipated, and will include a NIA, as outlined below, for purposes of anticipating potential impacts from noise-producing equipment. Potential construction noise impacts also will be discussed in Exhibit 19.

The Applicant agrees to provide all applicable information required by 1001.19(a)-(n).

2.19.2 Proposed Content of the Application

Consistent with the requirements of 1001.19 of the Article 10 Regulations, Exhibit 19 of the Application will contain the following information.

An NIA, as outlined in the following subsections, to evaluate the projected sound emissions from noise-producing equipment.

(a) Sensitive Sound Receptor Map(s)

Maps showing the project's noise-producing equipment in relation to the nearest sensitive sound receptors including residences, schools, hospitals, libraries, places of worship, public parks, and seasonal homes.

(b) Ambient Pre-Construction Baseline Noise Conditions

Background sound monitoring surveys during both winter/leaf-off and summer/leaf-on conditions to measure the existing sound levels at positions representative of the nearest potentially sensitive receptors to the project substation and inverters. The full and 1/3 octave band spectra on a continuous 10-minute time resolution will be measured over at least a 48-hour period and will record, at a minimum, the L_{90} , L_{50} , L_{10} , and L_{eq} levels.

The presence of any existing tones that might be present at the receptor points will be evaluated per ANSI S12.9 Part 3 – Annex B. This method defines prominent discrete tones in terms of the prominence of the 1/3 octave band containing the suspected tone above the average of the adjacent 1/3 octave bands. Prominence/perceptibility is frequency dependent and the thresholds are generally taken as 15 dB for tones between 25 and 125 Hz, 8 dB for frequencies between 160 and 400 Hz, and 5 dB for frequencies between 500 and 10,000 Hz.

(c) Modeling of Construction Sound Levels

The Article 10 Application will include a description of the planned construction process, such as whether the mounting posts will be driven into the ground or screwed, and an evaluation of the possibility of noise or vibration-related disturbance from any construction phase or activity. Noise resulting from construction will be modeled using the Cadna/A software or similar and sound power data from the FHWA Highway Construction Noise Handbook FHWA-HEP-06-015 as applicable.

(d) Modeling of Operational Sound Levels

The octave band sound power level spectrum of the proposed noise generating equipment will be calculated or otherwise obtained. Sound propagation modeling will be conducted using ISO 9613-2 with no meteorological correction (Cmet). An A-weighted sound level contour map out to 30 dBA will be provided with 1 dB resolution. It should be noted that the exact location of every inverter and medium voltage transformer is not typically known or defined early in the design process, but the sound analysis will make use of the best available information at the time of the assessment and make a conservative analysis based on worst-case scenarios.

(e) Future Sound Levels at Receptors During Facility Operation

Future sound levels during operation of the proposed facility will be provided including modeled A-weighted sound levels and un-weighted full octave band low frequency levels at all sensitive receptors. A tonal evaluation based on the sound power of the transformer and inverters. A discussion for the potential of low frequency sound using literature and manufacturer data, if available. The facility is not expected to produce notable infrasound or amplitude modulation.

(f) Predicted Sound Levels Table

Predicted sound levels based on sound propagation modeling and background sound level monitoring will be provided in tabular format.

(g) Applicable Noise Standards

Applicable noise standards and guidelines will be described in the NIA including local municipal standards, NYSDEC guidelines, WHO guidelines, and EPA guidelines to develop Project noise design goals.

(h) Noise Standards Comparison

The Application will include a tabular comparison of the noise standards applicable to the Facility including any local requirements and design goals for the Facility and the degree of compliance indicated by computer noise modeling at the representative external property boundary lines of the Facility and related facilities and ancillary equipment sites and at the representative nearest and average noise receptors.

(i) Noise Abatement for Construction Activities

Although impacts related to construction noise will be temporary, and are not anticipated to be significant, best management practices for sound abatement will be implemented during construction, including use of appropriate mufflers and limiting hours of construction where practicable, and turning off construction vehicles when not in use.

(j) Noise Abatement for Facility Design and Operation

The model will be used to determine what noise abatement measures, if any, might need to be incorporated into the Facility design to meet the Project noise design goals.

(k) Community Impact Assessment

This section of the Application will include the following:

1. Potential for Hearing Damage

The potential for the Facility to result in hearing damage based on OSHA standards, the recommendations of the United States Environmental Protection Agency and the guidelines of the World Health Organization.

2. Potential for Speech Interference

A discussion of the potential for indoor and outdoor speech interference based on guidelines from the United States Environmental Protection Agency and the World Health Organization.

3. Potential for Annoyance/Complaints

The study will include a modified Composite Noise Rating (CNR) analysis at each design point based on the measured average octave band background sound level, seasonality, character, and attitudinal adjustments. A final CNR rating for each location will be determined and further evaluate if noise mitigation, such as a local noise barrier for the transformer or low noise transformer, would be appropriate to maintain a CNR rating of C (no reaction to sporadic complaints) or less.

4. Potential for Sound-Induced Vibration and Annoyance

The potential for sound-induced vibration and annoyance at the low frequency bands of 16, 31.5 and 63 Hz will be assessed using outdoor criteria established in Annex D of ANSI standard S12.9 -2005/Part 4. Applicable portions of ANSI 12.2 (2008) may be used for the evaluation of frequency bands as appropriate. However, it should be noted that there is no mechanism for the generation of any substantial sound below 120 Hz in the transformers or inverters.

5. Potential for Structural Damage and Interference Technological, Industrial, or Medical Activities that are Sensitive to Sound

The Article 10 Application will discuss the potential for structural damage; and the potential for interference with technological, industrial or medical activities that are sensitive to vibration or infrasound within 1 mile of the Facility Site.

(I) Post-construction Noise Evaluation Studies

The solar facility is not expected to generate substantial sound outside the project boundaries. As a result, the application will propose that no routine post-construction sound evaluation be conducted if the 30 dBA Project sound contour is within the Project and/or participating lands. If the 30 dBA Project contour overlaps with a non-participating sensitive receptor, then the Applicant will develop a post-construction sound monitoring protocol, focusing on short-term daytime measurements (when worst-case noise emissions are expected) and generally following the standards of ANSI S12.9 Part 3, "Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-term Measurements with an Observer Present." The protocol will be implemented in response to noise complaints directed at the Facility.

(m) Identification of Practicable Post-construction Operation Controls and Other Mitigation.

The NIA will identify practicable post-construction operational controls and other mitigation measures that will be available to address reasonable complaints, including a description of a complaint-handling procedure that shall be provided during periods of operation. Mitigation measures will focus on barriers and berms control of harmonics, and proper maintenance.

(n) Computer Noise Modeling

The computer noise modeling values used for the major noise-producing components of the facility shall fairly match the unique operational noise characteristics of the particular equipment models and configurations proposed for the facility. The software input parameters, assumptions, and associated data used for the computer modeling shall be provided. The modeling will follow the standards of ISO 9613-2 with parameters that have been shown to yield accurate results for similar types of facilities. Such parameters will include terrain, ground cover, source and receiver heights, ground attenuation methodology, atmospheric attenuation, and consideration of uncertainty. Estimates of annualized sound levels will consider the amount of available sunlight, daylight hours, and associated sound emissions.

2.20 CULTURAL RESOURCES

2.20.1 Discussion

The Applicant does not anticipate significant impacts to archaeological or cultural resources due to Facility construction or operation. Relative to other types of energy generation projects, utility-scale solar facilities present a lower risk for impacts to archaeological resources due to their comparatively minimal amount of ground disturbance required during construction and operation. The site design and construction elements to be used in constructing the Facility will minimize the need for soil disturbance wherever possible, by shifting the project components and by utilizing low-impact construction methods. Due to the relatively minimal amount of ground disturbance required to construct solar projects, the New York State Historic Preservation office (SHPO) has developed a standard protocol for Phase IB archaeological survey for solar facilities:

“Recommendations specific to solar projects:

Phase IB archaeological testing is recommended for the locations of proposed roads, facilities, retention ponds, staging areas, utility trenches over a foot wide, drainages over foot wide, and areas of grubbing and grading.

Phase IB archaeological testing is NOT recommended for panel arrays, perimeter fencing and utility poles if their associated posts are driven into the ground and no grubbing or grading is involved. However, if the installation of the panel array supports, fencing or utility poles requires excavation or grubbing and grading then Phase IB archaeological testing is recommended.” (NYSOPRHP, 2018).

The Applicant will initiate consultation with the NYSOPRHP to develop the scope and methodology for cultural resources studies for the Facility. Formal consultation with the NYSOPRHP will include initiating Facility review and consultation through NYSOPRHP’s Cultural Resources Information System (CRIS) website⁷ and submission of technical reports/work plans. EDR has performed a preliminary review of CRIS and historical documentation relevant to this area. According to CRIS, there are 62 previously recorded archaeological sites within two miles of the Facility Area, consisting of 50 pre-contact Native American sites, 9 Historic-period sites, and 3 sites containing both pre-contact Native American and Historic-period resources. Based upon these preliminary findings, EDR has assessed the Facility Area as archaeologically sensitive with a potential for archaeological resources to be present at the Facility Site. Any required archaeological studies will be conducted under the supervision of a Registered Professional Archaeologist (RPA) in a manner consistent with the NYSOPRHP *Phase I Archaeological Report Format Requirements*⁸ and the New York Archaeological Council (NYAC) *Standards for Cultural Resource Investigations and Curation of Archaeological Collections in New York State* (the NYAC Standards)⁹. The Archaeological Resources Survey will be performed within the Facility Site where Facility components are proposed.

Construction of the Facility is not anticipated to require the demolition or physical alteration of any historic structures. As the Facility is planned to be constructed almost entirely on open lands, no direct physical impacts to historic properties are anticipated to occur as a result of the Facility. Historically significant properties are defined herein to include buildings, districts, objects, structures and/or sites that have been listed on the National Register of Historic Places (NRHP), as well as those properties that NYSOPRHP has formally determined are eligible for listing on the State Register of Historic Places (SRHP).

The Facility’s potential effect on historic resources may result in a change (resulting from the introduction of PV panels or other Facility components) in the visual or auditory setting associated with a given historic resource. These potential effects may be highly variable and are dependent on several factors, including distance to the Facility, the number of visible panels/components, the extent to which the Facility is screened or partially screened by buildings, trees, or other

⁷ NYSOPRHP’s Cultural Resources Information System is accessible at: <http://www.nysparks.com/shpo/online-tools/>.

⁸ New York State Office of Parks, Recreation, and Historic Preservation (NYSOPRHP). 2005. New York State Historic Preservation Office (SHPO) Phase 1 Archaeological Report Format Requirements. NYSOPRHP, Waterford, NY.

⁹ New York Archaeological Council (NYAC). 1994. *Standards for Cultural Resources Investigations and the Curation of Archaeological Collections in New York State*. New York State Office of Parks, Recreation, and Historic Preservation, Waterford, NY.

objects, and the amount of existing visual clutter and/or modern intrusions in the view. In addition, visibility of the Facility from surrounding areas is anticipated to be very limited because the height of the PV arrays will not exceed approximately 12 feet above grade and the forested areas and topography surrounding the Facility Site will serve to significantly restrict visibility. A preliminary viewshed analysis based on solar panel installation on several agricultural fields within the Facility Site has been prepared (Figure 9). A 5-mile radius Study Area will be evaluated in the Application to ensure that potential visual effects on historic properties are adequately considered. Preliminary research has identified 255 properties that occur within 5 miles of the Facility (see Figure 5). A thorough inventory of historic resources, including any locations/resources proposed for inclusion by agencies and municipalities and other through ongoing outreach efforts, will be compiled in support of the Visual Impact Analysis (VIA) and will be evaluated for potential visual impacts therein.

2.20.2 Proposed Content of the Application

Consistent with the requirements of 1001.20 of the Article 10 regulations, Exhibit 20 of the Application will contain the following information:

(a) Archaeological Resources

Exhibit 20(a) shall include a full analysis of the potential impacts of the construction and operation of the Facility on archaeological resources.

(1) Summary of Impacts and Avoidance Measures

The Applicant will seek to avoid impacts to archaeological sites identified within the Facility Site. Due to the low-impact nature of utility-scale solar facilities, the NYSOPRHP has developed Phase 1B archaeological survey recommendations specific to these types of projects. These recommendations include archaeological testing of areas proposed for significant ground disturbance. If no significant ground disturbance is anticipated, the NYSOPRHP does not recommend archaeological testing of PV panel arrays, perimeter fencing, or utility poles, if the associated posts are driven into the ground. Solar panels will be installed on a low-profile racking system, which typically consists of foundation posts driven or screwed into the ground, without the need for excavation, concrete, or other foundations. Limited grading may be necessary; however, the Applicant will seek to minimize the need for grading wherever possible, particularly in fields where buried cultural resources may be present.

A Phase 1B archaeological survey will be conducted and any archaeological resource identified through Phase 1B fieldwork will be summarized, along with potential impacts to such resources and proposed avoidance measures, in the Article 10 Application.

(2) Phase IA Cultural Resources Study

The Applicant will prepare a *Phase 1A Archaeological Resources Survey*, which will be submitted through NYSOPRHP's CRIS website. The purpose of the Phase 1A archaeological resources survey is to: 1) define the Facility's Area of Potential Effect (APE) relative to archaeological resources based on the anticipated area of disturbance for Facility components; 2) determine whether previously identified archaeological resources are located in the APE; and, 3) propose a methodology to identify archaeological resources within the APE, evaluate their eligibility for the S/NRHP, and assess the potential effect of the Facility on those resources.

(3) Phase IB Cultural Resources Study

A Phase IB Archaeological Survey will be conducted to determine whether archaeological sites are located in the areas of significant proposed ground disturbance for the Facility. The Phase IB survey will be conducted under the supervision of an RPA in a manner consistent with the NYSOPRHP *Phase I Archaeological Report Format Requirements* (NYSOPRHP, 2005) and the NYAC Standards (NYAC, 1994). The Phase IB Archaeological Survey will be conducted in accordance with the methods proposed in the Phase IA archaeological survey, based on consultation with NYSOPRHP. This report will be summarized in the Article 10 Application and appended to Exhibit 20.

(4) Phase II Study

If required, the Applicant agrees to provide the information outlined by 1001.20(a)(4) in the Article 10 Application.

(5) Archaeological Material Recovered During Cultural Resources Studies

In the event that any artifacts are recovered during the cultural resources studies for the Facility, the Applicant agrees to provide the information required by 1001.20(a)(5). A complete listing of any recovered artifacts will be included in the Phase IB Archaeological Survey Report.

(6) Unanticipated Discovery Plan

The Article 10 Application will include an Unanticipated Discovery Plan that identifies the actions to be taken in the unexpected event that resources of cultural, historical, or archaeological importance or human remains are encountered during Facility construction. The plan will include a provision for work stoppage 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* (NYAC, 1994). The Unanticipated Discovery Plan will specify the degree to which the methodology used to assess any discoveries follows the NYAC Standards.

(b) Historic Resources

1001.20(b) shall include a full analysis of the potential impacts of the construction and operation of the Facility on historic resources.

(1) A complete Historic Architectural Survey

The Applicant is committed to completing a Historic Resources Survey and associated report. No survey work has been conducted at this time. An historic resources survey will be undertaken to define the Facility's APE relative to aboveground historic resources within a 5-Mile Study Area, conduct a field review of previously identified historic resources located in the APE as well as their visual setting, assess if additional historic properties are located within the 5-Mile Study Area and APE for indirect (visual) effects, and propose a methodology to assess the potential visual and auditory effect of the Facility on those resources.

Area of Potential Effect Relative to Historic Resources

The Facility will not have any physical impacts to historic resources (i.e., no historic structures will be damaged or removed). The Facility's potential effect on a given historic property would be a change (resulting from the introduction of PV panel arrays or other Facility components) in the property's visual setting. Therefore, the APE for visual effects on historic resources must include those areas where Facility components (including PV panel arrays) will be visible and where there is a potential for a significant visual effect. The Study Area to be used in this analysis is defined per the requirements set forth in 16 NYCRR § 1000.2(ar) for major electric generating facilities.

For recent solar projects reviewed under Article 10¹⁰ NYSOPRHP has indicated that a 5-mile Study Area be established for assessing indirect effects of the Facility on historic resources. Proposed solar panel visibility is anticipated to be relatively limited as the panels and inverter equipment are not expected to extend more than 12 feet above grade and the forested areas and topography surrounding the Facility Site will serve to significantly restrict visibility. A preliminary viewshed analysis based on solar panel installation on several agricultural fields within the Facility Site has been prepared (Figure 9). A 5-mile radius Study Area will be evaluated in the Application to ensure that potential visual effects on historic properties are adequately considered. A thorough inventory of historic resources, including any locations/resources proposed for inclusion by agencies and municipalities and other through ongoing outreach efforts, will be compiled in support of the VIA and will be evaluated for potential visual impacts therein.

Methodology to Identify Historic Resources and Assess Potential Effects of the Facility

Historically significant properties are defined herein to include buildings, districts, objects, structures and/or sites that have been listed on the S/NRHP, as well as those properties that NYSOPRHP has formally determined are eligible for listing on the S/NRHP. Criteria set forth by the National Park Service (NPS) for evaluating historic properties (36 CFR 60.4) state that (per CFR, 2004; NPS, 1990):

The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and:

- (A) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- (B) that are associated with the lives of persons significant in our past; or
- (C) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- (D) that have yielded, or may be likely to yield, information important in prehistory or history.

The methods and results of the survey will be summarized in an illustrated historic resources survey report, along with an annotated properties table that will include an entry for each identified property. The annotated properties table will include one or more photographs of each property, a brief description of the property (name, address, estimated age, architectural style, materials, etc.), an assessment of its condition, and an evaluation of

¹⁰ The Mohawk Solar Project (17PR06371) in the Towns of Canajoharie and Minden, Montgomery County, New York.

significance. The initial survey results and recommendations of S/NRHP eligibility will be provided to NYSOPRHP via the CRIS database. The Applicant will request that NYSOPRHP review these results and provide determinations of eligibility prior to completing a historic resources effects analysis for the Facility, so that only the potential effects of the Facility on historic properties determined eligible by NYSOPRHP are considered.

- (2) A summary of the nature of the probable impact of Facility construction and operation on any historic resources.

Following NYSOPRHP's review of the historic resources survey results for the Facility, the Applicant will prepare a historic resources effects analysis that will evaluate the potential visual and auditory effects of the Facility on properties determined by NYSOPRHP to be S/NRHP-eligible. The effects analysis will specifically address effects of the Facility associated with S/NRHP eligible and listed sites and/or districts within the APE and will include visual simulations where appropriate. The effects analysis will also include recommendations regarding potential cultural resources mitigation projects, as appropriate. The historic resources effects analysis will be provided to NYSOPRHP via the CRIS database and provide the basis for the evaluation of potential visual effects on historic resources included in Exhibit 24 (Visual Impacts) of the Article 10 Application. The completed historic resources effects analysis will be submitted as part of the Article 10 Application.

2.21 GEOLOGY, SEISMOLOGY, AND SOILS

2.21.1 Discussion

This Exhibit will include a study of the geology, seismology, and soil conditions of the Facility Site, and potential impacts of Facility construction and operation on said conditions. This Exhibit will also include the identification and mapping of existing conditions, an impact analysis, and proposed impact avoidance and mitigation measures, to the extent such measures are required. Preliminary areas for Facility development have been identified (see Figure 3 of this PSS) and Facility design and layout is currently ongoing.

The Facility Site is located in Livingston County, within the Allegheny Plateau physiographic province of New York State. Livingston County's elevation ranges from 515 feet above mean sea level (amsl) along the Genesee River to approximately 2,300 feet amsl in the southern portion of the county. Distinct glacial events helped in forming the Genesee River Valley and the western-most Finger Lakes (Hemlock Lake and Conesus Lake). Bedrock at the Facility Site is comprised primarily of shale and siltstone from the Upper Devonian age (USGS Mineral Resources Program, 2005). Pseudokarst features, including surface and subsurface evaporate rocks, exist in the vicinity of the Facility Site, and historic land use in the area (salt mining, oil, and natural gas extraction) has influenced local geology (USGS, 2005; USGS 1994). A Preliminary Geotechnical Analysis will be performed to analyze geology of the Site, and to

determine the presence, or lack of, karst features. Consultation with the NY Natural Heritage Program (NYNHP) did not identify any unique geologic features in the Facility Site; however, the Genesee River Gorge runs through Letchworth State Park less than 1-mile from the Facility Site.

A wide variety of soil types are documented within the county according to the Soil Survey of Livingston County, New York (USDA, 2018). The major soil associations (comprising 20 acres or more) of the Facility Site, along with their primary characteristics are presented in Table 21-1, below.

Table 21-1. Soil Associations in the Facility Site.

Soil Series	Main Characteristics
Angola	• Moderately deep • Gently sloping • Somewhat poorly drained • Fine-loamy texture
Appleton	• Gently sloping • Somewhat poorly drained • Fine-loamy texture
Burdett	• Gently sloping • Somewhat poorly drained • Fine-loamy texture
Darien	• Nearly level to gently sloping • Somewhat poorly drained • Fine-loamy texture
Erie	• Nearly level to sloping • Somewhat poorly drained • Fine-loamy texture
Hudson	• Steep, broken land • Moderately well drained • Fine texture
Kendaia	• Somewhat poorly drained • Fine-loamy texture
Lakemont	• 0-3% Slopes • Poorly drained • Fine texture
Lordstown	• Deep soils • Sloping to moderately steep • Well drained • Coarse-loamy texture
Odessa	• Very gently sloping • Somewhat poorly drained • Fine texture

Source: Soil Survey of Livingston County, New York (USDA, 2018).

Based on the 2014 New York State Hazard Map (USGS, 2014), the Facility Site is located in an area of relatively low seismic hazard, with a 2% or less chance that an earthquake exceeding magnitude 2.5 on the Richter scale will occur

within a 50-year window. Records indicate that the most recent seismic event in Livingston County was a 2.0 magnitude earthquake in 2012 outside of Mount Morris, with only two other events occurring in the county since 1900 (USGS, 2018). The USGS Earthquake Hazards Program does not list any young faults, or faults that have had displacement in the Holocene epoch within the vicinity of the Facility Site (USGS, 2018).

The Applicant does not expect that Facility-related excavation will result in adverse impacts to geology or soils. Throughout the majority of the Facility Site, earthwork is expected to include only minor site grading, as necessary, to create finished grade slopes suitable for racking installation and stormwater management. Solar facilities have relatively minor impacts on soils and geology when compared to conventional energy production and wind power projects which require substantially more earth moving. The Article 10 Application will provide a detailed description of construction methodologies and activities associated with the Facility, including the anticipated excavation techniques to be employed. The Applicant does not anticipate significant removal of materials from the site during construction. During excavations, topsoil will be segregated and stockpiled for use in site restoration, and materials will be restored as practicable.

The impacts of construction and operation of the Facility on regional geology is anticipated to be minor but will be evaluated in the Article 10 Application. The Application will include a Preliminary Geotechnical Investigation that will define the soil and geological characteristics of the Facility Site and address their suitability for Facility construction. This stand-alone report will be based on a Facility-specific site visit conducted by a geotechnical expert, review of publicly available data, and test borings to be completed at a subset of PV panel and other Facility component locations. In addition, before construction commences, the Applicant will determine the exact location of proposed Facility components and conduct a detailed geotechnical investigation to verify subsurface conditions and allow development of final Facility component designs.

Based upon a review of publicly available data and the Applicant's experience with solar facility construction, blasting is not anticipated to be required for the construction of the Facility. However, should any blasting be required, it will be conducted in accordance with a Facility-specific blasting plan, a preliminary version of which will be provided in the Article 10 Application. In addition, pre- and post-blasting surveys will be conducted as a groundwater well mitigation measure if blasting is needed. The Application's Complaint Resolution Plan will include measures to address community concerns related to blasting, if it is proposed. The blasting plan would also include measures to protect features such as natural gas pipelines. Although not anticipated, any environmental or community impacts associated with blasting will be addressed on a case-by-case basis and appropriately mitigated.

2.21.2 Proposed Content of the Application

Consistent with the requirements of 1001.21 of the Article 10 regulations, Exhibit 21 of the Application will contain the following information:

(a) Existing Slopes Map

Exhibit 21(a) shall include 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 Facility Site and interconnections, based on the USGS National Elevation Dataset. Digital Elevation Model (DEM) data will be processed using ESRI ArcGIS® Software to delineate drainage areas and develop slope mapping. The map will identify surface water features in and around the Facility Site (streams, rivers, lakes, reservoirs). A preliminary Stormwater Pollution Prevention Plan (SWPPP), as described in 1001.23(c)(1), will outline how and where stormwater from the site discharges and will reference the associated tributaries and other waterbodies that appear on the mapping.

(b) Proposed Site Plan

Facility Design and layout is currently ongoing. Preliminary design drawings showing existing and proposed contours at 2-foot intervals will be included in Exhibit 11 of the Article 10 Application.

(c) Cut and Fill

Exhibit 21(c) shall include:

- i. Preliminary cut and fill calculations based on 2-foot contours. Separate calculations for topsoil, sub-soil, and rock will be roughly approximated based on publicly available data from the Livingston County Soil Survey and USDA Natural Resource Conservation Service (NRCS) Web Soil Survey (WSS), and the results of preliminary geotechnical investigations.
- ii. A description of typical scenarios that would result in cut and fill necessary to construct the Facility, such as constructing an access road on a side slope, will be provided.
- iii. Information regarding the identification and removal invasive species during earthwork will be addressed in Exhibit 22(b) of the Application.

(d) Fill, Gravel, Asphalt, and Surface Treatment Material

Exhibit 21(d) shall provide a preliminary calculation of the amount of required fill, gravel, asphalt, etc. based on the proposed layout of PV panels, collection lines, substations, access roads, and other Facility components and construction areas. Calculations will be based on the anticipated dimensions of Facility components and limits of grading. For example, an access road typical detail will indicate width of road and depth of gravel, which will be multiplied by the linear distance of proposed access roads to calculate an estimate of the gravel required for road construction.

(e) Type and Amount of Materials to be Removed from the Facility

Although not anticipated, if applicable, Exhibit 21(e) shall include a description and preliminary calculation of the proposed type and amount of any cut material or spoil to be removed from the Facility Site and interconnection routes.

(f) Excavation Techniques to be employed

Exhibit 21(f) shall include:

- i. A detailed description of excavation techniques to be employed, including the following:
 - a. Trenching using chain trenchers, small scale track excavators and backhoes.
 - b. General land and road grading using bulldozers.
 - c. Stormwater facility construction including ditching and small ponding areas using similar earth moving equipment as above.
- ii. If horizontal directional drilling (HDD) is proposed for Facility construction, an evaluation of the feasibility of HDD within the Facility Site will be included in the Application.
 - a. An Inadvertent Return Plan will be provided with the Application if HDD is proposed. The Inadvertent Return Plan will establish proposed setbacks of HDD operations from stream banks, drinking water wells, and other known potential sensitive receptors and resources, and include a description of inadvertent return mitigation and response measures. The plan will also include a scaled drawing showing typical HDD equipment staging layout and design.

(g) Temporary Cut and Fill Storage Areas

Exhibit 21(g) shall include a map showing temporary cut or fill storage areas to be employed during Facility construction.

(h) Suitability for Construction

Exhibit 21(h) shall include a description of the characteristics of the material to be excavated for the Facility, and of the deposits found at foundation level, including factors indicating their suitability for construction, such as soil corrosivity, bedrock competence, and subsurface hydrologic characteristics will be included with the Application.

The results of a Preliminary Geotechnical Investigation will also be presented, and are anticipated to include:

1. A detailed summary of preliminary geotechnical investigations performed, including a description of the rationale for the selection of boring/deep test locations and how the data collected will be applied to evaluate the suitability of soils for construction of Facility components and use as backfill.
2. Results of test borings conducted at a sub-set of PV module and inverter locations, including copies of field logs for each boring.
3. Literature review and publicly available data regarding surface and subsurface soil, bedrock, and groundwater conditions.
4. A detailed report with suitability analysis and recommendations.
5. Identification of additional pre-construction geotechnical and geophysical investigations that are recommended for final design of the Facility.
6. The Preliminary Geotechnical Investigation Report will be included as an Appendix to Exhibit 21.

(i) Preliminary Blasting Plan

Exhibit 21(i) shall include a statement that no blasting will be required, if appropriate based on the results and data obtained from the Preliminary Geotechnical Investigation. If blasting is anticipated, a preliminary plan describing all aspects of the blasting operations will be provided, including:

- Location;
- Minimum blasting contractor qualifications;
- Hours of blasting operations;
- Estimates of amounts of rock to be blasted;
- Warning measures;
- Measures to ensure safe transportation;
- Storage and handling of explosives;

- Use of blasting mats;
- Procedures for a pre-blasting condition survey of nearby buildings and improvements to assess; potential impacts, if any, from blasting operations;
- Coordination with local safety officials; and
- Maps showing the locations of known and permitted quarries and natural gas wells (and associated infrastructure and existing access roads), and the operating status of such quarries and gas wells, to the extent that information is available to the Applicant.

(j) Potential Blasting Impacts

If blasting is anticipated, Exhibit 21(j) shall include an assessment of potential impacts of blasting to environmental features, above-ground structures, and below-ground structures such as pipelines and wells will be included in the Application, in addition to a discussion of:

- Potential mitigation measures;
- Procedures and timeframes for notifying host communities and property owners within a one-half mile radius of blasting locations;
- Plans for pre- and post-blasting surveys of wells and foundations potentially affected by blasting operations; and
- Plans for securing timely compensation for damages to wells and foundations that may occur due to blasting.

(k) Mitigation Measures for Blasting Impacts

Exhibit 21(k) shall identify and evaluate reasonable mitigation measures regarding blasting impacts, if such impacts are anticipated, including the use of alternative technologies and/or location of structures, and securing compensation for damages that may occur due to blasting.

(l) Regional Geology, Tectonic Setting, and Seismology

Exhibit 21(l) shall include a description of the regional geology (including any known or suspected areas of karst topography within the Facility Site), tectonic setting, and seismology of the Facility Site.

(m) Facility Impacts on Regional Geology

Exhibit 21(m) shall include an analysis of the expected impacts of construction and operation of the Facility with respect to regional geology.

(n) Impacts of Seismic Activity on Facility Operation

Exhibit 21(n) shall include an analysis of the impacts of typical seismic activity experienced in the Facility Site based on current seismic hazards maps, and the location and operational characteristics of the Facility, while identifying potential receptors in the event of failure. No young faults exist in the vicinity of the Facility; therefore, these will not be addressed in the application.

(o) Soil Types Map

Exhibit 21(o) shall include a map delineating soil types at the Facility Site using data from the USDA NRCS WSS. Prime Farmland, Prime Farmland if Drained, and Farmland of Statewide Importance will be mapped based on data obtained from the Soil Survey Geographic Database (SSURGO), while Unique Farmland and Farmland of Local Importance will be mapped based on consultation with the local NRCS office (assuming the local NRCS office is able to identify the location of such soils). A discussion of the current agricultural use and productivity of farmlands within the Facility Site as informed by local farmers and landowners, and the County Soil and Water Conservation District will be presented. The Application will identify those agricultural lands which are used for row crops, regularly or in rotation, as well as agricultural lands used for pasture, hay, or other purposes. The location of drainage tiles will also be identified to the greatest extent possible based upon information from landowners and publicly available information, along with a discussion of potential impacts to drainage tiles and other features.

(p) Characteristics of Each Soil Type and Suitability for Construction

Exhibit 21(p) shall include:

- i. A description of the characteristics of each soil type identified on the Facility Site, including a description of the soil structure, texture, percentage of organic matter, recharge/infiltration capacity, and suitability for construction purposes. Any areas where dewatering is anticipated will be identified and typical dewatering methods will be described. If dewatering is addressed in a separate Exhibit (e.g., Exhibit 23), an appropriate reference to that information will be provided.
- ii. A Preliminary Geotechnical Analysis that will, in general terms, address the suitability and limitations of existing soils and depth to bedrock for the proposed site development including excavation stability, erosion

hazard, corrosion potential, and structural integrity. These discussions will be supported by published information on specific soil types and the findings of a limited drilling program (including data regarding soil consistency, composition, density, presence of water/bedrock, etc.). Best Management Practices (BMP's) that should be employed by the designer/contractor to help minimize potential risks/hazards will be identified.

(q) Bedrock Analyses and Maps

Exhibit 21(q) shall include maps, figures, and analyses of depth to bedrock, underlying bedrock types, and vertical profiles of soils, bedrock, water table, and seasonal high groundwater (using USGS Online Spatial Geology Data, and the USDA NRCS WSS). Typical PV module support structure and inverter foundation depths (which typically require minimal excavation) will also be described. The maps included in the stand-alone Preliminary Geotechnical Analysis will show all Facility components, including access roads and interconnections. Vertical profiles will be associated with test boring locations only, and the locations of borings advanced during the preliminary geotechnical investigations will also be identified on maps included with the report. Areas designated for stockpiling of spoils and fill materials will be identified. If spoil materials will be temporarily stockpiled adjacent to access roads and trench locations, typical layouts will be provided.

(r) Suitability for Construction Evaluation

Exhibit 21(r) shall include an evaluation to determine suitable building and equipment foundations, including:

(1) Preliminary Engineering Assessment

A preliminary engineering assessment to determine the types and locations of foundations to be employed. The assessment will investigate the suitability of the various foundations under consideration, such as concrete pads (for inverters and energy storage), or piles (for racking/PV panels), including a statement that all such techniques conform to applicable building codes or industry standards.

(2) Pile Driving Assessment

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 Facility, and an assessment of pile driving impacts on surrounding properties and structures due to vibration.

(3) Mitigation Measures for Pile Driving Impacts

Identification of measures proposed to mitigate pile driving impacts, if necessary, including a plan for securing compensation for damages that may occur due to pile driving.

(s) Vulnerability to Earthquake and Tsunami Events

Exhibit 21(s) shall include a discussion of vulnerability to earthquake damage. As previously indicated, the Facility appears to have minimal vulnerability associated with seismic events based on review of publicly available data. Because the Facility is located over 40 miles from the nearest large water body (Lake Ontario), there is no vulnerability associated with tsunami events, and this will not be discussed in the Article 10 Application.

2.22 TERRESTRIAL ECOLOGY AND WETLANDS

2.22.1 Discussion

The Application will evaluate the Facility's potential impact on ecological resources, including wildlife, wildlife habitat, and wetland communities. This evaluation will be based on the results of multiple targeted studies of existing ecological conditions within the Facility Site, to be developed in consultation with NYSDEC and other relevant agencies and stakeholders. Work plans describing the methodology and data to be collected for the studies will also be developed in consultation with NYSDEC. The Article 10 Application will include information regarding all surveys conducted for the Facility, and all survey results will be discussed. Results from these studies will be supplemented by data gathered from existing databases, review of existing relevant conservation and planning documents, and consultation with local experts.

The Application will also include detailed descriptions of measures undertaken by the Applicant to avoid, minimize, and mitigate identified significant impacts to ecological resources, as deemed necessary. Such measures will likely include:

- Designing and constructing the Facility to minimize soil disturbance
- Siting Facility components to avoid areas with the highest habitat value
- Siting Facility components and/or using construction techniques to avoid impacts to wetlands with the highest functions and values
- Utilizing mechanical methods or sheep grazing to maintain vegetation under and around PV panels (as opposed to herbicides)
- Protecting and managing areas of valuable habitat (e.g. grassland) for sensitive species within the Facility Site.

Land Cover and Plant Communities

The Facility Site encompasses approximately 1,350 acres of land and is located in the Allegheny Plateau Ecoregion of New York State (Bryce et al. 2010), on relatively flat, cleared lands to the east of Letchworth State Park in Mount Morris, NY. Aside from the forested areas that occur along low ridges, hills, and adjacent to fields, much of land (approximately 79%) within the Facility Site has historically been used for agricultural purposes. Unlike many other areas of New York State, agricultural use of land in Livingston County has not been declining; acreage dedicated to agricultural production has remained steady throughout the region (Livingston County Agricultural and Farmland Protection Board, 2006). Agricultural fields in the area are dedicated primarily for hay and row crop production. Some of the land is also in use for pasture needed for livestock production and dairying. Based on a preliminary field evaluation conducted by the Applicant, major land cover types within the Facility Site include cropland, successional old fields, successional shrubland, developed/disturbed land, and forest land. These cover types are associated with a variety of plant communities, which in turn provide habitat for wildlife.

Table 22-1. Vegetation Communities in Facility Site

Community Type	Acres	Percent Cover (%)
Open Water	3.7	0.3
Developed/Disturbed	12.6	0.9
Cropland	1,103.6	79.7
Pastureland	2.3	0.2
Successional Old Field	9.8	0.7
Successional Shrubland	73.2	5.3
Successional Northern Hardwoods	71.0	5.1
Beech-Maple Mesic	55.0	4.0
Hemlock Northern Hardwoods	53.2	3.8
TOTAL	1,384.4	100

Note: Community types have been defined by Edinger et al (2014). These community types will be further defined in the Article 10 Application.

Open, active agricultural lands (which the Facility will be almost entirely sited on) provide a limited variety of habitat opportunities for most species. The remaining plant communities present within the Facility Site, listed in Table 22-1, provide a variety of habitat types for wildlife, with successional shrublands, successional old fields, and forest likely supporting a diversity of avian species. The data to be collected in support of field surveys will be included in the Application. Vegetative communities within the Facility Site will be mapped using GIS software and an analysis of impacts to individual communities as a result of Facility construction will be presented in the Application. A preliminary map of Ecological Communities is included as Figure 6.

An Invasive Species Control Plan will be developed for the Facility which will describe the methods for conducting a pre-construction invasive plant survey. A preliminary field survey of invasive species present at the Facility Site will be presented with the Application.

A Wildlife and Plant Species Inventory will be included in the Article 10 Application, which will be based on existing data, on-site surveys, and/or the availability of suitable habitat, and will identify species that may occur in the Facility Site at some time during the year.

Threatened and Endangered Species

In order to assess the potential occurrence of federally-listed threatened and endangered species within the Facility Site, the Applicant has coordinated with the state and federal agencies that protect and document these species. According to the U.S. Fish and Wildlife Service (USFWS) IPaC system, the federally-threatened northern long-eared bat (NLEB) (*Myotis septentrionalis*) potentially occurs within the Facility Site (see Appendix F). Review of a separate database maintained by the USFWS indicates that the closest known NLEB winter hibernaculum location is approximately 7 miles to the southwest of the Facility Site in Letchworth State Park. The NLEB utilizes forested areas for roosting habitat in summer and may occur within the Facility Site. However, the majority of Facility components will be preferentially sited in previously cleared areas, and significant forest clearing is not anticipated. To the extent that forest clearing will occur, and if potential impacts to bat species are a concern, then such clearing could be conducted in accordance with seasonal restrictions, to avoid potential impacts. Further information on this matter will be included in the Application.

In addition to review of the IPaC system described above, a formal request for information regarding state-listed threatened and endangered species within the Facility Site was sent to the New York Natural Heritage Program (NYNHP). The response received from the NYNHP on June 11, 2018, indicated that several avian species, plant species, and plant communities have been documented at various locations within the Facility Site (see correspondence in Appendix F). The species identified by NYNHP are presented in Table 1. Additionally, a description of each species listed by both the USFWS IPaC and NYNHP response letter is provided below.

Table 22-2. State-Listed Species and Important Communities

Category	Common Name (Species Name)	Protection Status
Birds	Upland Sandpiper (<i>Bartrami longicauda</i>)	Threatened
	Harlow's Sparrow (<i>Ammodramus henlowii</i>)	Threatened
	Northern Harrier (<i>Circus cyaneus</i>)	Threatened
Vascular Plants	James' Sedge (<i>Carex jamesii</i>)	Threatened
	Green Gentian (<i>Frasera caroliniensis</i>)	Threatened
	Twinleaf (<i>Jeffersonia diphylla</i>)	Threatened

Category	Common Name (Species Name)	Protection Status
Plant Community	Shale Cliff and Talus Community	High-quality Occurrence of Uncommon Community Type
	Maple-Basswood Rich Mesic Forest	High-quality Occurrence of Uncommon Community Type
	Hemlock-Northern Hardwood Forest	High-quality Occurrence
	Appalachian Oak-Hickory Forest	High-quality Occurrence

Northern Long-Eared Bat

The NLEB (Federally-listed Threatened species) is a primarily forest-dependent species that is both federally and state listed as threatened. This species utilizes a diversity of forest habitats for roosting, foraging, and raising young. NLEBs emerge at dusk to feed, primarily utilizing the forest understory (USFWS, 2015). These bats do not forage in intensively harvested stands or open agricultural areas, generally restricting movement to intact forests (Patriquin & Barclay, 2003). They are known to forage under the forest canopy at small ponds or streams, along paths and roads, or at the forest edge (Caire et al., 1979). Females have been reported to move up to 6,500-feet and males up to 3,300-feet between roost sites (Broders et al., 2006).

The USFWS issued a final 4(d) rule for the NLEB (effective February 16, 2016), which indicates that incidental take is prohibited if it occurs within a hibernaculum site. The final 4(d) rule also prohibits incidental take of NLEB resulting from tree removal activities within a quarter-mile of a hibernaculum or from activities that cut down or destroy known occupied maternity roost trees, or any other trees within 150 feet of a known maternity roost tree between June 1 and July 31. In addition, the NYSDEC has issued its own set of NLEB protection measures, which if adhered to, negate the need for a take permit from the NYSDEC under 6 NYCRR Part 182. The NYSDEC measures place restrictions on tree clearing activities between April 1 and October 31 if the proposed activity is within 5 miles of an occupied winter hibernaculum or 1.5 miles of a documented summer occurrence. The NYNHP letter did not identify known NLEB winter habitat within 5 miles of the proposed Project, and did not document known NLEB summer occurrences within 1.5 miles of the Project.

As described above, a USFWS database indicates that the closest known NLEB winter hibernacula location is approximately 7 miles southwest of the Facility Site. Any tree clearing conducted throughout the Facility Site may be planned to conform with the above mentioned NYSDEC protection measures.

Upland Sandpiper

The upland sandpiper (State-listed Threatened species) is a medium-sized bird with long yellow legs and a short, thin bill. The breeding range of the Upland sandpiper exists throughout most of the northern United States and Canada, and some areas in Alaska. In New York, these birds breed in open grassland areas and agricultural lands. This species is listed as threatened in New York State because of declines in habitat availability due to development, loss of agricultural land and vegetative succession. The NYNHP response indicates that these birds have been observed within the larger Facility Area. However, if Facility components are sited in areas of potential habitat, the Applicant will conduct appropriate surveys to determine the presence of upland sandpiper. The Applicant will consult with the NYSDEC to present results of appropriate surveys and evaluate potential impacts to this species, as applicable.

Henslow's Sparrow

Henslow's sparrow (State-listed Threatened species) is a small bird with a flat-headed profile, with olive coloration on the head and rust-colored wings. These birds breed throughout most of New York State on agricultural and grasslands. Like the Upland Sandpiper, the primary threat to Henslow's Sparrow is a loss of quality habitat in New York as agricultural lands revert to forest lands or are subject to development. The NYNHP response indicates that Henslow's Sparrow has been documented within the greater Facility Area. However, if Facility components are sited in areas of potential habitat, the Applicant will conduct appropriate surveys to determine the presence of Henslow's sparrow. The Applicant will consult with the NYSDEC to present results of appropriate surveys and evaluate potential impacts to this species, as applicable.

Northern Harrier

The northern harrier (State-listed Threatened species) is a slim, medium-sized hawk with long broad wings, long legs and tail. Their diet consists of rodents and small birds. Northern harriers use a wide range of habitats including open grasslands, shrubland, and salt and freshwater marshes. Nests are built of grasses and sticks on the ground in grassland or marshes, usually in dense cover. Northern harriers are confirmed breeders in the western Great Lakes plain, open habitats of the Adirondacks, western Finger Lakes, Long Island, and the Hudson, St. Lawrence, and Lake Champlain valleys. Their winter range is similar, depending on prey abundance and snow cover. Associated ecological communities include agricultural land, successional old field, marshes, and successional shrubland. (NYNHP, 2015b). The NYNHP response letter indicates that northern harriers have been observed within the Facility Area. However, if Facility components are sited in areas of potential habitat, the Applicant will conduct appropriate surveys to determine the presence of northern harrier. The Applicant will consult with the NYSDEC to present results of appropriate surveys and evaluate potential impacts to this species, as applicable.

James' Sedge

James' sedge (State-listed Threatened species) is a tufted grass-like plant with deep-green leaves up to two-feet tall. The spikes are typically shorter than the leaves. This species grows in rich, calcareous mesic hardwood forests, on alluvial flood plain soils, and occasionally in mixed deciduous/coniferous forests. Potential threats to this species include the presence of invasive species which may outcompete this sedge, trampling by livestock, and logging. According to the NYNHP correspondence, this species has been identified south of the Facility Site near Keshequa Creek. The majority of area anticipated to be disturbed for the Facility consists of active agricultural land that does not provide suitable habitat for this species. However, if Facility components are sited in forests or floodplains, the Applicant will conduct appropriate surveys to determine the presence of James' Sedge. The Applicant will consult with the NYSDEC to present results of appropriate surveys and evaluate potential impacts to this species, as applicable.

Green Gentian

Green Gentian (State-listed Threatened species) is a perennial plant that lives up to 30 years or more. This plant is monocarpic, reproducing only once in its lifetime, and has one of the tallest flowering stems of any wildflower in New York. Large basal leaves can grow up to 1.5 feet and are lance-shaped. This species grows on forested slopes, bluffs, and ridges on calcareous soils, and in successional shrublands. The majority of the population exists in Letchworth State Park. Primary threats to Green Gentian include logging and the influx of invasive species. According to the NYNHP correspondence, this species has been identified northwest of the Facility Site in Letchworth Mount Morris Canyon. The majority of the area anticipated to be disturbed for the Facility consists of active agricultural land that does not provide suitable habitat for this species. However, if Facility components are sited in forests, bluffs, or shrublands, the Applicant will conduct appropriate surveys to determine the presence of green gentian. The Applicant will consult with the NYSDEC to present results of appropriate surveys and evaluate potential impacts to this species, as applicable.

Twinleaf

Twinleaf (State-listed Threatened species) is an ephemeral wildflower, flowering in early spring before forest trees have leafed-out. When the eight-petaled showy white flowers are blooming, the leaves are about 8 inches high and unique-looking, with two opposite small-lobed leaves shaped like butterflies. The plant can grow up to 20 inches tall later in the season, with walnut-shaped fruits. Twinleaf typically occurs in rich, moist, forested ravines where exposed bedrock has developed calcareous soils. This plant is typically encountered near the bases of slopes that were created by a stream cutting down through bedrock, and within the floodplain zones of these small streams. A few populations are known from more upland settings associated with calcareous soils, but these populations tend to be much smaller. Primary threats to Twinleaf include logging and the influx of invasive species, specifically garlic mustard. According to the NYNHP correspondence, this species has been identified at and immediately east of the Facility Site near

Keshequa Creek. The majority of area anticipated to be disturbed for the Facility consists of active agricultural land that does not provide suitable habitat for this species. However, if Facility components are sited in forests or floodplains, the Applicant will conduct appropriate surveys to determine the presence of twinleaf. The Applicant will consult with the NYSDEC to present results of appropriate surveys and evaluate potential impacts to this species, as applicable.

In addition to the individual species listed above, the NYNHP response also identified four significant natural communities in the proximity of the Facility Site, which are described below.

- **Shale Cliff and Talus Community:** This community occurs along several portions of the Genesee River and Tributaries and is influenced by scouring action and hydrologic processes.
- **Maple-Basswood Rich Mesic Forest:** This community occurs in Keshequa Creek Forest, east of the Facility Site, and is characterized by high species diversity and limited disturbance.
- **Hemlock-Northern Hardwoods Forest:** This community is within Letchworth State Park west of the Facility Site, and is characterized by large, high quality hemlock trees (some patches of old-growth) lining ravines along the Genesee River and tributaries, with a very low presence of non-native species.
- **Appalachian Oak-Hickory Forest:** This community is in Letchworth State Park west of the Facility Site and is characterized by a diversity of oak and hickory species, and a low presence of invasive species.

All of the significant natural communities listed by NYNHP occur outside of the Facility Site Boundary, and Facility components will be preferentially sited in existing disturbed and agricultural areas, and to avoid steep slopes. The Application will provide mapping of these communities relative to a detailed Facility layout.

As stated above, the Facility Site comprises approximately 1,350 acres of land. However, Facility components will ultimately be sited on approximately 1,000 acres, within which there will remain a large amount of open space in between rows of PV panels, and in the buffer areas around the perimeter. The remaining lands within the Facility Site will be undeveloped due to a combination of ecological resource avoidance, setbacks, and engineering constraints. The Article 10 Application will include a land management plan for the entire Facility Site, which will incorporate the findings and recommendations from all ecological studies and consultation conducted in support of the Application.

Wetlands

Formal wetland delineations for the Facility Site will be conducted in spring and summer, 2019. Field reconnaissance and aerial imagery review of wetland boundaries within the Facility Site has been ongoing since December 2018.

Wetland delineations will be conducted in accordance with the three-parameter methodology described in the U.S. Army Corps of Engineers (Corps) *Wetland Delineation Manual* (Environmental Laboratory, 1987), and further described

by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: North Central and Northeastern Region* (USACE, 2012). On-site wetland delineations will be supported by existing databases of state- and federally-mapped wetlands. Review of NYSDEC mapping indicates that no state-mapped freshwater wetlands occur within the Facility Site (see Figure 7). The Application will include mapping of all delineated wetlands as well as a Wetland Delineation Report summarizing the results of delineations.

National Wetland Inventory (NWI) mapping indicates 34 wetland communities exist within the Facility Site, which cumulatively total 20.7 acres. It should be noted that many of these wetlands are comprised of two or more individually mapped wetland communities. Consequently, there are fewer than 34 individual mapped wetlands located on-site. The NWI data indicate that riverine wetlands comprise the majority of wetland communities on-site, totaling approximately 10.8 acres. Other NWI-mapped wetland communities on-site include emergent wetlands (5.4 acres), freshwater forested/shrub wetlands (0.7 acre), and freshwater ponds (3.8 acres).

The Application will discuss measures to be implemented to avoid, minimize, and mitigate wetland impacts. It is anticipated that direct impacts to wetlands/streams will be minimized by avoiding siting PV panels in wetlands where possible, and preferentially utilizing existing or narrow crossing locations. Additional measures may include special crossing techniques, equipment restrictions, herbicide use restrictions, and erosion and sedimentation control measures. Compensatory mitigation measures may be considered, depending on level of impacts anticipated.

Agricultural Lands

Based on a preliminary review of aerial imagery of the Facility Site and existing publicly available data, much of the land where Facility components are proposed is within an established agricultural district. However, because the lands where Facility components are proposed are not anticipated to have significant levels of ground disturbance, with the exception of the substation, these lands may return to agricultural use at the end of life of the Facility. During the life of the Facility, farmland conversion will not pose a threat to lands under lease to the Applicant. A detailed analysis of agricultural usage (past and present) within the Facility Site will be provided in the Article 10 Application. A map of designated farmland soil classifications is included as Figure 4 of this PSS. The Applicant will consult with NYSDAM and other relevant agencies and stakeholders to determine appropriate minimization and avoidance efforts, as needed. All impacts to agricultural land will be based on calculations performed in ArcGIS.

2.22.2 Proposed Content of the Application

Consistent with the requirements of 1001.22 of the Article 10 Regulations, Exhibit 22 of the Application will contain the following information:

(a) Existing Plant Communities

Exhibit 22(a) shall include information on and a description of the plant communities within the Facility Site, and adjacent properties, including plant community mapping using Geographic Information System (GIS) software. Specific information on, and a detailed description of, all ecological communities identified within parcels that will host Facility components will be provided, as classified according to Ecological Communities of New York State (Edinger et al., 2014). A map, based on aerial photography, showing approximate locations and extent of identified plant communities, will be included.

(b) Impacts to Plant Communities

Exhibit 22(b) shall include a characterization of impacts on plant communities from construction and operation will be provided, including:

1. Proposed temporary and permanent impacts to plant communities, including permanent conversion of one cover type to another, shall be calculated for each community type and will:
 - i. Discuss 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. Provide a table of assumed area disturbance for each project component type. Associated with Exhibit 11 addressed in “i” above.
 - iii. Calculate using GIS software, and present in a summary impact table, the number of acres impacted. Permanent impact calculations will include all tree clearing for construction and operation of the Facility.
 - iv. As referenced in the plant community mapping in 22(a), will also depict vegetation cover types throughout the Facility Site in relation to proposed limits of vegetation disturbance at a scale of 1”:1000’, and associated GIS shapefiles showing all areas of clearing and disturbance will be provided to NYSDEC. A discussion and evaluation of fragmentation to grasslands and forested habitat that may occur as a result of the construction of the Facility will also be included.
2. Invasive Species Identification will include:
 - i. A list of all non-native invasive species observed during site-specific field investigations, incidentally while on site for other purposes, and/or and known to occur within the Facility Site. Unless otherwise specifically noted, “invasive species” is defined as all terrestrial and aquatic species listed at:

http://www.dec.ny.gov/docs/lands_forests_pdf/islist.pdf. The list and shapefiles (as points or polygons, depending on the amount of area covered) of non-native invasive plant species in areas of proposed disturbance shall be based on a qualitative field survey. The results of the survey will be summarized in a baseline invasive species report to be included with the Application.

- ii. For each invasive species identify an area and concentration threshold that requires mapping and an individual treatment plan.
 - iii. Maps at a scale of 1:2000 of any identified concentrations of non-native invasive plant species in areas of proposed disturbance.
 - iv. A list of invasive insect species, if any, limited to incidentally observed concentrations of insects during field observations in support of Exhibits 22 and 23.
3. An Invasive Species Prevention and Management Plan that addresses the plant species listed in 6 NYCRR Part 575 will be included in the Application. For the purposes of the entirety of Exhibit 22, unless otherwise specifically noted, “invasive species” is defined as all terrestrial and aquatic species listed at: http://www.dec.ny.gov/docs/lands_forests_pdf/islist.pdf. Additional invasive species not included on this list (e.g. reed canary grass and wild parsnip) may also warrant specific management and control measures, depending on current populations of such species within the Facility Site. The Invasive Species Prevention and Management Plan will apply to all prohibited and regulated invasive species and include:
 - i. A summary of the survey results (i.e. baseline survey), and a description of how these results will be verified prior to construction;
 - ii. An action plan for pre-construction management of non-native invasive species, including threshold(s) for action. Specific methods the Applicant will use to ensure that packing material, imported fill and fill leaving the Facility site will be free of non-native invasive species material, seeds, and parts to the extent practicable;
 - iii. A specification on how fill material brought to and placed in the Facility Site will be free of non-native invasive species material, seeds, and parts, by source inspection or other method, or describe how fill brought to the Facility Site will not be used in areas free of invasive species;
 - iv. A detailed description of the measures to be taken to prevent the introduction, proliferation and spread of all non-native invasive species due to implementation of the Facility’s grading and erosion and sediment control plan;
 - v. Details of procedures for preventing the spread of invasive invertebrates and diseases such as the emerald ash borer and hemlock woolly adelgid, based on standard protocols and/or guidance provided by the NYSDEC and NYSDAM, and a discussion of how the Applicant will comply with

- the state quarantine and protective zones, where applicable;
- vi. Plans for ensuring that appropriate measures are implemented to avoid 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 proper disposal of materials known to be or suspected of being infested;
 - viii. A detailed description of the Best Management Practices or procedures that will be implemented, and the education measures that will be used to educate workers;
 - ix. A detailed description of proposed post-construction monitoring, and corrective action plan (if needed), based on the results of the baseline survey, which includes a detailed description of monitoring goals with respect to invasive species abundance, and survey measures and procedures for revising the Invasive Species Prevention and Management Plan in the event that the established goals 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 appropriate native wildlife flower or grass seed mix to be used, as appropriate.

(c) Avoidance, Minimization, and Mitigation of Impacts to Plant Communities

Exhibit 22(c) shall include a detailed description of the proposed measures that will be implemented to avoid, minimize, and mitigate for any temporary and permanent impacts to existing, non-invasive plant communities, particularly grasslands, wetlands, interior forests, shrublands and young successional forests, as a result of the construction, operation and maintenance of the Facility. In addition, appropriate post-construction vegetative restoration and management regimes, including reseeding disturbed areas with appropriate native seed mix, will be described.

(d) Existing Vegetation, Wildlife, and Wildlife Habitat

Exhibit 22(d) shall include information on and a characterization of aquatic and terrestrial vegetation, wildlife, and wildlife habitats that occur within the Facility Site, encompassing all areas that may be disturbed for construction of panels, roads, electric collection, substation, switchyard, and other facility components, including:

1. Identification and description of plant communities, plant and wildlife species, and wildlife habitat. Such descriptions will include field identification of aquatic habitats, plant communities, and wildlife habitat that could potentially support federally or state-listed threatened and endangered (T&E) species, state species of special concern (SSC), and state species of greatest conservation need (SGCN) as documented during on-site field investigations (e.g., ecological cover type assessments, habitat assessments, and wetland delineations).
2. Ecological cover type assessments and habitat assessments identified in “1” above, will be classified according to *Ecological Communities of New York State* (Edinger et al., 2014).
3. Identification and depiction of any significant natural communities that could support federally or state-listed T&E species, SSC, or SGCN.
4. A table of state and federally listed species occurring or likely to occur within the project including the following columns:
 - i. Species name;
 - ii. Federal status;
 - iii. NYS status;
 - iv. SGCN listing;
 - v. Habitat preference identified according to *Ecological Communities of New York State* (Edinger et al., 2014);
 - vi. Identify maps from 1001.22(a)(3) that include habitat for each species;
 - vii. Source of information indicating potential presence of species; and
 - viii. Indicate if species was observed onsite.
5. NHP database information will be used to identify the presence of any bat hibernacula. If hibernacula are identified within the Facility Site, or five miles from any Facility component or boundary (based on the consultations results with the USFWS and NHP), the location and distance to the nearest identified hibernacula will be provided separately and confidentially to NYSDEC and NYSDPS.
6. Information on amphibians and reptiles based the New York State Amphibians & Reptile Atlas Project (Herp Atlas), database records obtained from NHP, NYSDEC, and USFWS, assessments of suitable habitat in the Facility Area.
7. Vernal pools will be inventoried at the time of wetland field delineations. The application will identify vernal pools located within 500 feet of the edge of disturbance of all Facility components, including forested areas potentially impacted by Facility construction. Vernal pools will be identified in accordance with the 2012 *Northeastern Regional Supplement to the Corps of Engineers Wetland Delineation Manual*. To the extent that vernal pools are identified, the Applicant shall submit to NYSDEC detailed location maps and ecological

characterization data for all identified vernal pools. The application will include an assessment of potential impacts to vernal pools (including the surrounding upland habitat).

8. Information on bird species that may be present or utilize the Facility Site at some point during the year based on the following sources: existing data from NHP, NYSDEC, and USFWS; assessments of suitable habitat within the Facility Site; field observations made on-site during avian studies of the Facility Site; New York Breeding Bird Atlas (BBA); US Geological Survey Breeding Bird Survey (BBS); Christmas Bird Count (CBC); Hawk Migration Association of North America (HMANA); eBird; The Nature Conservancy surveys/reports; The Kingbird publication; reaching out to local birding groups (e.g. Genesee Valley Audubon Society) for information on recent and historical occurrences; and any other publicly available sources that may provide relevant information regarding bird occurrences within or in the vicinity of the Facility and interconnection line.
9. Description of potential impacts to calcareous shoreline outcrops and karst features, if present within or adjacent to the Facility, and any species that may utilize these habitats if final site design indicates there could be impacts to these ecological communities.
10. Shapefiles suitable for use in Geographical Information System (GIS) software via ESRI's ArcGIS suite of software (e.g. ArcMap) containing project components will be provided. In addition, shapefiles showing all wildlife and habitat survey locations as applicable and labeled by year will be included. Shapefiles will be considered business confidential and shall not be shared outside of the agency staff involved in reviewing this project. Draft reports or summaries of results of all bird, habitat, and wetland surveys will be submitted to NYSDEC concurrent with, or prior to (if available) filing of the Application. These reports will include maps and shapefiles provided confidentially to NYSDEC depicting the location(s), observation date(s), species, and behavior(s) of all T&E and SSC individuals observed during pre-construction surveys and incidentally in the Facility.

(e) Wildlife Species List

Exhibit 22(e) shall include the information required by 1001.22(e), based on the information obtained in support of subpart (d) above. A plant and wildlife species inventory will also be included, based on existing data available from the NHP, NYSDEC staff, USFWS, Herp Atlas, BBA, HMANA, CBC, eBird, The Nature Conservancy surveys/reports, The Kingbird publication, on-site surveys, and any other publicly available source that may provide relevant information regarding wildlife occurrences within or in the vicinity of the Facility and electric interconnection line. The inventory will include the typical species of birds, mammals, herpetofauna, and terrestrial invertebrates found in the region and likely to occur within or in the vicinity of Facility. On-site field surveys (e.g., avian surveys, ecological cover type assessments, habitat assessments, and wetland delineations) and/or the availability of suitable habitat, will also be used to identify species that could potentially occur within or in the vicinity

of the Facility 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.

(f) Analysis of Impacts from Construction and Operation

Exhibit 22(f) shall include:

1. A summary narrative and associated mapping to explain and illustrate:
 - i. Potential and expected construction and operational impacts to vegetative cover types;
 - ii. Wildlife habitats and the species that they support (including a discussion of impacts from habitat fragmentation);
 - iii. Wildlife concentration areas including Winter Raptor Concentration Areas;
 - iv. Travel corridors, if identified; and
 - v. Terrestrial organisms identified during pre-construction field studies in relation to the proposed limits of disturbance.
2. A discussion of any direct and indirect construction-related impacts that may occur to wildlife and wildlife habitat, including but not limited to:
 - i. incidental injury and mortality due to construction activity vehicular movement;
 - ii. habitat disturbance and loss associated with clearing and earth-moving activities; and
 - iii. the indirect impacts resulting from displacement of wildlife.
3. A discussion of potential direct and indirect operational and maintenance impacts including but not limited to:
 - i. Loss of habitat;
 - ii. Forest and grassland fragmentation;
 - iii. Wildlife displacement; and
 - iv. To the extent any documented wildlife travel corridors or concentration areas are identified within or adjacent to the Facility Site, direct and indirect impacts to such corridors and concentration areas will be addressed.
4. A discussion of potential short- and long-term impacts to plants, animals, and habitats that may result from the application of biocides, if any, during site preparation, construction, maintenance, or operations.
5. A summary impact table quantifying anticipated temporary and permanent impacts associated with all Facility components in relation to wildlife habitats, identified concentration areas or travel corridors (to the extent data associated with such areas or corridors are readily available or provided to the Applicant by NYSDEC personnel), and vegetation cover types classified according to *Ecological Communities of New York State* (Edinger et al, 2014), such as grasslands, young successional forests and interior forests, if affected.

6. A wildlife and habitat impact analysis including an identification, evaluation, and assessment of direct and indirect Facility-related impacts to wildlife species, particularly: federally and state-listed T&E species and their habitats; wildlife concentration areas; migration corridors; and forest and grassland habitats. The NYSDEC Region 8 Wildlife Office will be contacted to obtain the most recent breeding, wintering, and habitat data for state-listed species. 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.
7. Draft copies of all wildlife survey reports or a summary of results planned for the Facility or requested by state or federal agencies, based on work plans developed with the agencies, will be submitted concurrent with, or prior to (if available) filing of the Application, including any associated maps and shapefiles.
8. To the extent that pre- and post-construction wildlife survey data are available for other utility-scale solar facilities in New York State, avian occupancy and usage of the Facility Site will be compared with these data.
9. A cumulative impact analysis will be conducted to evaluate the expected impacts from the construction, operation and maintenance of the Facility as they relate to other proposed and operating solar energy projects nearby the Facility and in the state. This analysis will minimally include a discussion and calculations describing and showing:
 - i. examination of data on currently installed or proposed utility-scale solar energy capacity in the state;
 - ii. to the extent that the Facility could result in unavoidable impacts to federally listed or protected and state-listed species, the Applicant will provide an estimated take of identified species relative to the population size based on data provided by state and federal agencies on post-construction studies completed in the state and northeast, or any other publicly available relevant information;
 - iii. acres of each habitat type lost directly through installation of panels and other project components, clearing, and cover type conversion;
 - iv. acres of each habitat type lost indirectly due to functional loss/degradation of habitat (for purposes of forest fragmentation analyses, it is assumed that indirect effects will extend up to 300 feet beyond the limits of disturbance); and
 - v. cumulative impacts of forest and grassland habitat fragmentation, particularly potential impacts on listed bird species.
10. A literature review and impact analysis evaluating how the construction, operation and maintenance of the Facility will affect wintering and breeding grassland bird species, including an assessment of the potential population-level effects of habitat loss is likely to have on grassland bird species at a regional scale.
11. Information regarding the presence of federally and state-listed T&E species, SSC, rare species, and SGCN including:

- i. A discussion of the Facility's potential to impact such species or their habitats based on database records obtained from the NHP, other known records documented by NYSDEC, USFWS, and on-site wildlife and habitat, ecological, and wetland surveys. A summary impact table containing information on all species within these categories will be compiled and included in the Application.
- ii. The presence of Facility components in occupied habitat of listed T&E species may constitute take, pursuant to 6 NYCRR Section 182.11 (Part 182), of individuals or the habitat they depend on, or both. If it is determined that adverse impacts are unavoidable and would result in a take under Part 182, the Application will demonstrate this and describe why complete avoidance of impacts to each affected species is not feasible, along with proposed actions to minimize impacts to the maximum extent practicable, and proposed mitigation and adaptive management actions. If it is determined that adverse impacts are unavoidable and would result in a take under Part 182, the Application will describe the process of developing a post-construction monitoring plan on a site-specific basis through discussions between NYSDEC, the Applicant, and USFWS (if federally-listed species may be impacted), which would specify the following: the expected and allowed level of take of each target species; 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 complies with the substantive requirements of Part 182.

(g) Avoidance, Minimization, and Mitigation of Impacts to Wildlife Species

Exhibit 22(g) shall include a description of the impact avoidance and minimization efforts used in developing the Facility, as they pertain to vegetation, wildlife, and wildlife habitat. The Facility design, construction controls, and operational measures that can be reasonably implemented to first avoid, then minimize and mitigate for impacts to wildlife and wildlife habitat as a result of the construction, operation and maintenance of the Facility Site will also be described. This will include a discussion of measures to first avoid and, if impacts are unavoidable, minimize direct impacts to individuals of federally and state-listed and protected species through appropriate project siting, and indirect impacts associated with habitat loss, fragmentation, and displacement. A commitment to mitigate, in an appropriate and timely manner, for any unavoidable impacts to listed species will also be discussed. Measures to avoid, minimize and mitigate for impacts to vegetation will be addressed in Exhibit 22(c).

(h) Wind Powered Facilities

The Applicant is proposing a solar powered facility, therefore, the requirements set forth in 1001.22(h) do not apply.

(i) Wetland Delineation and Mapping

Exhibit 22(i) shall include the following:

1. Maps at a reference scale of 1:100 and shapefiles showing delineated wetland boundaries for federally and state-regulated wetlands and adjacent areas within the entire Facility Site. Maps and shapefiles showing delineated wetland boundaries for federally and state-regulated wetlands and adjacent areas occurring within 500 feet of the edge of ground disturbance all proposed Facility components, where property access is available. Delineation as used in reference to wetland and stream delineation throughout this document refers to the placement in the field of sequentially numbered pink surveyor's flagging marked "wetland delineation" with the locations of individual flagging points documented using Global Positioning System (GPS) technology with reported sub-meter accuracy. The use of Wetland Delineation Data Forms (or comparable forms) to fulfill USACE requirements, and field verification by the USACE and the NYSDEC, shall not be required to obtain a finding by the Chair of the Siting Board that a developer's Article 10 Application complies with the statute. However, such information and verifications will be necessary to obtain USACE approval outside of the Article 10 process and to reach agreement with NYSDEC Staff in the Article 10 proceeding on the extent and nature of wetlands impacts.
2. All wetland boundaries must be keyed to the submissions described in Exhibit 11 (Preliminary Design Drawings).
3. Information on the predicted presence and extent of wetlands on the remainder of site properties and adjacent properties within 500 feet of areas to be disturbed by construction, will also be included in the Application, as applicable. For adjacent properties without accessibility, surveys may be based on remote-sensing data, interpretation of published wetlands and soils mapping, roadside observations, and aerial photography.
4. The delineation report that will be provided to the District Office of the USACE and the Regional NYSDEC office (and included with the Article 10 Application) will include the results of the field delineation (i.e., describe the location, size, community type and likely jurisdictional status of all delineated streams and wetlands). Maps at a scale of 1":50' depicting all Facility components, field-delineated wetlands and adjacent areas within 500 feet of all areas to be disturbed by construction will be included in the Application. All impacts to wetlands and regulated adjacent areas will be clearly explained and presented/depicted on mapping in support of Exhibit 22.
5. Information will be provided indicating which delineated wetlands are likely state-regulated, including those that are part of wetland complexes that meet state-criteria for jurisdiction (e.g. 12.4 acres or larger, is of Unusual Local Importance, and/or support listed species) but are not currently mapped. All state-regulated wetlands will be identified by NYSDEC's alphanumeric code in addition to the code assigned by the Applicant

during delineation. Investigation areas for wetland delineations may need to be extended to make these determinations. At a minimum, the desktop mapping approach described in Exhibit 22(i) will identify all wetlands that potentially meet state-criteria for jurisdiction.

(j) Descriptions of Delineated Wetlands

Exhibit 22(j) shall include a description of the characteristics and Cowardin classification of all federally, state, and locally regulated delineated wetland communities, a summary of the field data collected regarding vegetation, soils, and hydrology and copies of all Wetland Determination Data Forms compiled into a Wetland and Stream Delineation Report, to be appended to the Application.

(k) Wetland Functional Assessment

Exhibit 22(k) shall include a qualitative and descriptive wetland functional assessment, including seasonal variations, for all delineated wetlands. Qualitative scores that assess functions and values for each delineated wetland will be based on a methodology similar to *The Highway Methodology Workbook Supplement, Wetlands Functions and Values: A Descriptive Approach* published by the U.S. Army Corps of Engineers New England District in 1999. The functions/values evaluated using this method will include:

1. Groundwater recharge/discharge;
2. Flood-flow alteration;
3. Fish and shellfish habitat;
4. Sediment/toxicant/pathogen retention;
5. Nutrient removal;
6. Production export;
7. Sediment/shoreline stabilization;
8. Wildlife habitat;
9. Recreation;
10. Education/scientific value;
11. Uniqueness/heritage;
12. Visual quality/aesthetics; and
13. Protected, threatened or endangered species habitat.

(l) Analysis of Offsite Wetlands

Exhibit 22(l) shall include an offsite wetland evaluation, including:

1. Wetland boundaries and adjacent areas within 500 feet of all Facility components and all disturbed areas will be field delineated. For adjacent properties without accessibility, surveys may be based on remote-sensing data, interpretation of published wetlands and soils mapping, roadside observations, and aerial photography. This information will be used to inform an analysis and description of hydrological connections of all wetlands within the Facility Site to offsite wetlands, including those that are anticipated to fall under NYSDEC jurisdiction (under Article 24 of the ECL) and USACE jurisdiction (under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act). Assessments of potential state wetland jurisdiction will include both “mapped” and “unmapped wetlands” that meet NYSDEC’s 12.4-acre size threshold (including any wetlands of any size separated by less than 50 meters which function as a unit in providing wetland benefits), pursuant to 6 NYCRR Part 664, or otherwise meet state criteria for jurisdiction (e.g. wetlands or vernal pools determined to be of Unusual Local Importance, pursuant to 6 NYCRR 664.7(c)). A summary will be provided of off-site wetlands adjacent to the Facility Site and any disturbed areas that may be hydrologically or ecologically influenced or impacted by development of the Facility, including Significant Coastal Fish and Wildlife Habitat Areas designated by NYS Department of State (NYSDOS), and public lands, to determine their general characteristics and relationship, if any, to the delineated wetlands within the Facility Site. All information from a site visit to be conducted during the 2019 growing season, including maps and shapefiles, will be provided to NYSDEC personnel as soon as delineations are completed and before the Application is submitted, to allow for NYSDEC to determine the full extent of wetland jurisdiction.

(m) Identification of Temporary and Permanent Impacts to Wetlands

Exhibit 22(m) shall include the identification and description of temporary and permanent impacts to wetlands and their regulated adjacent areas, including:

1. A quantification of temporary and permanent impacts to field delineated wetlands (and all state-regulated 100-foot adjacent areas) based on the proposed footprint of all Facility components and associated impact assumptions. This assessment will also include a description of applicable permanent wetland forest conversion, if any, which would occur as a result of the construction or maintenance of the Facility. Such impacts will be summarized and presented in a table that shall:

- i. Describe and calculate the following: the type of impact, including but not limited to permanent or temporary fill and forest conversion, to each wetland and adjacent area; associated crossing methodology for each wetland;
 - ii. clearly discern between federal and state wetlands and 100-foot adjacent area impacts; acreage of each temporary and permanent impacts to regulated wetlands and adjacent areas;
 - iii. Include wetland delineation and NYSDEC wetland identification code and type;
 - iv. For each resource, explain if it could reasonably be avoided;
 - v. Propose site specific actions to minimize impacts to resources that are not bypassed;
 - vi. Propose site specific actions to mitigate impacts to resources that are not bypassed;
 - vii. Identify the corresponding reference to the respective sheet of the preliminary design drawings depicting the resource, and on the mapping required by the following Item 2.
2. Impacts to wetlands will also be presented on a separate set of site plan drawings at 1":50 scale, showing wetland boundaries, permanent and temporary structures, stream crossings, roads, power interconnects, and the limits of disturbance.

(n) Avoidance, Minimization, and Mitigation of Impacts to Wetlands

Exhibit 22(n) shall include a general discussion of all avoidance and minimization measures considered, and an indication of methods to be implemented to avoid wetland impacts, a general discussion of measures considered, and a description of methods to be implemented to avoid and mitigate wetland impacts. Where impacts are unavoidable, and have been minimized to the greatest extent possible, any required mitigation measures to be implemented to offset impacts to wetlands and all state-regulated 100-foot adjacent areas will be discussed. Pursuant to 6 NYCRR 663.5(g), a conceptual mitigation plan for impacts to state-regulated wetlands and adjacent areas must be included in the Application and at a minimum must meet the following provisions:

1. The mitigation must occur on or in the immediate vicinity of the Facility (preferably elsewhere in the same wetland);
2. The area affected by the proposed mitigation must be regulated by the Freshwater Wetlands Act and 6 NYCRR Part 663 after mitigation measures are completed, and;
3. The mitigation must provide substantially the same or more benefits than will be lost through the proposed activity.

This section of the Application will also describe the anticipated Environmental Compliance and Monitoring Program (ECMP) to be implemented during Facility construction to adhere to various permit conditions and protect wetlands, streams, and other waterbodies. The Facility's ECMP will include an Environmental Monitor(s) during construction and restoration activities, and the duties of the Environmental Monitor will be described. Plans to restore all temporary disturbances in regulated areas, including replanting trees in temporarily disturbed forested areas, will be provided.

(o) Identification of State and Federal Threatened and Endangered Species

Exhibit 22(o) shall include an identification of New York State and Federally listed T&E species documented within or adjacent to the Facility area, along with a discussion of all potential direct and indirect impacts to these species. An Endangered Species Avoidance, Minimization and Mitigation Plan, if needed, will be provided in Exhibit 22(f). The results of pre-construction surveys and the associated impact analysis, as well as the estimated direct and indirect take of listed species and their habitats will provide a basis for ongoing consultation with NYSDEC, NYSDPS, and USFWS (if necessary) to determine an appropriate post-construction monitoring protocol.

(p) Invasive Species Prevention and Management Plan

Exhibit 22(p) shall include an Invasive Species Prevention and Management Plan as described in 1001.2(b)(3).

(q) Evaluation of Impacts to Agricultural Resources

Exhibit 22(q) shall include an evaluation of impacts on agricultural resources including:

1. A quantification and analysis of temporary and permanent impacts to agricultural land based on the proposed footprint of all Facility components and associated limits of disturbance during construction. To minimize impacts to active agricultural land, the Applicant plans to coordinate with NYSDAM. A discussion of potential mitigation, following the most recent edition of guidance documents issued by NYSDAM. The Applicant will also include a discussion of historical trends in land use (with a specific focus on conversion of farmland) over the last 20 years within a five-mile radius of the Facility. This will include a discussion of the Facility's potential effect on the availability of farmland within five miles;
2. A map of the Facility Site showing locations of prime farmland, prime farmland if drained, unique farmland, and farmland of state and local importance, will be provided in Exhibit 21;

3. A discussion of methods for identifying drainage tile lines prior to construction, along with restoration of tile lines impacted by Facility construction activities in areas where lands will be returned to agricultural use following decommissioning;
4. A discussion of current agricultural use and productivity within the Facility Site, including information gained from interaction with the NYSDAM and local farmers; and
5. A description of appropriate measures that avoid or minimize permanent impacts to the agricultural viability of soils and lands within the Facility Site.

2.23 WATER RESOURCES AND AQUATIC ECOLOGY

2.23.1 Discussion

Exhibit 23 of the Article 10 Application will include a study of the groundwater, surface water, and aquatic ecology impacts from construction and operation of the Facility, including the identification and mapping of existing conditions, an impact analysis, and proposed impact avoidance and mitigation measures.

Groundwater

Based on preliminary evaluations conducted in support of this PSS, depth to groundwater ranges from the ground surface to greater than 200 centimeters throughout the Facility Site. Depth to bedrock ranges from 40 centimeters to greater than 200 centimeters, with the majority of the Facility Site having bedrock depths of 200 centimeters or greater (Soil Survey Staff, 2018). The Facility Site does not border or contain any part of a primary aquifer, a designation applied by USGS and NYSDEC for aquifers that are highly productive and utilized by major municipal water supply systems (NYSDEC, 2011). The nearest primary aquifer is over 10 miles southeast of the Facility Site.

The Facility Site overlays parts of two mid-yield unconsolidated aquifers and is located near two confined aquifers of unknown depth and thickness as mapped by NYSDEC Division of Water, Bureau of Water Resources Management (NYSDEC, 2008). Additionally, the US Environmental Protection Agency (USEPA) maintains data on sole source aquifers, which are those that supply at least 50% of the drinking water in a given area. The Cattaraugus Creek Basin Sole Source Aquifer is the nearest sole-source aquifer, located over 18 miles west of the Facility Site (USEPA, 2016). Therefore, it is anticipated that the Facility will not result in impacts to any primary or sole-source aquifers.

The Facility is not anticipated to result in any significant impacts to groundwater quality or quantity, drinking water supplies, or aquifer protection zones. Excavations for the substation and POI switchyard foundations, roadways, and any underground collection lines are expected to be relatively shallow, and are not anticipated to intercept groundwater within the surrounding aquifers. The Facility will add only small areas of impervious surface, which will be dispersed throughout the Facility Site, treated in various stormwater management facilities, and will have a negligible effect on

groundwater recharge. Anticipated impervious surfaces at the Facility include parking lots and access roads, concrete pads for the inverters and substation, and the O&M building. Additional detail regarding groundwater impacts will be provided in the Article 10 Application, including results from a preliminary geotechnical evaluation, as well as specific avoidance, minimization, and mitigation measures that will be implemented to protect groundwater resources during construction of the Facility.

Private wells will be identified by sending a well survey to all residences/businesses located within a 2,000-foot radius of the proposed Facility. A discussion of potential impacts to private water sources, if any, will be included. A summary of responses received from the well survey will be included in the Application, along with a corresponding GIS-based parcel map. However, the Applicant cannot guarantee that a response to all (or even a majority of the) surveys will be received.

Surface Water

The Facility Site is in the Upper Genesee Basin (USGS Hydrologic Unit 04130002), a sub-basin of the Genesee River. The Genesee River Basin drains approximately 2,375 square miles of New York State. The Upper Genesee Basin drains Allegany, Cattaraugus, Livingston, Steuben, and Wyoming Counties, as well as a small portion of Potter County, Pennsylvania. The Facility Site does not include any major surface water features, but, lakes and streams in the vicinity of the Facility Site provide recreation and tourism opportunities to the region. Identification of surface waters within the Facility Site will be included in Exhibit 23 of the Article 10 Application. Designated recreation areas and locally significant water resources will be identified based on publicly available data and presented in the Application.

The Article 10 Application will identify the classification for all NYSDEC mapped streams within the Facility Site (see Figure 7). Characteristics of the streams in the Facility Site will be described in the Article 10 Application, based on publicly available data, supplemented by field data collected during on-site wetland and stream delineations. Freshwater wetlands are discussed in Exhibit 22 of the Article 10 Application.

Please note that any aquatic invasive species, as identified by the NYSDEC (<http://www.dec.ny.gov/animals/50272.html>), which are observed while conducting delineations and field investigations, will be documented in the Article 10 Application. However, a comprehensive inventory of aquatic species or aquatic invasive species will not be conducted.

The Application will identify the locations of surface water intake sites for public use within 1 mile of the proposed Facility Site through correspondence with local municipalities and New York State Department of Health (NYSDOH). If there are no such intake sites, the nearest intakes downstream of the Facility Site will be identified. The Article 10

Application will identify the surface drinking water intake sites through this correspondence, and discuss the type, nature, and extent of services provided by each source based on the information received.

Facility components will be sited to avoid or minimize both temporary and permanent impacts to surface waters to the extent practicable. Large built components of the Facility, including PV racking systems, inverters, transformers, energy storage components, and the substation/POI switchyard, as well as temporary construction yards, are anticipated to avoid surface waters to the maximum extent practicable. The overall impacts due to access road and collection line crossings will be minimized by utilizing existing crossings and narrow crossing locations, along with buried collection circuits to the extent practicable.

During construction, potential direct or indirect impacts to surface waters may occur as a result of pre-construction site preparation, the installation of the Facility components, the installation of above-ground or buried electrical lines, and temporary workspaces around the substation. Direct impacts could include 1) an increase in water temperature and conversion of cover type due to clearing of vegetation, 2) siltation and sedimentation due to earthwork, such as excavating and grading activities, 3) disturbance of stream banks and/or substrates resulting from buried cable installation, and 4) the direct placement of fill in surface waters to accommodate road crossings. Indirect impacts to surface waters may result from erosion and sedimentation caused by construction activities (e.g., removal of vegetation and soil disturbance). Based on the Facility layout (i.e., proposed footprint of all Facility components) and the location of delineated stream and wetland boundaries, GIS calculations will be performed to determine the approximate acreage of surface waters that may be temporarily and permanently impacted. No dredging is proposed as part of this Facility.

Direct impacts to surface waters will be minimized by designing the Facility layout to avoid surface water impacts or utilizing existing or narrow crossing locations whenever possible. The results of on-site wetland and stream delineations that will be conducted in 2019 will be incorporated into the Facility design for impact avoidance purposes and presented in a Wetland and Stream Delineation Report, to be included with the Application. Upgrading any existing crossings that are under-maintained/undersized will have a long-term beneficial effect on water quality, as it will help to keep farm equipment or other vehicles out of surface waters. Special crossing techniques, equipment restrictions, herbicide use restrictions, and erosion and sedimentation control measures will be utilized to reduce adverse impacts to water quality, surface water hydrology, and aquatic organisms. In addition, clearing of vegetation and disturbance along stream banks will be kept to a minimum.

Where crossings of surface waters are required, Best Management Practices will be utilized, as required by the NYSDEC and USACE. Specific mitigation measures for protecting surface water resources will be described in the Article 10 Application, and may include, but are not limited to, the following:

- No Equipment Access Areas: Except where crossed by permitted access driveways or through non-jurisdictional use of temporary matting, streams will be designated “No Equipment Access,” thus prohibiting the use of motorized equipment in these areas.
- Restricted Activities Area: A buffer zone of 100 feet, referred to as “Restricted Activities Area”, will be established where Facility construction traverses streams, wetlands and other bodies of water.
- Sediment and Siltation Control: An erosion and sedimentation control plan will be developed and implemented as part of the NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for the Facility. Specific control measures will be identified in the Facility Stormwater Pollution Prevention Plan (SWPPP), and the location of these features will be indicated on construction drawings and reviewed by the contractor and other appropriate parties prior to construction.

Stormwater

Prior to construction, the Applicant will seek coverage under the SPDES General Permit (GP-0-15-002 or most current) with a Notice of Intent for Stormwater Discharges from Construction Activity issued in January 2015 and effective on January 29, 2015 (modified July 15, 2015). The Article 10 Application will include a preliminary SWPPP, which will be prepared consistent with the SPDES General Permit and will describe in general terms the erosion and sediment control practices that will likely be implemented during construction activities, and the post-construction stormwater management practices that will be used to treat water quality and quantity as well as reduce pollutants in stormwater discharges after Facility construction has been completed. The Preliminary SWPPP identified above will be prepared in accordance with the New York State Standards and Specifications for Erosion and Sediment Control Standards (NYS Standards) and the New York State Stormwater Management Design Manual.

Chemical and Petroleum Bulk Storage

The Article 10 Application will describe the Best Management Practices to be implemented during construction to prevent and contain spills. In addition, the Article 10 Application will contain a Preliminary Spill Prevention, Control and Countermeasures (SPCC) Plan that will be implemented during Facility construction and operation to minimize the potential for unintended releases of petroleum and other hazardous chemicals. This plan is anticipated to contain information about waterbodies onsite, procedures for loading and unloading transfers of oil, discharge or drainage controls, procedures in the event of discharge discovery, a discharge response procedure, a list of spill response equipment to be maintained on-site), methods of disposal of contaminated materials in the event of a discharge, and spill reporting requirements.

It is not anticipated that the Facility will require on-site storage or disposal of large volumes of any substances subject to regulation under the State of New York’s chemical and petroleum bulk storage programs (e.g. fuel oil, petroleum,

etc.). If construction, operational, or maintenance activities at the Facility require petroleum or other hazardous chemicals be stored on site, the Application will identify such substances and demonstrate compliance with State laws, regulations and guidelines. It is not anticipated that the Facility will require the on-site storage or disposal of large volumes of any substances subject to regulation under local laws. This will be confirmed in the Article 10 Application.

Aquatic and Invasive Species

The Article 10 Application will contain the results of the on-site wetland and stream delineation field effort, which will be used to guide the siting of various Facility components. The identification of the locations of surface waters to be impacted will allow for an analysis of potential impacts on biological aquatic resources, including any listed endangered, threatened, special concern, or invasive species that may occupy potentially affected waters. The Application will include an identification and evaluation of reasonable measures to avoid or minimize impacts on aquatic biological resources. Where impacts are unavoidable, mitigation measures regarding impacts on such biological aquatic resources, and prevent the spread of aquatic invasive species.

2.23.2 Proposed Content of the Application

Consistent with the requirements of 1001.23 of the Article 10 Regulations, Exhibit 23 of the Application will contain the following information:

(a) Groundwater

Exhibit 23 (a) shall include the following:

1. Maps showing depth to bedrock, depth to water table, and karst features throughout the Facility Site, based on the Soil Survey of Livingston County, New York.
2. Information on groundwater aquifers and recharge areas including:
 - i. Maps based on publicly available water well information including the following: data requested from the New York State Department of Health Records Access Officer, the NYSDEC, USGS Office of Groundwater, USDA Soil Conservation Service, USDA NRCS WSS, the Livingston County Soil and Water Conservation District, and other local municipalities, as well as data collected during subsurface investigations on the Facility Site.
 - ii. A discussion on groundwater quality, location, depth, yield, and use by identified public and private ground water wells, and the location of well head and aquifer protection zones within one mile of the Facility Site.
 - iii. The Applicant will conduct a private well survey within a 2,000-foot radius of the Facility Site. The Application will include a list of private wells, identified through the Applicant's survey, and available

well design and production information (to the extent provided in response to well surveys). The survey will solicit well construction details, usage patterns, and water quality data, and will include educational information describing the Project and the Article 10 process, ways to contact Facility personnel, a link to the Applicant's website, and methods by which survey recipients can obtain additional information regarding the Facility and be added to the stakeholder list.

3. An analysis and evaluation of potential ground water impacts (during normal and drought conditions) from the construction and operation of the Facility on drinking water supplies, and groundwater quality and quantity within 1 mile of the Facility Site. This will include the following:
 - i. Data collected regarding the nature and extent of existing groundwater contamination within the Facility Site obtained from the well survey and publicly available data, including potential impacts to known public and private water supplies, groundwater aquifers, wellheads, and aquifer protection zones;
 - ii. Plans for notification and complaint resolution during construction of the Facility;
 - iii. Information on anticipated areas of potential dewatering during construction and operation of the Facility, based on publicly available databases, the results of the well survey, and geotechnical borings conducted at select locations within the Facility Site. A proposed method of dewatering (where needed) will be described in the Application;
 - iv. A general discussion of likely sources of water for concrete mixing operations (if needed). Details associated with the design and layout of facilities for withdrawal and transport of source water will be provided post-Certification once the Applicant engages a BOP contractor.

(b) Surface Waters

Exhibit 23(b) shall include the following:

1. A map, at a scale that supports legibility, identifying all surface waters, including intermittent and ephemeral streams, using data from NYSDEC, ESRI, USGS, National Wetlands Inventory, and stream data collected during the on-site surveys of water resources within 500 feet from the edge of disturbance from all proposed Facility components (where landowner permission for access is available).
2. For each waterbody, a description of New York State listed Water Classification and Standards pursuant to 6 NYCRR Part 800-941, including part numbers, Water Index Numbers (WIN), physical water quality parameters, flow rate, biological aquatic resource characteristics (including incidentally observed species of vertebrates and invertebrates [if any], habitat, and presence of invasive aquatic species), and other characteristics of such surface waters, including intermittent streams, in the Facility Site using publicly available data, and when necessary, supplemented by field data collected during wetland and stream

delineations or information provided by NYSDEC. Aquatic invasive species as identified by NYSDEC (http://www.dec.ny.gov/docs/lands_forests_pdf/islist.pdf), which are observed while conducting delineations and field investigations, will be documented and included in the Application. Invasive species are further addressed in Exhibit 22 (Terrestrial Ecology and Wetlands).

3. An identification of all downstream surface water drinking intakes within 1 mile of the Facility and contained within the drainage basin in which the Facility is located, or if none are located within 1 mile, the nearest downstream surface water drinking supply intake. Location(s) of the intakes will be given by longitude and latitude. A discussion of potential impacts to drinking water supplies due to the Facility or onsite non-Article VII interconnections, including characterization of the type, nature, and extent of service provided from the identified source, will also be included.
4. A narrative discussion will be provided that describes all potential impacts to surface water resources, including streams and lakes. Environmental impacts to be discussed and addressed will include thermal changes to waterbodies due to vegetative clearing, changes to in-stream structure, morphology and stability, potential impacts to or taking of State-listed T&E species, State-listed SSC, SGCN, and the effects of turbidity on nearby habitat. Where appropriate and practical, mitigation actions will be discussed to offset acute and chronic impacts to waterbodies. Potential source(s) of and collection systems for water for construction period uses, invasive species wash station(s), fire control, and other uses will be provided. For any HDD installations, a “frac-out” contingency plan shall be provided to address any inadvertent releases. The feasibility of using overhead crossings with poles more than 50 feet from the top of banks, or trenchless crossings, will be assessed and implemented for all streams proposed to be crossed. A table will be provided that identifies all resource impacts to surface waters. This will include:
 - i. A calculation of the approximate acreage and linear distance of surface waters that will be temporarily or permanently impacted based on the proposed Facility footprint and associated impact assumptions, and field delineated stream boundaries;
 - ii. The construction impact type at each waterbody and, as applicable, the crossing methodology impact (e.g., buried collection, access road) and construction technique used (e.g., HDD or access driveway utilizing temporary bridge);
 - iii. Typical details of BMPs to be used. Detailed BMPs will be provided for each construction technique as appendices to the Application.
 - iv. All stream crossings for temporary and permanent roads, anticipated culvert specifications, and BMP considerations for culvert placement, including methodology for controlling water flow during construction. All stream crossing structures will include the bankfull width at the crossing location.

- v. References to photographs depicting all perennial and intermittent stream crossings (including photos of upstream and downstream of the crossing site) identified for the project which will be included as an Appendix.
- vi. All relevant information described above in 2.23(b)(2) will be referenced in this table.

A map of all anticipated HDD locations in relation to surface water resources will also be included. The location of all proposed HDD operations within 500 feet of surface waters, wetlands or existing water supply wells will be identified in the Application. Additionally, a description of mitigation measures to minimize impacts of HDD operations on surface water quality and the hydrologic flow patterns and groundwater quality of the aquifer will be included

- 5. The Application will identify and evaluate reasonable avoidance measures and Facility layout alternatives. This will include an evaluation of reasonable alternatives that may entirely avoid impacts to regulated waterbodies. Where impacts are unavoidable and have been minimized to the greatest extent possible, mitigation measures will be proposed for groundwater and surface water impacts. No state-protected streams exist within the Facility Site.

(c) Stormwater

Exhibit 23(c) shall include the following:

- 1. Prior to construction, the Applicant will seek coverage under the NYSDEC SPDES General Permit with a Notice of Intent for Stormwater Discharges from Construction Activity issued in January 2015 and effective on January 29, 2015 (modified July 15, 2015). This authorization is subject to review by NYSDEC and is independent of the Article 10 process. However, the Article 10 Application will include a preliminary SWPPP, which will be prepared consistent with the SPDES General Permit and will describe in general terms the erosion and sediment control practices that will likely be implemented, including:
 - i. An introduction that will review the proposed project, and the purpose, need, and appropriate contents of the complete SWPPP;
 - ii. Anticipated stormwater management practices, including temporary and permanent erosion and sediment control measures (vegetative and structural), and post-construction practices;
 - iii. Anticipated construction activities, including a preliminary construction phasing schedule and definition of disturbance areas;
 - iv. Site waste management and spill control measures;

- v. Proposed site inspection and maintenance measures, including construction site inspection, and construction site record keeping; and
 - vi. Conditions what will allow for the termination of permit coverage.
2. The Preliminary SWPPP identified above will be prepared in accordance with NYS Standards and the New York State Stormwater Management Design Manual. The SWPPP will include typical information on permanent, post-construction erosion and sediment control measures (vegetative and structural), along with the anticipated stormwater management practices that will be used to reduce the rate and volume of stormwater runoff after construction has been completed. However, the Preliminary SWPPP will not include pre- or post-construction stormwater runoff calculations. The Applicant will identify as necessary the post-construction stormwater management practices that are anticipated to be implemented to meet the stormwater quality and quantity requirements of the 2015 NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (General Permit) on the preliminary design drawings. In accordance with the General Permit, hydrologic modeling and complete design of the post-construction stormwater management will be completed prior to construction as part of a final SWPPP.

(d) Chemical and Petroleum Bulk Storage

Exhibit 23(d) shall include the following:

- 1) A description of the preliminary SPCC Plan. Spill containment requirements for electric transformers at the substation and PV panel sites will be provided.
- 2) It is not anticipated that the Facility will require on-site storage of large volumes of any substance subject to regulation under the State of New York's chemical and petroleum bulk storage programs (e.g, fuel oil, petroleum etc.). If construction, operational, or maintenance activities at the Facility require petroleum or other hazardous chemicals be stored on site, the Application will identify such substances and demonstrate compliance with all local laws, regulations, and guidelines.

(e) Aquatic Species and Invasive Species

Exhibit 23(e) shall include the following:

- 1) A discussion and analysis of the impact that construction and operation of the Facility is likely to have on biological aquatic resources (and related critical and sensitive habitat), including species listed as endangered, threatened, or species of special concern in 6 NYCRR Part 182, as well as species of greatest conservation need, that are known or suspected of being present within the Facility Site. The analysis will

include a discussion of the potential for introducing and/or spreading invasive species within those areas disturbed by construction. The presence of invasive species within the Facility Site will be documented during wetland and stream delineations and other on-site investigations, as described in Section 2.22 (Terrestrial Ecology and Wetlands). However, no species-specific surveys for invasive or aquatic species are planned. Maps and shapefiles of the locations of aquatic invasive species will be provided to NYSDEC when the Application is submitted.

- 2) An identification and evaluation of reasonable avoidance measures and, where impacts are unavoidable, mitigation measures regarding impacts on such biological aquatic resources, including native and invasive species impacts (if any) and assure compliance with applicable water quality standards (6 NYCRR Part 703). Although not anticipated, construction activities and the presence of Facility components occur in occupied habitat of listed T&E species and could constitute take of individuals or the habitat they depend on, or both, the Applicant will submit with the Application an avoidance, minimization and mitigation plan that demonstrates a net conservation benefit to the affected species as defined pursuant to 6 NYCRR Part 182.11 (Part 182), along with the informational requirements of an Incidental Take Permit (ITP), as provided for in Part 182, including proposed actions to avoid all impacts to listed species. If impacts are unavoidable, the Application will demonstrate this and contain thorough and clear justification of why complete avoidance of impacts is not feasible, proposed mitigation activities, and how the proposed minimization actions will reduce impacts to the maximum extent practicable.

(f) Cooling Water

The proposed Facility does not involve the use of cooling water, and as such, the requirements of this section are not applicable to this Facility. Therefore, information related to cooling water systems, intake, and discharge will not be included in the Article 10 Application.

2.24 VISUAL IMPACTS

2.24.1 Discussion

The Application will evaluate potential visual impacts that would result from introducing the Facility into the landscape. This evaluation will be presented in a Visual Impact Assessment (VIA) report, which will assess the extent and significance of Facility visibility. Components of the VIA will include identification of visually sensitive resources, viewshed mapping, confirmatory visual assessment fieldwork, visual simulations (photographic overlays), and proposed visual impact mitigation, as necessary.

PV panel visibility is anticipated to be relatively limited as the PV panels and associated equipment are not expected to extend more than 12 feet above grade and the forested areas and topography surrounding the Facility Area will serve to significantly restrict visibility. A preliminary viewshed analysis based on simulated solar panel coverage of several agricultural fields within the Facility Area showed that visibility would be largely restricted to areas of open agricultural lands to the northeast and southeast of the Facility Area (Figure 9). The preliminary viewshed analysis also indicates potential views of the Facility from areas to the northwest of Letchworth State Park. A 5-mile radius Visual Study Area will be evaluated in the VIA/Application to ensure that potential visual effects on regional visually sensitive resources are adequately considered. Visually sensitive resources of regional and/or statewide significance will be identified within the 5-mile Study Area, and a more inclusive inventory of locally significant visually sensitive resources will be conducted within a 2-mile radius Study Area. Preliminary research has identified visually sensitive resources of statewide significance that occur within 5 miles of the Facility (see Figure 10). Some of the more notable resources identified include Letchworth State Park, the Genesee Valley Greenway Trail State Park, and Sonyea State Forest. A thorough inventory of visually sensitive resources, including any locations/resources proposed for inclusion by agencies and municipalities through ongoing outreach efforts, will be compiled in support of the VIA and will be evaluated for potential visual impacts therein. Although the PV panels would be the most widespread Facility component, the tallest structures associated with the Facility would be substation equipment such as the overhead gantry (which allows the powerlines to connect to the existing transmission line), lightning shield poles, and possible telecommunication structures that each could have a maximum height of 70 feet or more. Above-ground collector lines, if these are determined to be necessary, may also have a maximum height of more than 12 feet. Visibility of these features will be addressed in the VIA.

Regarding the potential for glare, PV panels are designed to absorb as much of the solar spectrum as possible to maximize efficiency. There is an inverse correlation between light absorption and reflection. In addition, virtually all PV panels manufactured in recent years have at least one anti-reflective coating to minimize reflection and maximize absorption. However, at high incident angles above approximately 60°, reflectance increases and can cause some glare. Using basic geometry and seasonal sun paths, the potential for glare can be predicted at times when the sunlight will shine on the panels at high incident angles. These predictions will be included in the Application and used to inform mitigation efforts to prevent glare, if any impact is identified.

To illustrate anticipated visual change from areas where PV panels will be visible, photographic simulations of the completed Facility from representative viewpoints within 5 miles of the Facility Site will be prepared and presented in the VIA. Review of these images alongside the original, unaltered photos will allow for comparison of the aesthetic character of each view with and without the proposed Facility in place. These “before” and “after” photographs, identical in every respect except for the Facility components shown in the simulated views, will be presented to a rating panel

who will be asked to rate and describe the effect of the proposed Facility in terms of its contrast with existing elements of the landscape. The rating results will be presented in the VIA along with an interpretive summary of their significance. Two preliminary simulations showing what the Facility could look like from Frost Road and Mount Morris Nunda Road are included as Figure 11.

The VIA will also include a discussion of mitigation options for anticipated visual impacts. Approaches to visual mitigation for solar projects include selection of equipment/technology, siting/setbacks, row spacing, fencing, and screening. It is anticipated that vegetation screening would be utilized to block or soften views of the Facility along select portions of adjacent roadways. The Town of Mount Morris Solar Code (Section 48-44.3(E)(4)) requires the installation of vegetative buffers for year-round screening from adjacent properties. Further review of local laws will be provided in Exhibit 31. These and other mitigation measures will be considered for use in additional areas once final Facility design, viewshed analysis, and field review have been completed. Preliminary simulations showing what the Facility could look like with conceptual vegetative screening are included as Figure 11.

2.24.2 Proposed Content of the Application

Consistent with the requirements of 1001.24 of the Article 10 Regulations, Exhibit 24 of the Application will contain the following information:

(a) Visual Impact Assessment

Exhibit 24(a) shall include a VIA to determine and assess the significance of Facility visibility. The VIA procedures used for this study will be consistent with Exhibit 24 requirements and the general methodologies developed by various state and federal agencies, including the U.S. Department of the Interior, Bureau of Land Management (1980), U.S. Department of Agriculture, National Forest Service (1974), the NYSDEC (2000), and the National Park Service's *Guide To Evaluating Visual Impact Assessments for Renewable Energy Projects* published in 2014 (Natural Resource Report NPS/ARD/NRR-2014/836). The components of the VIA shall include identification of visually sensitive resources (see (b)(4) below for additional information), viewshed mapping, confirmatory visual assessment fieldwork, visual simulations (photographic overlays), and proposed visual impact mitigation. The VIA shall include:

1) Character and Visual Quality of the Existing Landscape

A 5-mile Visual Study Area will be established for the purpose of identifying visually sensitive resources of regional and/or statewide significance. A more inclusive inventory of locally significant visually sensitive resources will be conducted for the area within 2-miles of the proposed Facility. Distinct Landscape Similarity Zones (LSZs) within the 5-mile-radius Visual Study Area will be identified and defined (including discussion and analysis of the existing

landscape setting, land uses and visual characteristics of the study area) and the approximate location of these LSZs will be illustrated in the Application.

2) Visibility of the Facility and Above-ground Components

Topographic and vegetation viewshed maps will be created to identify potential visibility of the PV arrays, and the substation. Methodology for these analyses is described in detail below in 1001.24(b)(2). The results of the viewshed analysis will be verified through visual field review. During these site visits, public roads and public vantage points will be visited to document locations from which Facility components would likely be visible, partially screened, or fully screened. This determination will be made based on the visibility of the distinctive Facility Area ridges/landforms, as well as existing features (such as residences and hedgerows) on the Facility Area, which will serve as locational and scale references. These site visits will result in photographs from representative viewpoints within the study area. The viewpoints will document potential visibility of the Facility from the various LSZs, distance zones, directions, visually sensitive resources, and areas of high public use throughout the Visual Study Area. Photos will be taken using digital SLR cameras with a minimum resolution of 24 megapixels. All cameras will utilize a focal length between 28 and 35 mm (equivalent to between 45 and 55 mm on a standard 35 mm film camera). This focal length is the standard used in visual impact assessment because it most closely approximates normal human perception of spatial relationships and scale in the landscape. Viewpoint locations will be documented using hand-held global positioning system (GPS) units and high-resolution aerial photographs (digital ortho quarter quadrangles). The time and location of each photo will be documented on all electronic equipment (cameras, GPS units, etc.) and noted on field maps and data sheets. The results of the field review will be presented in detail with visual aids in the VIA.

3) Appearance of the Facility Upon Completion

Lighting standards, PV panels, inverters, energy storage devices, fences, access roads, and any other above-ground/visible Facility components will be included in all visual simulations in which they would be visible. One or more visual simulations that depict the proposed substation and POI switchyard will also be prepared. It is anticipated that the collection system for the Facility will be buried underground. If overhead collection lines are necessary, then these would also be also be depicted in the visual simulations.

4) Facility Lighting

No lighting will be installed as part of the PV arrays. Lighting that will be installed as part of the Facility will be at the proposed substation, and potentially at an O&M building. Additional dark sky compliant lighting may be installed at the inverter/transformer locations and any energy storage enclosures. Additional information regarding lighting at the Facility will be included with the Lighting Plan in Exhibit 11 of the Application. The potential impact of

proposed lighting that needs to be installed as part of the Facility, as well as mitigation measures to address light trespass, will be described in the Article 10 Application.

5) Photographic Overlays

Photographic simulations will be developed by constructing a three-dimensional computer model of the proposed PV panels, inverters, transformers, energy storage battery containers (if applicable in the final design), and other visible components of the Facility layout based on specifications provided by the manufactures and/or the Applicant. The photographic simulations will illustrate any proposed vegetation clearing, any proposed vegetative screening, and at least one will show the collection substation and/or POI switchyard, and the O&M building, if constructed, (including exterior color and finish) if the location and design are known at the time of VIA preparation.

6) Nature and Degree of Visual Change from Construction

The VIA will include a discussion of short-term visual impacts associated with the clearing of trees, construction of access roads, installation of PV panels, energy storage containers, overhead lines, and general construction activity.

7) Nature and Degree of Visual Change from Operation

Photographic simulations will be developed by using Autodesk 3ds Max Design 2015® (or similar) to create a simulated perspective (camera view) to match the location, bearing, and focal length of each existing conditions photograph. Existing elements in the view (e.g., buildings, existing transmission structures, roads) will be modeled based on aerial photographs and DEM data in AutoCAD Civil 3D 2014® (or similar). A three dimensional (3-D) topographic mesh of the landform (based on DEM data) will then be brought into the 3-D model space. At this point minor adjustments are made to camera and target location, focal length, and camera roll to align all modeled elements with the corresponding elements in the photograph.

8) Operational Effects of the Facility

An evaluation of Facility visibility and visual impact during operation will be conducted by a panel of three visual professionals using a standardized rating form. The methodology utilized in this evaluation will be a modified version of the U.S. Department of the Interior, Bureau of Land Management (BLM) contrast rating methodology. Completed forms and the rating form instructions will also be included with the Application.

9) Measures to Mitigate for Visual Impacts

Regarding the potential for glare, a preliminary study will be provided in the Application to identify observer locations, if any, that may require further analysis of glare impacts from PV panels. Operation of the Facility will not have any other visible effect such as generating plumes, off-site shading, shadow-flicker, etc. Therefore, impact calculation will focus on the visual appearance of the PV panels and other Facility components. An assessment of various visual impact mitigation strategies, including screening (landscaping), setbacks, architectural design, visual offsets, Facility color and design, and lighting options, will be presented. An assessment of relocating or rearranging Facility components, reduction of Facility component profiles, and alternative technologies will be presented in Exhibit 9. Mitigation will also be assessed in relation to NYSDEC Program Policy DEP-00-2 (NYSDEC, 2000).

10) Description of Visual Resources to be Affected

An identification and description of visually sensitive resources within the Visual Study Area will be included, as well as an assessment of probable impacts of the Facility on these resources. Visually sensitive resources will include any specific location identified by municipal planning representatives, DPS, DEC and OPRHP. This section will also include discussion of potential visual impacts on residences located within the Facility Area.

(b) Viewshed Analysis

Exhibit 24(b) shall include a viewshed analysis within the VIA that identifies the locations within the Visual Study Area where it may be possible to view the proposed PV arrays and other proposed above-ground Facility components from ground-level vantage points. This analysis includes identifying potentially visible areas on viewshed maps. The viewshed analysis component of the VIA will include:

1) Viewshed Maps and Methodology

Maps showing the results of viewshed analyses based on: 1) the screening effect of topography alone, and, 2) the combined screening effect of topography, vegetation, and built structures within the environment. Viewshed maps will be presented on the most recent edition USGS 1:24,000 scale topographic base map. Additionally, results of the viewshed analyses will also be shown on maps that depict visually sensitive sites, viewpoint locations, foreground, mid-ground, and background distance zones, and LSZs. The viewshed analyses will serve to document the line-of-sight visibility for resources of statewide concern.

A topographic viewshed map for all Facility components will be prepared using a bare earth digital elevation model (DEM) derived from Light Detection and Ranging (LiDAR) data, sample points representing PV panel

locations based on the Facility layout presented in the Application, an assumed maximum PV panel height of 12 feet or less (depending on final proposed Facility design); an assumed viewer height of six feet; and ESRI ArcGIS® software with the Spatial Analyst extension. The resulting topographic viewshed map will define the maximum area from which any PV module sample point could potentially be seen within the study area (i.e., ignoring the screening effects of existing vegetation and built structures). A second-level analysis will be conducted to incorporate the screening effect of structures and vegetation, as captured in LiDAR data. A digital surface model (DSM) of the study area has been created from these LiDAR data, which includes the elevations of buildings, trees, and other objects large enough to be resolved by LiDAR technology.

2) Sensitive Viewing Areas

Identification of visually sensitive resources using a variety of data sources including digital geospatial data (shapefiles) obtained primarily through the NYS GIS Clearinghouse or ESRI, national, state, county and local agency/program websites as well as websites specific to identified resources; USGS 7.5-minute topographical maps; and web mapping services such as Google Maps. Identified aesthetic resources of statewide or local significance within the Visual Study Area will be included with the Application. Visually sensitive resources will also include any specific location identified by municipal planning representatives, DPS, DEC and OPRHP.

3) Representative Viewpoint Selection

Identification of representative viewpoints to be used for visual simulations. Representative viewpoints will be selected based upon outreach to/consultation with members of the public, engaged stakeholders, municipal planning representatives, DPS, DEC and OPRHP along with the criteria outlined below to ensure that a variety of views are represented. The Applicant will include a list of visual stakeholders and copies of viewpoint selection correspondence in the Application. The selected viewpoints should:

- i) Provide open views toward the Facility Area from different directions throughout the Visual Study Area (as determined through field verification).
- ii) Illustrate the most open views available from potentially significant public resources within the Visual Study Area.
- iii) Illustrate open, representative views from the various LSZs within the Visual Study Area, which are defined based on the similarity of features such as landform, vegetation, water, and land use patterns.
- iv) Illustrate open views of the proposed Facility that may be available to representative viewer/user groups within the Visual Study Area.
- v) Illustrate typical views of different numbers of PV panel arrays, from a variety of viewer distances, and

under different lighting conditions, to illustrate the range of visual change that will occur with the Facility in place.

- vi) Illustrate the proposed substation and potential O&M building if design of these Facility components are known.

4) Photographic Simulations

Photo-realistic simulations of the completed Facility from each of the selected viewpoints. The photos selected for visual simulations will illustrate a range of typical/representative conditions, including leaf-on and leaf-off conditions.

5) Mitigation Simulations

The Article 10 Application will include visual simulations or other representative images that illustrate the various visual mitigation measures (such as fence styles or plantings) that are being considered for the Facility.

6) Simulation Rating and Assessment of Visual Impact

A composite contrast rating for each viewpoint. All rating forms will be included in the Application along with a narrative description of the existing view and overall visual effect representing the nature and degree of visual change resulting from construction and operation of the Facility on scenic resources and viewers represented by each of the selected viewpoints using comments provided by the rating panel members.

7) Visible Effects Created by the Facility

Operation of the Facility is not anticipated to result in any operational visual effects, such as vapor plumes, shadow-flicker, or off-site shading. Other than the potential for glare from the PV panels, these types of effects will not be evaluated in the Application.

2.25 EFFECT ON TRANSPORTATION

2.25.1 Discussion

In the Application, this Exhibit will evaluate the suitability of and potential impacts to the transportation networks to be used in the construction of the Facility. The Application will include an evaluation of existing conditions including typical traffic volumes and accidents, school district and emergency service provider routes, and current road conditions/limitations and the potential impacts to these resources. A Route Evaluation Study will be prepared to identify public road constraints, potential haul routes, and impacts to transportation systems and will be included in the

Application. Consultation with local emergency service providers will be initiated to inform emergency service routes in use, and those listed within the emergency training and communication plan. After construction, traffic associated with Facility operation is anticipated to be limited to occasional trips associated with routine maintenance activities and associated agricultural activities (if any).

During Facility construction, trucks carrying water, fuels, or chemicals will utilize the same haul routes used by other construction vehicles/component delivery haulers, as identified in the Route Evaluation Study. Workers and employees in regular vehicles (pick-up truck size and smaller) will access the construction site and worker parking areas through use of whichever public road route is most logical and efficient for the respective individual/vehicle. Employees and workers accessing the site with heavy haul/construction equipment will follow the identified specified haul routes.

The New York State Department of Transportation's (NYSDOT) Highway Data Services website will be reviewed to determine potential load capacity restrictions for public roads nearby the Facility. The Application will also include an identification of the possible extent and duration of traffic interferences resulting from construction of the Facility and any interconnects. Final transportation routing will be designed in consultation with the County and each Town's Highway Superintendent to avoid and/or minimize, to the extent practical, safety issues associated with the use of the approved haul routes, which will confine the heavy truck travel to a few select roads. Once the Facility is commissioned and construction activities are concluded, traffic associated with Facility operation will be limited to trips associated with routine operations and maintenance activities. As such, no new traffic control devices are anticipated to be necessary, and no damage to roads due to normal operation of the Facility are expected to occur.

In addition, the Article 10 Application will summarize the meetings and consultations that the Applicant plans to hold with the local road departments of the municipalities within the Facility Area. During these meetings the Applicant will continue to discuss the proposed Facility, Article 10 process, road use agreements and general construction and transportation process when constructing a solar facility.

2.25.2 Proposed Content of the Application

Consistent with the requirements 1001.25 of the Article 10 regulations, Exhibit 25 of the Application will contain the following information:

(a) Conceptual Site Plan

Exhibit 25(a) shall include the preliminary design drawings prepared in association with Exhibit 11 which will serve as the conceptual site plan. In addition, a Route Evaluation Study will be prepared for the Facility and included in the

Application. The Study will identify horizontal and vertical geometry, the number of approach lanes, the lane widths, shoulder width, traffic control devices (if needed), and sight distance of all Facility Site driveway and roadway intersections.

(b) Description of the Pre-construction Characteristics of Roads in the Area

Exhibit 25(b) shall include a description of the pre-construction characteristics of roads in the area that will include the following:

(1) Traffic Volume and Accident Data

Data will be obtained from the NYSDOT Traffic Data Online Viewer to review existing traffic volumes along proposed approach and departure routes for the Facility. Accident information along those routes contained in the Accident Location Information System (ALIS) will be requested from the local police agencies and/or NYSDOT regional office. This data will be compared with the Transportation Study Area, to be identified in the Application.

(2) School District Bus and Routes

The Article 10 Application will include a review of school district routes for the districts serving the Facility Site. This will be accomplished by obtaining school bus routes, number of buses, and times from Mount Morris Central and Keshequa Central School Districts.

(3) Emergency Service Providers

This section of the Article 10 Application will provide a review of locations of emergency service provider stations (police, fire, ambulance, and hospitals) that serve the Facility Site. The Application will include a map of service provider location and routes, which will also be provided to operations and maintenance staff during Facility operation.

(4) Available Load Bearing and Structural Rating Information

The Application will identify Load Restricted Bridges and/or roadways along the proposed approach and departure routes for the Facility. For non-posted bridges along those routes, information from the NYSDOT's Highway Data Services website will be reviewed to determine potential load capacity restrictions. Consultations with local highway supervisors will also be summarized in the Application.

(5) Traffic Volume Counts

The Facility is not within a congested urbanized area, therefore twenty-four-hour traffic counts are not applicable and will not be included in the Article 10 Application.

(c) Facility Trip Generation Characteristics

Exhibit 25(c) shall include an estimate of Facility trip generation characteristics, including:

(1) Number, Frequency, and Timing of Vehicle Trip

An estimate of the number, frequency and timing of vehicle trips will be presented in the Application based on anticipated delivery routes, site plan, and location of Facility components as presented in the Article 10 Application. Exact scheduling of construction work and required vehicles will be determined by the Applicant's contractor prior to construction. Therefore, the study to be conducted and included in the Article 10 Application will only provide an estimate based on the anticipated volume of materials and number of vehicles. The Application will tabulate construction vehicle volumes for the Facility broken down by Facility component/truck type.

(2) Approach and Departure Routes for Trucks Carrying Water, Fuels, or Chemicals

Information and routes regarding trucks carrying water, fuels, or chemicals, if any, out to 5 miles from the Facility Site will be provided.

(3) Cut and Fill Activity

The Article 10 Application will provide an estimate of cut and fill activity of anticipated quantities of earthwork and materials based on the site plan and locations of Facility components. Any cut and fill activity will be subject to the conditions of the Facility-specific SWPPP.

(4) Conceptual Haul Routes and Approach and Departure Routes for Workers and Employees

Conceptual haul routes will be identified by a transportation engineer and details regarding the routes will be included in the Application. Approach and departure routes will be based on the anticipated type of delivery vehicle to be used, and such routes will be identified to and from the Facility Site for employees and construction workers of the Facility.

(d) Traffic and Transportation Impacts

Exhibit 25(d) shall include an analysis of traffic and transportation impacts of the Facility, including:

(1) Levels of Service along Linear Segments of Highway

Synchro and HCS software (or similar software generally accepted by the industry) will be utilized to determine levels of service for linear segments of highways used by construction and delivery vehicles. The anticipated extent and duration of traffic interferences/delays during construction will be described. As indicated above, the Facility is not in a congested urbanized area requiring detailed intersection analysis.

(2) Route Evaluation Study

A Route Evaluation Study, including anticipated delivery routes and analyses of the adequacy of these routes to accommodate vehicles associated construction and operation of the Facility will be included in the Application. The possible extent and duration of traffic interferences resulting from construction of the Facility and interconnects will be discussed.

(3) Over-sized Deliveries

The Applicant will conduct a review of aerial photography and online street view maps in conjunction with driving all potential haul routes to identify physical restrictions. Anticipated temporary improvements will be identified and a corresponding location map will be developed and included in the Article 10 Application.

(4) Measures to Mitigate for Impacts to Traffic and Transportation

Identification of measures to mitigate traffic and transportation impacts, which will be presented in the Route Evaluation Study, will be included in the Application. This analysis will include any time restrictions regarding delivery of Facility components and provisions for repair of roads damaged by heavy equipment or construction activities during construction or operation of the Facility.

(5) Road Use and Restoration Agreements

Any anticipated Town, County, or State permits to be required for construction and/or post-construction use of public roads, including highway work permits and special use permits from NYSDOT will be identified, if necessary. If applicable, a draft road use agreement will be included as an Appendix to the Application. This section will also

generally discuss use agreements with private landowners which may be required for construction use of private property along public roads.

(e) Impact of the Facility on Mass Transit Systems

There are no mass transit systems within the Facility Site that could be affected by the construction and operation of the Facility, and therefore these systems will not be addressed in the Article 10 Application.

(f) Federal Aviation Administration Review

Construction and operation of the Facility are not anticipated to affect aviation and therefore will not be addressed in the Article 10 Application. The proposed Facility does not fall under any of the categories for which Federal Aviation Administration review triggered under 14 CFR Part 77.9 because no structure is proposed which exceeds 200 feet in height above ground level, and because nearby public airports are outside the designated range required for by FAA. Therefore, no FAA filing or review is required.

The Geneseo Airport (FAA ID D52) is open to the public and located in Geneseo, New York approximately 6.9 miles from the Facility Site. Perry-Warsaw Airport (FAA ID 01G) is a public airport west of the Facility Site and open to the public. It is located approximately 7.5 miles from the Facility Site. Dansville Municipal Airport (FAA ID DSV) in Dansville NY is approximately 8.5 miles southeast of the proposed Facility.

There are several small, privately owned airports near the Facility Site. Two privately-owned airports are located within one mile of parcels where Facility components are proposed. These include the Tuscarora Plateau Airport (FAA ID 3NK6) and Scott's Sky Ranch (FAA ID NY70). Because these airports are privately owned, they are not subject to 14 CFR 77.9, and therefore notification of construction is not required. However, the owners of these airports have been engaged as stakeholders in meetings regarding the Facility.

(1) Department of Defense Review

Construction and operation of the Facility are not anticipated to affect military aviation or operation and therefore will not be addressed in the Article 10 Application.

(2) Consultation with Nearby Airports/Heliports

Prior to the submission of the Article 10 Application, letters regarding the Facility's development and status will be sent to any public airports or heliports identified on the Facility's stakeholder list. In addition, if necessary or

requested, the Applicant will meet with the above-mentioned aviation stakeholders to discuss Facility-specific information. The Article 10 Application will discuss the results of those consultations.

(3) Responses from the FAA and DoD

This information will not be provided in the Application as the construction and operation of the Facility is not anticipated to have any effect on aviation, and therefore will not be addressed in the Application.

2.26 EFFECT ON COMMUNICATION

2.26.1 Discussion

The Article 10 Application will identify all existing broadcasting communication sources within a 2-mile radius of the Facility and any associated interconnections. The Facility is not expected to have any impact on public broadcasting communication technologies because it lacks tall structures and it will generate only very weak electromagnetic fields (EMFs). The “PV arrays generate EMF in the same extremely low frequency (ELF) range as electrical appliances and wiring found in most homes and buildings” (MDER, 2015). In a recent study of three solar arrays in Massachusetts, electromagnetic fields levels measured along the boundary of each project were not elevated above background levels (Massachusetts Clean Energy Center, 2012).

Additionally, the Facility is not expected to have any material impact on military or civilian radar systems because it lacks tall structures that could potentially block radar signals. Any EMFs generated by the Facility will dissipate rapidly within short distances. The Federal Aviation Administration (FAA) has concluded that solar arrays do not cause radar interference:

“Radar interference occurs when objects are placed too close to a radar sail (or antenna) and reflect or block the transmission of signals between the radar antenna and the receiver (either a plane or a remote location).

...

Due to their low profiles, solar PV systems typically represent little risk of interfering with radar transmissions. In addition, solar panels do not emit electromagnetic waves over distances that would interfere with radar signal transmissions, and any electrical facilities that do carry concentrated current are buried beneath the ground and away from any signal transmission.

...

Off-airport solar projects are even more unlikely [than on-airport solar projects] to cause radar interference unless located close to airport property and within the vicinity of a radar equipment and transmission pathways” (FAA Guidance, 2010).

While the Facility is not anticipated to adversely impact emergency communication systems, an analysis of potential impacts will be provided in the application. LORAN radio signals will not be addressed because transmission of all signals was terminated in 2010 by the Department of Homeland Security Appropriations Act.

Although communication systems are not anticipated to be affected by the construction and operation of the Facility, the Applicant will, as described in Section 2.15, develop a Complaint Resolution Plan, through which residents can issue a formal complaint should any issues arise as a result of construction or operation of the Facility. This plan will be included with the Article 10 Application.

2.26.2 Proposed Content of the Application

Consistent with the requirements of 1001.26 of the Article 10 regulations, Exhibit 26 of the Application will contain the following information:

(a) Existing Broadcast Communication Sources

Exhibit 26(a) shall identify all existing broadcasting communication sources within a 2-mile radius of the Facility and the associated interconnection between the Facility and the POI including:

- AM/FM radio;
- Television;
- Telephone;
- Microwave transmission (all affected sources, not limited to a 2-mile radius);
- Emergency services;
- Municipal/school district services;
- Public utility services;
- Doppler/weather radar (all affected sources, not limited to a 2-mile radius);
- Air traffic control (all affected sources, not limited to a 2-mile radius);
- Armed forces (all affected sources, not limited to a 2-mile radius);
- GPS; and
- Amateur radio licenses registered to users.

(b) Existing Underground Cable and Fiberoptic Lines within Two Miles

Exhibit 26(b) shall include the locations of underground fiber optic cable within two miles of the Facility Site and any associated electric interconnection between the Facility and the POI.

(c) Anticipated Effects on Communication Systems

Exhibit 26(c) shall include a description of the communication systems within a two-mile radius of the Facility Site and describe any expected impacts to those systems. This section will include a discussion on the potential for the following scenarios:

- Structures to interfere with broadcast patterns by re-radiating the broadcast patterns in other directions;
- Structures to block necessary lines-of-sight;
- Physical disturbance by construction activities;
- Adverse impacts to co-located lines due to unintended bonding;
- Any other potential for interference.

(d) Evaluation of Design Configuration

Exhibit 26(d) shall include an evaluation of the design configuration of the proposed Facility and electric interconnection between the Facility and the POI demonstrating that there will be no adverse effects of the communication systems identified in Sections (a) and (b) above.

(e) Post-construction Activities to Identify and Mitigate Adverse Effects on Communication Systems

If deemed to be necessary, exhibit 26(e) shall include a description of post-construction activities that shall be undertaken to identify and mitigate any adverse effects on the communications systems identified in Sections (a) and (b) above that occur despite the design configuration of the proposed Facility and the electrical interconnection between the Facility and the POI.

(f) Potential Interference with Radar

Exhibit 26(f) is specific to wind power facilities. As the proposed Facility is a solar facility, this section is not applicable.

2.27 SOCIOECONOMIC EFFECTS

2.27.1 Discussion

The proposed Facility will have a variety of potential socioeconomic effects on surrounding municipalities and districts. To quantify the local economic impacts of constructing and operating the Facility, the Job and Economic Development Impact (JEDI) model will be used. This model was created by the National Renewable Energy Laboratory (NREL), a

national laboratory of the United States Department of Energy and calculates various indicators for each level of impact using project-specific data provided by the Applicant and geographically-defined multipliers. These multipliers are produced by IMPLAN Group, LLC using a software/database system called IMPLAN (IMpact analysis for PLANning), a widely-used and widely-accepted general input-output modeling software and data system that tracks each unique industry group in every level of the regional data (IMPLAN Group, 2018).

Calculating the number of jobs and economic output associated with a proposed facility using the JEDI model is a two-step process. The first step requires facility-specific data inputs (such as year of construction, size of facility, nameplate capacity and location). The next step of analysis requires a detailed input of project cost values into the model, including, financial parameter values, default tax values, default lease payment values, and default local share of spending values. Based on these customized cost inputs, the JEDI model then calculates the economic impacts, typically through the use of county-specific and state-specific multipliers. These multipliers account for the change in jobs, earnings, and output likely to occur throughout the economy as a result of Facility-related expenditures. This model allows impacts to be estimated for both the construction and operation phases of the proposed development.

Specifically, the Article 10 Application will analyze three levels of impact that the proposed Facility will have on the economy:

- **On-site labor impacts:** These are the direct impacts experienced by the companies engaged in the construction and operation of the Facility. This value estimates the dollars spent on labor and professional services by Facility developers, consultants, and construction contractors, as well as operation and maintenance (O&M) personnel. On-site labor impacts do not reflect material expenditures.
- **Local revenue and supply chain impacts:** These impacts measure the estimated increase in demand for goods and services in industry sectors such as local food and hotel industries, that supply or otherwise support the companies engaged in construction and operation.
- **Induced impacts:** Induced impacts measure the estimated effect of increased household income resulting from the Facility. These impacts reflect the reinvestment of earned wages, as measured throughout the first two levels of economic impact. This reinvestment can occur anywhere within the economy, on household goods, entertainment, food, clothing, transportation, etc. Household income may also be increased as a result of the downward pressure on wholesale electric prices by the NYISO, resulting from the introduction of low marginal cost electric supplies, from the Facility and from other energy generation facilities elsewhere in New York.

Each of these impacts can be measured in terms of three indicators: jobs, the amount of money earned through those jobs, and the overall economic output associated with each level of economic impact. These indicators are described in further detail below:

- **Jobs:** Jobs refer to the increase in employment demand as a result of Facility development. These positions are measured across each level of impact, so that they capture the estimated number of jobs on site, in supporting industries, and in the businesses that benefit from household spending. For the purposes of this analysis, this term refers to the total number of year-long full-time equivalent (FTE) positions created by Facility development. Persons employed for less than full time or less than a full year are included in this total, each representing a fraction of an FTE position (e.g. a half-time, year-round position is 0.5 FTE).
- **Earnings:** This measures the wages earned by the employees described above.
- **Output:** Output refers to the value of industry production in the state or local economy, across all appropriate sectors, associated with each level of impact. For the manufacturing sector, output is calculated by total sales plus or minus changes in inventory. For the retail sector, output is equal to gross profit margin. For the service sector, it is equal to sales volume.

In addition, the Article 10 Application will include a discussion on any anticipated impacts to property value pertaining to development of the Facility.

2.27.2 Proposed Content of the Application

Consistent with the requirements of 1001.27 of the Article 10 Regulations, Exhibit 27 of the Application will contain the following information:

(a) Construction Workforce

Exhibit 27(a) of the Application will identify the estimated construction workforce associated with the Facility. The results of the JEDI model output will be evaluated by the Applicant's construction management team to provide an estimate of the average work force, by discipline, for each phase of construction.

(b) Construction Payroll

Exhibit 27(b) will identify the estimated annual construction payroll and non-payroll expenditures associated with the Facility. The results of the JEDI model output will be evaluated by the Applicant's construction management team to provide an estimate of the annual construction payroll by trade.

(c) Secondary Employment and Economic Activity Generated by Facility Construction

Exhibit 27(c) will identify the yearly estimated secondary employment and economic activity associated with Facility construction. The results of the JEDI model output will be included in the Application and the economic multiplier factors or other assumption(s) used will be described.

(d) Workforce, Payroll, and Expenditures during Facility Operation

Exhibit 27(d) will identify the estimated number of jobs associated with Facility operation. The Article 10 Application will also provide an estimate of other local expenditures likely to be made during a typical year of Facility operation.

(e) Secondary Employment and Economic Activity Generated by Facility Operation

Exhibit 27(e) will provide additional information regarding the economic benefit associated with expenditures including payment to local landowners in association with the lease and/or purchase agreements executed to host Facility components.

(f) Incremental School District Operating and Infrastructure Costs

Exhibit 27(f) will confirm that the Facility is not expected to result in any additional operating or infrastructure costs to the local school districts.

(g) Incremental Municipal, Public Authority, or Utility Operating and Infrastructure Costs

Exhibit 27(g) will confirm that the Facility is not expected to result in any additional operating or infrastructure costs to local municipalities, authorities, or utilities.

(h) Jurisdictions that Will Collect Taxes or Benefits

Exhibit 27(h) will discuss jurisdictions that will collect taxes or benefits from the Facility, which are anticipated to include:

- Livingston County
- Town of Mount Morris
- Mount Morris Central School District
- Keshequa Central School District

(i) Incremental Amount of Annual Taxes or Payments

Exhibit 27(i) will provide more detail regarding the anticipated PILOT and Community Benefit Agreement agreements. The Applicant expects to enter into a PILOT agreement with Livingston County Industrial Development Agency that will provide annual tax revenues to Livingston County, the Town of Mount Morris, Mount Morris Central School District and Keshequa Central School District.. The specific terms of the PILOT and Community Benefit Agreement agreements are being negotiated. An update will be provided in the Application. The PILOT and Community Benefit Agreement payments will increase the revenues of the local taxing jurisdictions, and will represent a significant contribution to their total tax levy.

(j) Comparison of Incremental Costs and Incremental Benefits

Exhibit 27(j) will discuss the comparison of incremental costs and incremental benefits of the Facility. As indicated above, the Facility is not expected to result in any additional costs to local tax jurisdictions, but will result in significant benefit through implementation of a PILOT and Community Benefit Agreement agreements, and through the potential increase in tax revenue.

(k) Equipment or Training Deficiencies in Local Emergency Response Capacity

Exhibit 27(k) will discuss equipment or training deficiencies in local emergency response capacity, if applicable. Exhibit 18 of the Article 10 Application (along with a Preliminary Health and Safety Plan and Emergency Action Plan to be appended to the Article 10 Application) will provide specific detail on emergency equipment that the Applicant will maintain for the Facility. The Applicant will continue consultation with local emergency service providers in order to confirm all necessary equipment and training for fire and medical emergencies either by the Applicant or by emergency responders.

(l) Consistency with State Smart Growth Public Infrastructure Criteria

Exhibit 27(l) will address the Facility's consistency with the smart growth criteria as defined in ECL 6-0107(2). The Facility does not include any infrastructure that will promote or facilitate secondary growth or sprawl as specified in this law.

2.28 ENVIRONMENTAL JUSTICE

2.28.1 Discussion

Exhibit 28 of the Article 10 Application requires the Applicant to provide sufficient information for the NYSDEC and others to assess the potential impact of the Facility on Environmental Justice communities. However, it should be noted that the intent of an Environmental Justice evaluation is to determine if air quality and associated health impacts are disproportionately affecting certain communities or populations. Although solar powered generation facilities do not typically result in adverse impacts to air quality or health impacts, the Applicant has considered whether the Facility could have negative impacts on nearby Environmental Justice areas. Therefore, for the purposes of the Environmental Justice evaluation, and based on the criteria set forth in 6 NYCRR 487.4, the Applicant has defined the “Impact Study Area” to consist of a 0.5-mile radius around each of the Facility components, which is considered to be a conservative basis for evaluating potential impacts.

Based on data obtained from the NYSDEC’s Geospatial Information System (GIS) Tools for Environmental Justice website (<http://www.dec.ny.gov/public/911.html>) and as discussed in the Applicant’s Public Involvement Program Plan (PIP), the nearest potential Environmental Justice Area to the Facility is located in the northeast corner of the Town of Mount Morris (Census Block Group ID: 360510308001) where 36.36% of the population in this census block group are members of minority groups in a rural area (see Figure 10). Within the Town of Mount Morris, the potential Environmental Justice Area is located east of Sonyea Road (NYS Route 36) and east-southeast of the Village of Mount Morris northeast of the Facility. The Study Area contains a portion of another potential Environmental Justice Area (Census Block Group ID: 36051031001) to the east in the adjacent Town of Groveland and contains the Groveland Correctional Facility where 47.03% of the population in this census block group are members of minority groups in a rural area. A map of these potential Environmental Justice Areas, in relation to the Facility Site, will be provided in the Article 10 Application.

The Applicant provided this information on Potential Environmental Justice Areas in the PIP. Outreach to these residents within Environmental Justice areas will be in accordance with the PIP, Section 5.0.

2.28.2 Proposed Content of the Application

Consistent with the requirements of 1001.28 of the Article 10 Regulations, Exhibit 28 of the Application will contain the following information:

(a) Identification and Evaluation of Potential Impact

Exhibit 28(a) will include an identification and evaluation of any potentially significant, adverse, and disproportionate environmental impacts of the proposed Facility on Environmental Justice Areas, as a result of its construction and operation, if any can be identified. The Applicant will identify any studies cited in support of this analysis, including the author and date thereof, in accordance with 6 NYCRR Part 487.

(b) Impact Avoidance and Mitigation

If applicable, Exhibit 28(b) will include a description of the following for each identified significant and adverse disproportionate environmental impact resulting from Facility construction and operation:

- 1) The specific measures the Applicant proposes to take to avoid such impacts to the maximum extent practicable for the life of the Facility. A description of proposed impact avoidance measures, including a statement of cost for each measure, will also be provided.
- 2) If such impacts cannot be avoided, measures proposed by the Applicant to minimize impacts to Environmental Justice Areas to the maximum extent practicable for the life of the Facility, including a description of each mitigation measure, procedures to verify of implementation, and the cost of each mitigation effort.
- 3) If such impacts cannot be avoided, the specific measures proposed by the Applicant to offset such impacts to the maximum extent practicable for the life of the Facility, including a description of the manner in which such impact offset measures will be verified and a statement of the cost of such measures.

(c) Impact Analysis

If applicable, Exhibit 28(c) shall include a qualitative analysis demonstrating that the proposed avoidance, mitigation, and offset measures are appropriate for the identified significant, adverse, and disproportionate environmental impacts as a result of Facility construction and operation. If possible, the Applicant will provide a quantitative analysis of the avoidance, mitigation, and offset measures proposed.

2.29 SITE RESTORATION AND DECOMMISSIONING

2.29.1 Discussion

Solar power facilities have an expected useful life of up to 40 years (NYSUN, 2019). After this time, the Facility will be decommissioned, and the areas hosting Facility components will be restored. Nearly all Facility components will be

sited on open, agricultural lands. Upon decommissioning of the Facility, these lands will again be available for agricultural use. No adverse impacts to the future use of the land are expected as a result of Facility construction or operation. The Facility is not anticipated to require significant grading for installation; the extent of grading will be described in Exhibit 11 of the Article 10 Application. Disturbed areas will be planted with native seed mixes or allowed to return to their use prior to Facility construction.

2.29.2 Proposed Content of the Application

(a) Performance Criteria

Exhibit 29(a) shall include a statement of the performance criteria proposed for the restoration or decommissioning of the Facility, and any proposed form of financial security adequate to fund the decommissioning of the Facility at the end of its useful life, including site restoration, as appropriate. The Application will discuss proposed financial security mechanisms for funding decommissioning, including calculating the cost of decommissioning.

(b) Decommissioning and Restoration Plan

Exhibit 29(b) shall include the Site Decommissioning and Restoration Plan, including provisions requiring/demonstrating:

- Decommissioning would be triggered if the Facility is non-operational for a continuous period of 12 months;
- All above-ground structures, including PV panels, racking, inverters, fencing, poles, and the collection substation, will be removed;
- Buried collection lines will be de-energized, and remain in-place as dictated by the New York State Department of Agriculture & Markets guidelines;
- Where appropriate the Applicant will leave in place any access roads, fences, gates, buffer plantings, and/or buildings which underlying landowners have sought to retain following decommissioning of the Facility;
- Ground disturbance during decommissioning will be minimized to the extent practicable and the site will be restored to its original condition to the extent practicable, including restoration of soil areas with native species and/or suitable plant species. In the event the lands are meant to be returned to agricultural production, the landowner will be responsible for re-seeding the lands.
- The disposal of all solid and hazardous wastes during decommissioning will be conducted in accordance with applicable local, state, and federal waste disposal regulations;
- The Applicant will provide written notification to the Town and to impacted landowner(s) at least two weeks prior to the commencement of decommissioning activities, and prior to commencing site restoration;

- The type of financial assurance, as needed and secured by the Applicant, for the purpose of adequately performing decommissioning will be described, if applicable. The value of the financial assurance will be based on a Professional Engineer's certified estimate of decommissioning cost, less the expected salvage value and/or resale value of components;
- The Site Restoration Decommissioning plan will also include clear instructions for the Town as to how it will be able to access the financial assurance should the Applicant fail to decommission the project in accordance with the Decommissioning Plan.
- The Decommissioning Plan will be binding upon the Applicant, or any of its successors, or assigns.
- The Decommissioning Plan will include a provision which ensures appropriate Town officials are granted access to the Facility Site, pursuant to reasonable notice to the Applicant, to inspect the completed decommissioning activities.
- The Decommissioning Plan will adhere to the NYSDAM Guidelines for Solar Facilities for restoration requirements to the maximum extent practicable (NYSDAM, 2018).

Additional detail regarding decommissioning of the Facility will be provided in the Article 10 Application.

(c) Description of Decommissioning/Restoration Agreements Between Applicant and Landowners

Exhibit 29(c) shall include a discussion of decommissioning/restoration agreements between the Applicant and landowners. All Facility components will be located on private land under lease and/or purchase agreement with the landowners, and all leases with private landowners do or will contain a provision on decommissioning. Although the specific terms of these lease agreements are confidential, decommissioning provisions in the leases outline a plan substantially similar to the one described above. Information on the method and schedule for updating the cost of decommissioning and restoration, the method of ensuring funds will be available for decommissioning and restoration, and the method by which the Facility will be decommissioned and the site restored will be provided in Exhibit 29(b) of the Application.

(d) Nuclear Power Facilities

This section is not applicable and therefore will not be addressed in the Article 10 Application.

2.30 NUCLEAR FACILITIES

The proposed Facility is not a nuclear facility, and as such, the requirements of 1001.30 are not applicable and will not be addressed in the Article 10 Application.

2.31 LOCAL LAWS AND ORDINANCES

2.31.1 Discussion

The Facility will be located Livingston County, New York, in the Town of Mount Morris, New York. Throughout the pre-application process, the Applicant will consult with the host municipality on a range of issues, including identifying relevant local laws and ordinances that could impact the Facility as described further below. The Applicant will continue to consult with the Town and County during the Article 10 Application process to ensure that all applicable laws and ordinances, among other local concerns, are addressed in the Article 10 Application.

The Applicant notes that the Town of Mount Morris has a Solar Farm Law enacted in 2016 and amended in 2017 and 2018. This PSS reflects the local laws as they existed at the time of the PSS submission, and is intended to identify the areas of local codes relevant to the proposed Facility. However, the Application will account for any amendments or additional local laws enacted in any host municipality between the submission of this PSS and the Application. The list provided below is intended to give a general overview of the types of local regulation which are potentially applicable to the Facility as proposed, and the areas of local law which will need to be discussed further in the Application.

2.31.2 Proposed Content of the Application

(a) List of Applicable Local Ordinances and Laws of a Procedural Nature

Below is a preliminary list of applicable local laws and ordinances of a procedural nature that potentially would have been applicable to the Facility, in the absence of Article 10. This list will be updated when the Application is submitted, should any changes occur in the intervening months. Generally, it is not known at this early stage whether the Facility will trigger certain identified regulations listed below; the list is meant to provide a broad overview based on an initial screen of Town laws. These provisions are included because of their potential application to the Facility, but the Facility layout set forth in the Application may not include components or aspects which trigger some of the requirements identified below.

Town of Mount Morris

Mount Morris Town Code § 48-44.3, Solar Farm Law (as amended by Local Law 3 of 2018)

- (D) Special Use Permit requirements and Site Plan Review
- (E)(2) and (4) Planning Board Actions
- (F)(1) Procedural requirements¹¹

¹¹ While Article 10 preempts the procedural requirements set forth in this subsection, the Applicant nevertheless anticipates substantively complying with the substance and spirit of this requirement. The Applicant takes very seriously the need to coordinate with local emergency

- (F)(2) Evidence to Planning Board of notifications¹²
- (G) Decommissioning Plan and Permit¹³
- (H) Local process for decommissioning and removal¹⁴

Other Potentially Applicable Requirements:

Mount Morris Town Code

- § 48-10, Zoning Permits
- § 48-11, Applications for Zoning Permits
- § 48-23, Land Conservation
- § 48-26, 1, Commercial Site Plan Review Design Guidelines
- § 48-36, Special Permit Provisions

(b) Local Procedural Requirements Requiring Board Authorization

By law, all local procedural requirements are supplanted by Article 10 unless otherwise expressly authorized by the Siting Board. At this time, the Applicant has not identified any local procedural requirements requiring Board authorization.

To the extent the Town and/or County require any permit or approval to perform work within municipal rights-of way, or on municipally owned roads, the Applicant may request that the Board grant the Town and/or County authority to issue such permits or approvals, separately or in connection with a local Road Use Agreement, if one is proposed. The Applicant will work with the Town and County to understand the procedural and substantive requirements for highway work permits, and any issues of local concern.

(c) Identification of Municipal Agency Qualified to Review and Approve Building Permits

The Town of Mount Morris Code Enforcement Officer is generally responsible for reviewing and approving local building permits and ensuring compliance with the New York State Fire Prevention and Building Code and Energy Conservation Code of New York State. In addition, the Town may choose to contract with qualified consultants to assist their review

responders, and the Facility will have emergency response plans which incorporate feedback and input from such agencies, and which address the types of topics identified in this provision of local law.

¹² Under Article 10, pursuant to New York State's interconnection process for large-scale generators such as the Facility, and in accordance with existing tariff rules, the Applicant will be consulting and working cooperatively with the electric utility on the subject of interconnection to the electric grid. Therefore, while this procedural requirement is technically preempted by Article 10, the spirit of the requirement will be achieved through existing processes and requirements.

¹³ While the local requirement for a permit and submission of a locally approved plan are preempted by Article 10, as this provision notes, this issue will be fully addressed through the Article 10 process, in accordance with 16 NYCRR 1001.29, incorporating input from the Town, the State and other stakeholders, and will be fully addressed in Exhibit 29 of the Application, as discussed further in Section 2.29 of this Scoping Statement.

¹⁴ See footnote 12 above; the Article 10 statute preempts this requirement, but will mandate that the issues raised by the provision be addressed in the Article 10 application, including the provision of a financial mechanism to fund decommissioning of the Facility, and a process for periodically reevaluating the cost of decommissioning to ensure that mechanism is adequate.

and approval of the Facility. The Applicant will work with the municipalities to identify these individuals and/or entities. Any arrangements between the Applicant and regarding the scheduling of such consultants will be described and included as part of the Article 10 Application.

Livingston County Department of Health is a full-service health department, which manages permitting and regulations related to sanitary septic systems and/or drinking water wells. To the extent that the Facility may include a new O&M Building requiring a septic system or drinking water well, the Applicant may request that the Siting Board authorize the County to issue these ministerial permits, to the extent necessary and applicable to the Project. The Application will provide further information on this topic, to the extent it is anticipated to apply to the Morris Ridge Solar Energy Center.

(d) List of Applicable Local Ordinances and Laws of Substantive Nature

Below is a preliminary list of applicable local laws and ordinances of a substantive nature that may be applicable to the Facility. Generally, it is not known at this early stage whether the Facility will trigger certain of the identified regulations listed below; the list is meant to provide a broad overview based on an initial screen of Town laws. These provisions are included because of their potential application to the Facility, but the Facility layout set forth in the Application may not include components or aspects which trigger some of the requirements identified below.

Town of Mount Morris

Mount Morris Town Code § 48-44.3, Solar Farm Law (as amended by Local Law 3 of 2018)

- (D) Solar Farms allowed in all zoning districts as a special use; no solar farm shall be permitted on any Prime Farmland, as designated in the Town Agricultural and Farmland Protection Plan
- (E) Minimum Requirements
 - (1) Height Limit
 - (2) Fencing
 - (3) Vegetated Buffer
 - (4) Impact to Town residents, businesses or traffic
 - (5) Glare
 - (6) Underground electric lines
 - (7) Warning Signs
 - (8) Setbacks
 - (9) Lighting
 - (10) Signs
 - (11) Parking
- (F) Additional Conditions
 - (1) Cooperation with local emergency services
 - (3) Facility Maintenance
- (G) Decommissioning Requirements in 16 NYCRR 1001.29 Apply

Other Potentially Applicable Requirements:

Mount Morris Town Code

- § 48-25, Moving of Topsoil

(e) List of Substantive Local Ordinances/Laws That the Applicant Requests the Board Not Apply

At this time, the Applicant anticipates complying with all substantive local laws and ordinances, to the greatest extent practicable, and has not identified any specific substantive local laws for which it seeks a waiver. The Applicant will work with the Town of Mount Morris to identify potential substantive provisions of local law for which it may need to seek a waiver from the Siting Board, and will identify those provisions, if any, in the Application. Should the Applicant seek relief from any substantive local laws, the Application will include the justification required under Article 10 to support a waiver of local laws or ordinances.

(f) List of Procedural Local Ordinances/Laws Related to Use of Water, Sewer, or Telecommunication Lines

If an O&M building is constructed for the Facility, a review of local procedural ordinances and laws regarding the installation of water, sewer, or telecommunication facilities will be provided in the Application. At this time, the Applicant has not identified any procedural local ordinances or laws related to the interconnection of water, sewer, or telecommunications lines that are applicable to the Facility.

(g) List of Substantive Local Ordinances/Laws Related to Use of Water, Sewer, or Telecommunication Lines

If an O&M building is constructed for the Facility, a review of local substantive ordinances and laws regarding the installation of water, sewer, or telecommunication facilities will be provided in the Application. At this time, the Applicant has not identified any substantive local ordinances or laws related to the interconnection of water, sewer, or telecommunications lines that are applicable to the Facility.

(h) Local Ordinances/Laws Related to Use of Water/Sewer that the Applicant Requests the Board Not Apply

Since the Facility will not require any physical connections to water or sewer lines, the Applicant has not identified any local laws or ordinances that it anticipates requesting that the Board not apply. In the event such connections are determined to be needed, relevant standards will be addressed in the Application.

(i) Summary Table of Substantive Local Requirements

The Article 10 Application will include a table identifying all substantive local laws and ordinances that may impact the Facility and how Applicant intends to meet those requirements. The Application will include all of the information required by 16 NYCRR § 1001.31(i).

(j) Zoning Designation

The Town of Mount Morris has adopted zoning regulations under Town Code Chapter 48: Zoning. The Town Zoning Map are attached to this PSS. The Application will describe the zoning designations underlying the properties where the Facility is proposed, and whether solar is a permitted use there, at the time of the Application.

The Article 10 Application will provide a detailed summary of the zoning regulations for the Town, as well as any applicable Livingston County requirements. As part of that summary, the Article 10 Application will discuss the permitted and prohibited uses in the zoning districts where the Facility is proposed to be located, as well as the solar specific regulations adopted by the Town. In addition, the Article 10 Application will describe how the Facility will comply with these zoning regulations, or areas where deviation is necessary, if any.

2.32 STATE LAWS AND REGULATIONS

2.32.1 Discussion

During preparation of the Article 10 Application, the Applicant will continue to consult with the state agencies and authorities whose requirements are the subject of Exhibit 32 to determine whether all such requirements have been correctly identified. To the extent the substantive requirements below are applicable, the Applicant intends to comply with such requirements unless the Applicant specifically requests relief from the Siting Board.

2.32.2 Proposed Content of the Application

(a) List of State Approvals, Consents, Permits, Certificates, or Other Conditions of a Procedural Nature

The Applicant has compiled a preliminary listing of state approvals, consents, permits, or other conditions of a procedural nature required for the construction or operation of the proposed Facility, as summarized in Table 32-1 and Table 32-2.

Table 32-1. List of All State Approvals for the Construction and Operation of the Facility that are Procedural in Nature and Supplanted by Article 10

State Agency	Requirement	Discussion
New York State Department of Environmental Conservation	Water Quality Certification (WQC), Section 401 of the Clean Water Act	The request for a 401 WQC will not be filed until a federal U.S. Army Corps of Engineers permit application is filed (if necessary). Under Article 10, the WQC must be issued by the Siting Board.
New York State Office of Parks, Recreation, and Historic Preservation (OPRHP)	Consultation Pursuant to §14.09 of the New York State Historic Preservation Act	The Applicant will consult with the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) to ensure compliance with §14.09 of the New York State Historic Preservation Act.
New York State Department of Environmental Conservation	Endangered and Threatened Incidental Take Permit Article 11, 6 NYCRR Part 182	The NYSDEC may issue a license or permit to “take” any species listed as endangered or threatened by New York State. This permit may be required if, in consultation with state agencies, it is determined that the project could result in incidental take of any state-listed endangered or threatened fish or wildlife species from occupied habitat. If this permit is required, the procedural requirements are supplanted by Article 10.
New York State Department of Environmental Conservation	Permit for Freshwater Wetlands Article 24, 6 NYCRR Part 663	This permit would be required for the crossing of regulated freshwater wetlands or adjacent areas by Facility components. Regulated freshwater wetlands are designated and mapped by the NYSDEC, and are generally 12.4 acres or larger. Around every regulated freshwater wetland is an adjacent area of 100 feet that is also regulated to provide protection for the wetland. If this permit is required, the procedural requirements are supplanted by Article 10.
New York State Department of Environmental Conservation	SPDES General Permit for Construction Activity	This permit is required for construction projects that disturb one or more acres of soil. In accordance with 16 NYCRR 1001.32(a) this is identified as a state procedural requirement issued by the NYSDEC pursuant to federal recognition of state authority. This approval is subject to review by the NYSDEC independent of the Article 10 process.
New York State Public Service Commission	Certificate of Public Convenience and Necessity NY PSL §68	No electric corporation shall begin construction of an electric plant, having a generating capacity of at least 80 MW, without first having obtained the permission and approval of the commission. The procedural requirements of Section 68 are supplanted by Article 10.

As indicated in the table above, some of these state procedural requirements are supplanted by PSL Article 10, except those permits to be issued by the New York State Department of Environmental Conservation (NYSDEC) which are authorized 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.

Table 32-2. List of All State Approvals Related to the Construction of the Facility to be Obtained from Issuing Agency

State Agency	Requirement	Discussion
New York State Department of Transportation	Highway Work Permit NYS Highway Law, Article 3, Section 52	A highway work permit may be required by the New York State DOT. This includes permits for crossing state highways, use highway for access, or for curb cuts, which are not supplanted by Article 10.

As indicated in the chart above, the Applicant anticipates requesting that the Siting Board authorize the NYSDOT to issue the applicable highway work permit(s) and other ministerial permit(s) associated with road work in State highways or rights-of-ways. Generally, these approvals are issued immediately prior to construction and are submitted by the contractor. It is anticipated that the information required to be included in the submission will not be available until after a contractor is selected and post-Certification. The Applicant will provide an additional explanation of why such an authorization would be desirable and/or appropriate in the Article 10 Application.

(b) List of Procedural State Approvals/Permits/Etc. that the Applicant Requests the Board Not Apply

The Applicant does not anticipate any procedural state approvals/permits/etc. that the Applicant will request the Board not apply. However, should any be identified, they will be discussed in the Application.

(c) List of State Approvals, Consents, Permits, Certificates, or Other Conditions of a Substantive Nature

The Applicant will construct and operate the Facility in a manner that conforms to all State substantive requirements for those approvals, consents, permits, certificates, or other conditions, to the greatest extent practicable. The following is a list of substantive state requirements, which may or may not be applicable to the Facility:

- Water Quality Certification (WQC), Section 401 of the Clean Water Act 6 NYCRR Part 621.4e (Water Quality Certifications in Accordance with Section 401 of the Clean Water Act)
- Consultation Pursuant to Section 14.09 of the New York State Historic Preservation Act
- Permit for Protection of Waters, Article 15, 6 NYCRR Part 608.7b (Permit Application Review) and 608.8 (Standards)
- Permit for Freshwater Wetlands, Article 24, 6 NYCRR Part 663.5 (Standards for Issuance of Permits and Letters of Permission)

- SPDES General Permit for Construction Activity, Article 3, 6 NYCRR Part 750-1.11 (Application of Standards, Limitations, and other Requirements)
- Endangered and Threatened Incidental Take Permit Standards, Article 11, 6 NYCRR 182.12 (Incidental Take Permit Standards)

(d) Summary Table of Substantive State Requirements

The substantive state requirements preliminarily identified above in (c) will be presented in a table in the Article 10 Application, and formatted per the associated requirements.

(e) State Approvals/Permits/Etc. for Offsite Features Not Encompassed by Major Electric Generating Facility

To the extent that offsite ancillary features, which are not considered part of the Major Electric Generating Facility, are needed, a list of all state approvals, consents, permits, certificates, or other conditions for the construction or operation of said offsite ancillary features will be listed in the Article 10 Application. The Morris Ridge Solar Energy Center does not anticipate that the proposed Project will include offsite interconnections or ancillary features not otherwise encompassed by the Major Electric Generating Facility, which would make this subsection inapplicable.

2.33 OTHER APPLICATIONS AND FILINGS

2.33.1 Discussion

This section of the Application is intended to capture those submissions and filings which do not fall within the jurisdiction of the Siting Board, but are nevertheless directly related to the construction or operation of the proposed Morris Ridge Solar Energy Center. In this case, such filings are limited to federal permits and approvals which will be required for the Facility, but which must be issued by federal agencies, and not by the State Siting Board.

For informational purposes, this section of the Application will also make note of awards or power purchase contracts the Facility has received for sale of the energy produced or renewable attributes related thereto, such as agreements with the New York State Energy Research and Development Authority (NYSERDA).

2.33.2 Proposed Content of the Application

(a) Other Applications or Filings Concerning the Subject Matter of the Proceeding

Besides the list of approvals identified in Section 2.32 and 2.33, the Applicant does not have, and is not aware of, any other application or filing before any governmental agency, department or court which concerns the subject matter of

this proceeding (i.e., Morris Ridge Solar Energy Center). Should that change, additional information will be added to the Application.

(b) Federal Permits, Consents, Approvals, or Licenses Required for Construction or Operation

Table 32-3 summarizes any anticipated federal permit, consent, approval, or license needed for the proposed Facility. This information will be confirmed and/or updated in the Article 10 Application. In Exhibit 25 on Transportation, the Article 10 Application will discuss any outreach or discussions between the Applicant and the Federal Aviation Administration (FAA), to the extent that any are required for this Facility. However, the Facility is not anticipated to trigger those federal regulations which require FAA consents or approvals, given the location of the project and the fact that no structures are proposed over 200 feet in height.

Table 32-3. Federal Permits and Approvals for the Facility

Agency	Anticipated Application Date ¹	Description of Permit or Approval Required
U.S. Army Corps of Engineers	TBD	Section 404 Nationwide Permit for Placement of Fill in Federal Jurisdictional Wetlands/Waters of the U.S.

¹ The anticipated application submittal date will be identified in the Article 10 Application.

2.34 ELECTRIC INTERCONNECTION

2.34.1 Discussion

Interconnection of the Facility to the electric grid will be achieved using multiple systems. The PV panels themselves produce power at a low voltage, and will be connected in strings where they will connect to inverters at up to 1500 V DC. The inverters convert the power from direct current (DC) to alternating current (AC). Co-located with the inverters are medium voltage transformers that will increase the voltage from the approximately up to 1500 V provided by the inverters to 34.5 kV. Battery storage is being considered for the project. If utilized, battery enclosures (typically 40 feet long x 8 feet wide x 8 feet high) that house the storage batteries may be collocated with the inverters within the Facility Area. A medium voltage (34.5 kV) collection system comprised of underground cables will transmit the power from the inverters to a collection substation. In areas where deemed necessary or to reduce adverse impact, overhead collection lines may be used. The collection substation will step-up the voltage from 34.5 kV to 230 kV, which is then delivered to the adjacent POI switchyard, to be constructed by the Applicant or by the transmission owner (NYSEG) and will be built to NYSEG's standards. The POI switchyard will connect the Facility to the NYSEG transmission system on the Meyer to South Perry (230 kV) transmission line.

The types, design standards, and descriptions of the electric interconnection components will be included in the Article 10 Application. All components will meet applicable state and federal codes and specifications. Direct burial methods

using a trencher, cable plow, excavators, and/or similar equipment, will generally be used during the installation of the underground electrical collection system. Direct burial will involve the installation of bundled cable (electrical and fiber optic bundles) into an excavated trench or directly into a “rip” in the ground created by the plow. The trench may disturb an area up to approximately 36 inches wide with bundled cable installed to a minimum depth of 36 to 48 inches. If more than one electrical circuit is required in a trench, a larger width will be required. Side-cast material will be replaced with a small excavator or small bulldozer. All areas will be returned to approximate pre-construction grades and restored following installation of the collection lines. When necessary, collection lines may be installed using horizontal directional drilling (HDD). Further information regarding HDD is presented in Exhibit 21, and preliminary locations of HDD will be shown on the site plans in Exhibit 11 of the Application.

2.34.2 Proposed Content of the Application

Consistent with the requirements of 1001.34 of the Article 10 Regulations, Exhibit 34 of the Application will contain the following information:

(a) Design Voltage and Voltage of Initial Operation

Exhibit 34(a) shall describe the number and specifications for the inverters and medium voltage transformers, as well as the length and anticipated number of circuits for the electrical collection system, along with the design voltage and voltage of initial operation.

(b) Type, Size, Number, and Materials of Conductors

Exhibit 34(b) shall describe the length of the collection system, broken down by anticipated length of overhead (if any) and underground lines. Typical details related to conductors will also be included.

(c) Insulator Design

Exhibit 34(c) shall provide a description of overhead sections of the collection line (if any), the typical utility-grade ceramic/porcelain insulators to be used, and a statement that overhead collection lines will be designed and constructed in accordance with ANSI C29.

(d) Length of the Transmission Line

The Facility will not include construction of a new high-voltage transmission line. The Facility will include a short (less than 1,000 foot) transmission line between the Project substation and POI switchyard. The Facility will connect to the existing 230 kV transmission line that is owned by NYSEG. Therefore, 1001.34(d) will not be addressed in the Article 10 Application.

(e) Typical Dimensions and Construction Materials of the Towers

Exhibit 34(e) shall provide a description of any overhead collection lines, and also any line support structures between the collection substation, POI switchyard and the existing 230 kV transmission line, which could be required in some areas where geologic conditions or the potential for buried cultural artifacts prevents underground installation. Typical dimensions and construction materials of any proposed support structures will be presented in the Article 10 Application.

(f) Design Standards for Each Type of Tower and Tower Foundation

Exhibit 34(f) shall include design standards for any overhead line support structures and foundations (if required).

(g) Type of Cable System and Design Standards for Underground Construction

Exhibit 34(g) shall include the type of cable system to be used and the design standards for that system.

(h) Profile of Underground Lines

Exhibit 34(h) shall provide a typical drawing of the underground collection cable and associated material.

(i) Equipment to be Installed in Substations or Switching Stations

Exhibit 34(i) shall describe the POI switchyard equipment and collection substation. The Article 10 Application will also include a plan/overview of the POI switchyard and collection substation.

(j) Any Terminal Facility

Exhibit 34(j) shall describe the terminal facilities expected to be constructed for the Facility (POI switchyard and the collection substation).

(k) Need for Cathodic Protection Measures

Exhibit 34(k) shall discuss the potential need for cathodic protection measures.

2.35 ELECTRIC AND MAGNETIC FIELDS

2.35.1 Discussion

The information presented in Exhibit 35 of the Article 10 Application will be derived from an electric and magnetic field (EMF) study to be prepared for the Morris Ridge Solar Facility. The EMF Study will identify segments of electrical lines

that will have unique electric and magnetic field characteristics, will identify these segments on aerial photos or drawings, and will indicate the distance to the nearest residence or occupied building in each ROW segment. The EMF Study will also model the strength and locations of electric and magnetic fields that will be generated by the Facility.

2.35.2 Proposed Content of the Application

Consistent with the requirements of 1001.35 of the Article 10 Regulations, Exhibit 35 of the Article 10 Application will include:

(a) Every Right-of-way Segment Having Unique Electric and Magnetic Field Characteristics

None of the electrical lines from the inverters/medium voltage transformers to the collection substation/POI switchyard will exceed 34.5 kV; therefore, the Facility will not have a right-of-way (ROW) associated with high voltage transmission lines. However, 1001.35(a) shall identify 34.5 kV ROW segments with unique EMF characteristics, which will be evaluated in the EMF study. Modeling calculations will identify existing EMFs and future EMFs that would result from construction and operation of the Facility. For the purposes of calculations, the ROW is assumed to be 50 feet (25 feet from centerline) for all of the segments. The Article 10 Application will identify the name and calculation number of each segment.

(b) For Each Right-of-way Segment, Base Case and Proposed Cross Sections

Exhibit 35(b) shall include a discussion of the EMF study, which will provide both base case (where existing facilities are present) and proposed cross sections that will show, to scale, the following features for each of the unique ROW segments, including:

- 1) Any known overhead electric transmission, sub-transmission, and distribution facilities showing structural details and dimensions and identifying phase spacing, phasing, and any other characteristics affecting EMF emissions;
- 2) Any known underground electric transmission, sub-transmission (e.g., 34.5 kV collection system), and distribution facilities;
- 3) ROW boundaries;
- 4) Structural details and dimensions for all built and proposed structures (dimensions, phase spacing, phasing, and similar categories) and an overview map showing locations of structures.

(c) Enhanced Aerial Photos/Drawings

Exhibit 35(c) shall include a set of aerial photos/drawings showing the exact location of each unique ROW segment and each cross-section, and any residences or occupied buildings within the ROW segments. If no residence or occupied building is within the ROW segments, the distance between the edge of the ROW segment and the nearest residence or occupied building will be indicated.

(d) Electric and Magnetic Field Study

Exhibit 35(d) shall include an EMF study with 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 for each unique ROW cross section. The EMF Study will also involve and/or include:

(1) Licensed Professional Engineer

The EMF study included in the Article 10 Application will be signed and stamped/sealed by a licensed professional engineer registered and in good standing in the State of New York.

(2) Computer Software Program

The software to be used in the EMF study will be identified in the Article 10 Application.

(3) Electric Field Calculation Tables and Field Strength Graphs

The EMF study will model the strength and locations of electric fields to be generated by the Facility. Modeling will be conducted at rated voltage, and the measurement location and interval will be described in the Article 10 Application. Electric field strength graphs depicting electric fields along the width of the entire ROW and out to the property boundary of the Facility will be included in the EMF study. Digital copies of all input assumptions and outputs for the calculations will be provided under separate cover.

(4) Magnetic Field Calculation Tables and Field Strength Graphs

The EMF study will model the strength and locations of magnetic fields to be generated by the Facility. Modeling will be conducted at rated voltage, and the measurement location and interval will be described in the Application.

There is no expected change in amperage under any of the following conditions: summer normal, summer short

term emergency, winter normal, and winter short term emergency Therefore, the magnetic field modeling to be performed will be applicable to any of these conditions. Magnetic field strength graphs depicting magnetic fields along the width of the entire ROW and out to the property boundary of the Facility will be included in the EMF study. Digital copies of all input assumptions and outputs for the calculations are being filed under separate cover.

(5) Magnetic Field Calculation Tables and Field Strength Graphs for Maximum Annual Load within 10 Years

There is no expected change in amperage in maximum average load initially versus for 10 years after initiation of operation. Therefore, the modeling of magnetic fields described above in 1001.35(d)(4) (including both the graphs and tables included in the EMF study) will be applicable to both initial operation and operation after 10 years.

(6) Base Case Magnetic Field Calculation Tables and Field Strength Graphs

Other than the short (<1000ft) loop-in/loop-out lines between the existing 230kV transmission lines and the POI Switchyard, there are no proposed high voltage transmission lines, therefore this analysis is not applicable to the proposed Facility.

2.36 GAS INTERCONNECTION

The proposed Facility will not require gas interconnection facilities, and as such, the requirements of 1001.36 are not applicable and will not be included in the Article 10 Application.

2.37 BACK-UP FUEL

The proposed Facility will not require back-up fuel, and as such, the requirements of 1001.37 are not applicable and will not be included in the Article 10 Application.

2.38 WATER INTERCONNECTION

The proposed Facility will only require water interconnection facilities if the potential O&M building is constructed. Should the Applicant determine that a new O&M building is required, associated water interconnection will be discussed in the Application. Otherwise, no water interconnection facilities will be necessary for the Facility, and as such, the requirements of 1001.38 will not be applicable and will not be included in the Article 10 Application.

2.39 WASTEWATER INTERCONNECTION

The proposed Facility will only require wastewater interconnection facilities if the potential O&M building is constructed. Should the Applicant determine that a new O&M building is required, associated water interconnection will be discussed in the Application. Otherwise, no water interconnection facilities will be necessary for the Facility, and as such, the requirements of 1001.39 will not be applicable and will not be included in the Article 10 Application.

2.40 TELECOMMUNICATIONS INTERCONNECTION

2.40.1 Discussion

It is not anticipated that the Facility will require telecommunication interconnections as that term is defined by Article 10, 16 NYCRR 1000.2. It is likely that data will be transmitted to NYSEG and others using existing telecommunications facilities as the area is generally served by existing cellular and broadband services. However, the Applicant will conduct a review of existing communications facilities to determine whether new facilities will be required to meet off-site communication needs prior to submitting the Article 10 Application. If any additional facilities are identified, a description of such facilities will be contained in Application Exhibit 2.40.

2.40.2 Content of the Application

(a) Operational Data Transmitted to NYISO and NYSEG

Exhibit 40(a) shall include information on the Facility's meter location, the means of providing operational data to NYSEG/NYISO and the secure communications network for this operational data. It is anticipated that the Facility's operational generating data will be transmitted to NYISO/NYSEG through an underground conduit or duct from the collection substation into the POI switchyard, and will include generation data (MW output, MVAR, and any curtailment) and environmental data.

(b) Facility Operations Communications Methods

Exhibit 40(b) shall include information regarding establishment of a high-speed internet connection to be established, and the means of transmitting the necessary data and other information to the appropriate parties for monitoring and reporting purposes.

(c) Status of Negotiations

Exhibit 40(c) shall include a discussion of the status of negotiations with communications providers, 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, if applicable. Such

negotiations have not yet been initiated for the Facility because at this time, the need for these agreements has not been identified. Although not anticipated, any changes in status will be discussed in the Article 10 Application.

2.41 APPLICATIONS TO MODIFY OR BUILD ADJACENT

The Applicant is not proposing to modify or build adjacent to an existing Article 10 facility, and as such, the requirements of this exhibit are not applicable and will not be included in the Article 10 Application.

3.0 SUMMARY AND CONCLUSIONS

This Preliminary Scoping Statement has been prepared in order to outline the scope and methodology of studies being performed for the Facility, which will generate up to 177 MW of renewable energy with no operational emissions of pollutants, including greenhouse gases, to the atmosphere, and without the need for the use of significant quantities of water. Proposed Facility components include: PV panels, mounting systems, underground and/or overhead electrical collection lines, inverters, transformers, energy storage if economically feasible, a collection substation, a POI switchyard, access roads, fencing, a potential O&M building, and temporary laydown/construction areas. This document has been prepared to facilitate an understanding of the proposed Facility, to further solicit input from the various stakeholders, and to satisfy the requirements of 1000.5(l) of the Article 10 Regulations.

The proposed Facility is a utility scale photovoltaic solar project located in the Town of Mount Morris, Livingston County, New York. The proposed Facility Site boundary (see Figure 2) consists of approximately 1,350 acres of private land, which is primarily agricultural in use. The total footprint where Facility components are proposed is approximately 1,000 acres within the proposed Facility Site boundary.

The Applicant prepared a Public Involvement Program (PIP) plan in accordance with 16 NYCRR § 1000.4. The initial draft of the PIP was submitted to the Siting Board on July 16, 2018, comments on the PIP were received from the NYSDPS on August 15, 2018. The PIP was updated, finalized and filed by the Applicant on September 14, 2018. The PIP, as well as electronic copies of this PSS and other case documents, can be accessed, viewed, and downloaded on the online case record maintained by the Siting Board, and on the Facility-specific website maintained by the Applicant:

- <http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=18-F-0440&submit=Search>
- www.morrisridgesolar.com

The Applicant has established a toll-free number (1-833-333-7369) to call with any questions and comments on the Facility. The Applicant has also held various public meetings/open houses, which provided answers to questions from area residents, as well as the following information:

- Facility and company fact sheet
- Article 10 Process Presentation
- Preliminary Layout Maps
- An overview of anticipated economic benefits

The Applicant has provided paper copies of all major filings, as well as documents presented at the open houses, at the following repositories:

- Mount Morris Town Office
- Nunda Town Hall
- Mount Morris Public Library
- Bell Memorial Library

Following submission of this PSS, stakeholders and members of the public will have 21 days to review and comment on the document, and the Applicant will formally respond to those comments by filing a PSS Comment Response within 21 days thereafter. Within 60 days of this PSS filing, a pre-application conference will be held in the Project vicinity, at which time the Presiding Examiners will consider requests for intervenor funding from municipalities and qualified local parties and will authorize the commencement of the voluntary pre-application Stipulations process. The Applicant would then continue to implement studies, outreach efforts, and information-gathering committed to in this PSS and in Stipulations, in preparation of the Morris Ridge Solar Energy Center Article 10 Application.

During the time before the submission of the Article 10 Application, the Applicant intends to continue stakeholder outreach. The Applicant will be conducting a mailing to all stakeholders prior to the submission of the PSS to provide an update on the Facility and invite comments and remind the stakeholders of the comment period timeframe. The Applicant will continue to attend municipal meetings and will hold two additional open houses prior to submitting the Article 10 Application. All outreach efforts will be tracked in the meeting logs.

Section 2.0 (Content of Application) of this PSS has been organized in accordance with 16 NYCRR § 1001 (Content of an Application). Specifically, all sub-sections of Section 2.0 correspond directly to 16 NYCRR § 1001 (e.g., Section 2.1 corresponds to 16 NYCRR § 1001.1, Section 2.2 corresponds to 16 NYCRR § 1001.2, etc.). These subsections of the PSS identify numerous Facility-specific support studies that will be conducted and included in the Article 10 Application. This may include:

- Preliminary Emergency Action Plan
- Complaint Resolution Plan
- Noise Impact Assessment
- Archaeological Surveys
- Historic Architectural Resources Survey
- Preliminary Geotechnical Investigation
- Invasive Species Control Plan

- Preliminary Stormwater Pollution Prevention Plan
- Preliminary Spill Prevention, Control and Countermeasure Plan
- Plant and Wildlife Species Inventory
- Wetland and Stream Delineation Report
- Route Evaluation Study
- Draft Decommissioning Plan
- Electric and Magnetic Field Study

Finally, as previously indicated, the Applicant has prepared a content matrix to allow for a comparison of the content of this document with the requirements of 1000.5(l), which is provided below as Table 3-1.

Table 3-1. Comparison of Contents of this PSS with the Requirements of 1000.5(l)

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Morris Ridge Solar PSS	Notes
Section 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	This Section, and all associated subsections, of the PSS contain reasonably available information related to existing conditions, potential impacts and minimization/mitigation.
Section 1000.5 (l)(2)	A preliminary scope of an environmental impact analysis containing a brief discussion, on the basis of reasonably available information, of the following items:	Section 1.4	This section includes general information regarding Project-related impacts.
Section 1000.5 (l)(2)(i)	A brief description of the proposed facility and its environmental setting;	Section 1.1, Sections 2.4, 2.21(l), 2.22(a), 2.22(d), 2.23(a), 2.23(b)	Section 2.1 provides a brief description of the Project, while Sections 2.4, 2.21(l), 2.22(a), 2.22(d), 2.23(a), 2.23(b) provide a brief description of its environmental setting
Section 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 1.4, Sections 2.15(e) and 2.17(d), Sections 2.21 (m), 2.22 (b), 2.22(f), 2.22(m), 2.22(q), 2.23(b)(4), 2.23(e)(1), 2.24(b)(7), 2.25(d)(2)	Section 1.4 includes general information regarding Project-related impacts, Sections 2.15(e) and 2.17(d) provide information regarding potential health impacts, and Sections 2.21 (m), 2.22 (b), 2.22(f), 2.22(m), 2.22(q), 2.23(b)(4), 2.23(e)(1), 2.24(b)(7), 2.25(d)(2) provide information regarding potential environmental impacts. As of the date of the filing of this PSS, no material impacts have been identified during any consultations.
Section 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 2.0	This Section, and all associated subsections, identify the extent and quality of information that is proposed to be included in the Article 10 Application, including numerous stand-alone support studies.

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Morris Ridge Solar PSS	Notes
Section 1000.5 (l)(2)(v)	A description of how the applicant proposes to avoid adverse impacts to the environment and health;	Section 1.4, Sections 2.15(j) and 2.17(d), Sections 2.22 (c), 2.22(g), 2.22(n), 2.22(q), 2.23(b)(5), 2.23(e)(2), 2.24(a)(10), 2.25(d)(4)	Section 1.4 includes general information regarding Project-related avoidance, minimization and mitigation measures, Sections 2.15(j) and 2.17(d) describe avoidance, minimization and mitigation measures associated with health impacts, and Sections 2.22 (c), 2.22(g), 2.22(n), 2.22(q), 2.23(b)(5), 2.23(e)(2), 2.24(a)(10), 2.25(d)(4) describe avoidance, minimization and mitigation measures associated with environmental impacts.
Section 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;	see above	see above
Section 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;	Not applicable to this Project	
Section 1000.5 (l)(2)(viii)	A description and evaluation of reasonable and available alternative locations 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 2.9	This Section of the PSS specifically addresses alternatives, including reasonable and available alternative locations and the comparative advantages and disadvantages of the proposed and alternative locations. However, as indicated in Section 2.9, this Project is being proposed by a private facility applicant and therefore the description and evaluation of alternative locations will be limited to parcels owned by, or under option to, such private facility applicant or its affiliates.

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Morris Ridge Solar PSS	Notes
Section 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 proposed Facility is not within a coastal management zone, or in proximity to an LWRP area.
Section 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 2.9	This Section of the PSS specifically addresses alternatives, including a "no action" alternative and 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, to promote public health and welfare, including the recreational and other concurrent uses that the site may serve. However, as indicated in Section 2.9, this Project is being proposed by a private facility applicant and therefore the description and evaluation of alternative locations will be limited to parcels owned by, or under option to, such private facility applicant or its affiliates.

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Morris Ridge Solar PSS	Notes
Section 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 preliminary scoping statement contained in 6 NYCRR Part 487 promulgated by the DEC for the analysis of environmental justice issues; and	Sections 2.27 and 2.28	Section 2.27 provides demographic information for the host towns, while Section 2.28 specifically address Environmental Justice, including identification of the nearest Potential Environmental Justice Area
Section 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 B	As of the date of filing this PSS, no material issues have been raised by the public or affected agencies, other than those which will be addressed in the Article 10 Application. Appendix B of this PSS provides the most recently filed Meeting Log.

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Morris Ridge Solar PSS	Notes
Section 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 2.32 and 2.33	Section 2.32 addresses state laws and regulations, which Section 2.33(b) addresses anticipated federal permits and approvals.
Section 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 2.32	Section 2.32 addresses state laws and regulations.
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 2.31	Section 2.31 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;	Section 2.1	Section 2.1 describes the applicant, including the type of business and its formation. The Applicant does not have the power of eminent domain.

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Morris Ridge Solar 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 driveways, rail facilities, or steam lines; and	Section 2.13	Section 2.13 provides information regarding the applicant's property rights and interests.
PSL 1000.5 (l)(8)	Any other information that the Applicant may deem to be relevant.	Entire PSS	Any other information deemed relevant by the Applicant has been included in the PSS.

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