PRELIMINARY SCOPING STATEMENT

Mohawk Solar

Montgomery County, New York

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COMMONLY USED TERMS

Facility: Collectively refers to all components of the proposed project, including PV panels, access roads, buried and above ground collection lines, substations, 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 lease (or other real property interests) with the Applicant for the location of all Facility components.

COMMONLY USED ACRONYMS AND ABBREVIATIONS

APLIC	Avian Power Line Interaction Committee
Applicant	Avangrid Renewables LLC
BBA	Breeding Bird Atlas (New York State)
BBS	Breeding Bird Survey
CBC	Christmas Bird Count
CEF	Clean Energy Fund
CES	Clean Energy Standard
CNR	Carrier-To-Noise Ratio
GHG	greenhouse gas
GIS	geographic information system
Met	meteorological
MW	megawatt
NYNHP	New York Natural Heritage Program
NRHP	National Register of Historic Places
NWI	National Wetland Inventory
NYSA&M	New York State Department of Agriculture and Markets
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
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
USGS	U.S. Geological Survey
VIA	Visual Impact Assessment

1.0 INTRODUCTION

Mohawk Solar LLC ("Mohawk Solar" or the "Applicant"), a wholly-owned subsidiary of Avangrid Renewables, LLC is proposing to submit an Application to construct a major electric generating facility (the "Facility") under Article 10 of the Public Service Law ("PSL") (the "Mohawk Solar Project" 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. A PIP for the Mohawk Solar Project was filed on March 31, 2017. This PSS for the Mohawk Solar Project is intended to satisfy the filing requirements set forth at 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, which is included in Appendix A of this PSS.

1.1 FACILITY DESCRIPTION

Mohawk Solar is a proposed 90 megawatt ("MW") photovoltaic ("PV") solar energy generating project located within the Towns of Canajoharie and Minden, Montgomery County, New York. The Facility will represent the largest utility-scale solar power plant in New York State. The regional Facility location and Facility Area are depicted on Figures 1 and 2, respectively. The lands being evaluated to host the Facility (the "Facility Area") comprise approximately 6,600 acres, and are rural in nature. Not all the land included in this area will ultimately be included in the project. Rather, the Facility Area represents the broader area within which selected parcels will be developed with solar facilities. This provides flexibility during project development to minimize and avoid impacts to wetlands, cultural resources, visual resources, wildlife habitat, and other sensitive resources. Facility components will ultimately be sited on approximately 1,000 acres of leased private land (the "Facility Site") within the Facility Area, which consists primarily of agricultural land. The Applicant is leasing land from private landowners, which will provide a stable and predictable revenue stream that can offset the risk of growing crops and help keep the land "in the family." 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 layout of potential solar generating site locations is depicted on Figure 3.

The proposed Facility consists of the construction and operation of a commercial-scale solar power project, including:

- A solar field of PV panels producing direct current (DC) electricity mounted on fixed-tilt racking structures or single-axis tracking structures that will follow the sun throughout the day;
- Inverters placed throughout the Facility (internal to the panel arrays) to convert DC electricity to alternating current (AC) electricity.
- A medium voltage collection system that will aggregate the AC output from the inverters;
- A substation where the Facility's electrical output voltage will be combined and its voltage increased to the transmission line voltage of 115 kV via step-up transformers;
- A generation tie line (gen-tie) that will connect the Facility to the designated point of interconnection ("POI");
- A switching station to be specified by Niagara Mohawk Power Corporation (d/b/a National Grid) ("National Grid"), where the electricity will be injected into the existing bulk transmission system and delivered to homes and businesses;
- Internal infrastructure including access roads and fencing; and
- Temporary laydown areas for equipment staging during construction.

In addition, if the Applicant determines that an on-site operations and maintenance (O&M) facility is necessary for the Facility, then the Applicant will explore purchasing or leasing an existing structure in the Facility Area for that purpose. If a suitable existing structure cannot be identified, then the Applicant would consider constructing a new O&M facility. It is assumed that, if determined to be necessary, the O&M facility would be a 2,500 to 3,000 square-foot building, on a fenced site 3 to 5 acres in size, located adjacent to or near the substation. If necessary, the location and details of the O&M facility would be identified and described in the Article 10 Application.

To deliver power to the New York State power grid, the Applicant proposes to interconnect with the existing St. Johnsville-Marshville 115-kV transmission line, which is owned and operated by National Grid. An existing substation associated with this transmission line, the Marshville substation, is located along Route 10, just east of the Facility Area (see Figure 2), but is not included in part of the Facility. Existing above ground transmission lines traverse the proposed Facility Site from this substation in an east-west and north-south orientation.

Mohawk Solar will have a nameplate capacity of 90 MW, and is expected to generate approximately 185,000 MWh of energy for year one of operation. This will be enough electricity to meet the average annual consumption of over 20,000 households, based on average annual electric consumption of 7.2 MWh for New York State (EIA, 2014). Solar energy is most beneficial during the summer demand to meet air conditioning loads. Because it uses no fuel, it both offsets additional air pollution from burning fossil fuels and dampens the cost of power at this time of peak conventional power cost. Solar modules have followed the same cost pattern as many other electrical devices.

Module costs have fallen significantly over the last 5 years, dramatically changing their role in wholesale power supply.

1.2 FACILITY BENEFITS

New York has adopted strongly proactive policies to combat climate change 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 ("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 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").

The proposed Facility will improve fuel diversity within the State by increasing the amount of electricity produced by non-fuel dependent solar power. 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 displacing facilities that rely on fuel for 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, such as the Facility, to achieve targeted levels of new renewable generation. At an anticipated size of 90 MW, the Project will contribute significantly to the State's clean energy goals and, as the State's first grid-scale solar facility, also pave the way for future projects of its size.

[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].

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, a significant amount of which will likely be drawn from Montgomery County and the regional labor market. The Applicant's contracting has a preference for local hiring, with future job fairs to be held as the project enters the construction phase to support that objective. 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 part-time and full time employment and contracting service opportunities for electricians, operations managers, laborers and fencing contractors, and landscaping maintenance crews. The Facility will also result in increased revenues to county and local municipality tax bases, purchase of local supplies and goods, and lease 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. 17-F-0182). The initial draft of the PIP was submitted to the Siting Board on March 31, 2017, comments on the PIP were received from the New York State Department of Public Service (DPS) on May 5, 2017, and the PIP was updated, finalized and filed by the Applicant on May 26, 2017. 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?MatterSeq=53189) and on the Facility-specific website maintained by the Applicant: http://avangridren.com/mohawksolar.

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 public/stakeholder interaction elements that will carry on through the duration of the Article 10 Process:

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

  Avangrid Renewables, LLC
  Attention: Mohawk Solar
  7650 North State Street, Suite 1
  Lowville, NY 13367
  315-874-4231 (phone)
  mohawksolar@avangrid.com

  In addition the Applicant has established a local Facility office at:
  The Ayers Law Firm, PLLC
  Attention: Ken Ayers
  50 West Grand Street
  Palatine Bridge, NY 13428
  518-673-8100 (phone)
  518-673-8106 (fax)

  Project Representatives:

  Mark Eilers
  (612) 804-9209
  mark.eilers@avangrid.com

  Joseph Green
  (610) 662-4121
  joe.green@communityenergyinc.com

- Local Document Repositories:

  Canajoharie Library
  Erie Boulevard
  Canajoharie, NY 13317
  Phone: 518-673-2314

  Fort Plain Free Library
  9 Willett Street
  Fort Plain, NY 13339

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 is 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 was filed with the Siting Board on August 23, 2017, and is also 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 Towns of Canajoharie and Minden, the local school districts, and Montgomery County. When fully operational, the Facility will provide up to 90 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. These potentially beneficial impacts will be assessed in the Article 10 Application by, among other things, a socioeconomic study analyzing the potential positive economic benefits of the Facility's operation and construction. In addition, the positive environmental and health impacts associated with generating electricity from a renewable resource such as solar energy rather than other fuel sources will be addressed in the Article 10 Application based on a review of recent State policy determinations and assessments and a review of State energy planning objectives.

Over 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.

Impacts from the construction and operation of solar generation are largely the result of the fact that utility-scale solar energy facilities require a large continuous area for the collection and distribution of energy. The Applicant has sited the Facility in a rural agricultural region in effort to minimize the need for land clearing and typical construction processes such as surface grading, and soil compaction. The Applicant is also choosing the least intrusive PV panel

mounting systems available to minimize soil disturbance so that the land can return to its current agricultural use following the decommissioning of the Facility. Section 11 (g) of this PSS will outline the associated design details.

There are approximately 131,386 acres of farmland in Montgomery County, which is approximately 50% of the total overall land area within the county. The Applicant's preliminary estimates indicate that up to 1,000 acres of agricultural land will be required to develop the Facility; which is less than 1% of the land currently dedicated to agriculture in Montgomery 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 driven into the ground, without the need for excavation, concrete, or other foundations. 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 grass species will be established underneath and around the solar panels. In addition, during operation of the Project, 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 Project will result in an added benefit of restoring nutrients and productivity to the soils. Because construction of the Project will require minimal soil disturbance, the land will remain available to revert to agricultural use following decommissioning of the Project.

Facility construction will also result in impacts to vegetation and wildlife habitat. However, siting Facility components has been designed to minimize impacts to undisturbed habitat by utilization of agricultural areas and avoiding forest and shrubland communities. The Facility is being designed to avoid or minimize the need for tree-clearing to the greatest extent practicable. Construction-related impacts to vegetation may include cutting/clearing, removal of stumps and root systems, and 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).

During construction, permanent or temporary impacts to wetlands and surface waters may also occur. The Applicant has already conducted reconnaissance-level wetland identification within the Facility Area to facilitate a project design that will avoid or minimize wetland impacts to the greatest extent practicable (see Section 2.23 of this PSS). The extent of these impacts will be assessed following wetland delineations and field studies that are detailed in

Sections 2.22 and 2.23 of this PSS. The installation of above-ground or buried electrical lines will temporarily disturb streams and wetlands during construction as a result of clearing (brushhogging, or similar clearing method). In addition, 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 or from pole installation along the overhead collection 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 10 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 horizontal 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. In addition, Mohawk Solar intends to use single-axis trackers, which direct the panels at the sun for optimal energy production. An added benefit of the use of trackers is that any glare, however small, that might be generated is reflected directly back at the sun, therefore essentially eliminating any glare available to observers.

Similarly, solar projects do not produce noise that results in significant impacts or annoyance to neighboring residences, wildlife, or other sensitive receptors. The primary source of noise from the operation of solar projects will be inverter hum during the day when the solar arrays are generating electricity. However, this noise is generally inaudible at distances greater than 150 feet from the inverter, which are typically sited within the interior of a given solar project. The Facility substation will also represent a new sound source in the study area. The step-up transformer will be the primary source of sound within the substation. Appropriate setting away from residential receptors can ensure that the substation does not result in significant noise impacts. 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 archeological) 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, 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 detailed studies have 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 agricultural and successional lands minimizes the potential need for tree clearing and associated visual impacts, and the network or existing woodlots and hedgerows around those 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, open, agricultural area. It is anticipated the land within the Facility Area that will host the equipment will require relatively little work to prepare it for construction. The arrays generally will follow the existing topography of the land within the Facility Area, and will be constructed on existing grades. Relatively little land will need to be cleared of vegetation. The solar fields have been designed to minimize the need to remove trees in the Facility Area, particularly those associated with wetlands or containing potential wildlife habitat. Specific methods to be used to remove trees and vegetation and perform minimal grading have not been determined, but will be those 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 other low-maintenance varieties.

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 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 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. Highway permitting, typically authorized at the local, county, and state level, 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.
- Siting PV panels (where feasible) in open field areas to minimize forest clearing and impacts to habitat.
- Minimizing the linear distance of overhead electrical lines and designing any such lines in accordance with Avian Power Line Interaction Committee ("APLIC") guidelines to minimize impacts on birds.
- 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 ("NYSA&M") *Guidelines for Agricultural Mitigation for Solar Energy Projects* (NYSA&M, 2017) 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. 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. Security fencing typically results 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. However, 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:

- *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.
- *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 urban and suburban settings, however, it may not be appropriate in some settings (such as relatively undeveloped agricultural areas) where the introduction of evergreen hedges would be inconsistent with the existing visual setting.
- *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.

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.
- Documenting existing road conditions, undertaking public road improvement/repair as required to mitigate impacts to local roadways, and executing a Road Agreement with local municipalities to repair local roads potentially impacted by construction and maintenance of the Facility.
- Employing an environmental monitor/inspector to ensure compliance with all certificate and permit conditions, including 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 landowner concerns throughout Facility construction and operation.
- Preparing a historic resource mitigation program to be developed in consultation with the State Historic Preservation Office ("SHPO").
- Preparing a compensatory wetland mitigation plan, if required, to mitigate impacts to streams and wetlands.
- Entering into an agreement with the local taxing jurisdictions to provide a significant and predictable level of funding for the towns, 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 Avangrid Renewables is a leading US developer of renewable energy projects, including solar and wind generating facilities. Avangrid Renewables, LLC is a subsidiary of AVANGRID, Inc. (NYSE: AGR) and part of the IBERDROLA Group. IBERDROLA, S.A., is an energy pioneer with the largest renewable asset base of any company in the world. Avangrid Renewables, LLC is headquartered in Portland, Oregon, and has more than $10 billion of operating assets totaling more than 6,000 MW of owned and controlled wind and solar generation in 22 U.S.

states. Avangrid Renewables recently changed its legal name from Iberdrola Renewables, LLC. For more information, visit www.avangridrenewables.us.

1.6 ORGANIZATION OF THE PSS

To facilitate an understanding of the intended content and organization of the pending Article 10 Application, and to identify the proposed methodology or scope of the studies to be conducted in support of the Application, this PSS has been organized in accordance with 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.). As a result of this sequence, Exhibits that are not necessarily applicable to the Facility have been included as individual PSS sections in order to maintain consistency. However, Exhibits that are not applicable to this Facility (e.g., Natural Gas Power Facilities, Nuclear Facilities) have been identified in the corresponding PSS section as Not Applicable.

With respect to the remaining PSS requirements set forth at 16NYCRR § 1000.5(l), a content 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.

2.0 CONTENT OF APPLICATION

2.1 GENERAL REQUIREMENTS

(1) Applicant Information

Avangrid Renewables is a leading US developer of renewable energy projects, including solar and wind generating facilities. Avangrid Renewables, LLC is a subsidiary of AVANGRID, Inc. (NYSE: AGR) and part of the IBERDROLA Group. IBERDROLA, S.A., is an energy pioneer with the largest renewable asset base of any company in the world. Avangrid Renewables, LLC is headquartered in Portland, Oregon, and has more than $10 billion of operating assets totaling more than 6,000 MW of owned and controlled wind and solar generation in 22 U.S. states. Avangrid Renewables recently changed its legal name from Iberdrola Renewables, LLC. For more information, visit www.avangridrenewables.us.

(2) Project Website

The Facility website can be found at http://avangridren.com/mohawksolar.

(3) Public Contact

Project Representative
Mark Eilers
(612) 804 – 9209
mark.eilers@avangrid.com

(4) Principal Officer

Mohawk Solar LLC is a wholly-owned subsidiary of Avangrid Renewables, LLC, and does not have a Principal Officer.

(5) Document Service

The Article 10 Application will indicate if the Applicant desires service of documents or other correspondence on an agent, and if so the required contact information will be provided.

(6) Type of Business

Mohawk Solar LLC is a wholly-owned subsidiary of Avangrid Renewables, LLC. The certification of formation for Mohawk Solar LLC is included as Appendix C to this PSS.

(7) Documents of Formation

The Facility will be owned by Mohawk Solar, LLC, a wholly-owned subsidiary of Avangrid Renewables, LLC. The certification of formation for Mohawk Solar LLC is included as Appendix C to this PSS.

2.2 OVERVIEW AND PUBLIC INVOLVEMENT

(a) Brief Description of the Proposed Facility

The proposed Facility is a large-scale solar project located in Montgomery County, New York. The proposed Facility's components will be located in the Town of Canajoharie and the Town of Minden. The regional Facility location and general Facility Area is depicted on Figures 1 and 2, respectively. The Facility will be located on leased private land that is rural in nature. The actual footprint of the proposed Facility components will encompass approximately 830 acres within the Facility Area, and will enable farmers and landowners to return to farming operations or other current land uses following the Facility's decommissioning.

The Facility will have a nameplate of up to 90 MW. Proposed components will include: PV panels, mounting systems, underground collection lines, inverters, a collection substation, a point of interconnection (POI) switchyard, gravel access roads, fencing, and temporary laydown/construction areas.

The Article 10 Application will clearly depict all proposed and alternative PV panel locations, along with the proposed footprint of all Facility components. The linear distances of all components will be updated in the Article 10 Application based on the actual footprint that will be presented and analyzed.

(b) Brief Summary of the Application Contents

The Article 10 Application will contain a complete analysis of all exhibits required under Part 1001 Content of an Application except the following that do not (or may not) apply to the proposed Facility:

- Exhibit 6: Wind Power Facilities
- Exhibit 7: Natural Gas Power Facilities
- Exhibit 16: Pollution Control Facilities
- Exhibit 30: Nuclear Facilities
- Exhibit 36: Gas Interconnection
- Exhibit 37: Back-up Fuel
- Exhibit 38 Water Interconnection (will be included only if necessary for O&M facility)
- Exhibit 39: Wastewater Interconnection (will be included only if necessary for O&M facility)
- Exhibit 41: Application to Modify or Build Adjacent

With regards to Exhibits 38 and 39, permitting for well or septic installation is generally a locally administered action and not considered a New York State procedural permit. No water or wastewater connections are anticipated to be necessary as part of the project.

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

The initial draft of the PIP was submitted to the Siting Board on March 31, 2017, comments on the PIP were received from the DPS on May 1, 2017, and the PIP was updated, finalized and filed by the Applicant on May 26, 2017. Before the PIP was filed, Mohawk Solar representatives met with local officials to discuss the proposed project (see Appendix B for meeting details).

Mohawk Solar values its relationships with local stakeholders. Before undertaking necessary approval processes for development of any project, public outreach to educate interested parties is conducted. Through such public outreach activities, Mohawk Solar has introduced the Project to the local community and other interested parties in order to evaluate and address stakeholder concerns, interests and recommendations.

The first goal of the PIP is to identify affected 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 C of this PSS. The Applicant has initiated consultations, 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 entire PSS and Article 10 Application process.

To date, the Applicant has conducted two open-house style meetings in the Village of Canajoharie on August 9, 2017 at the Canajoharie Fire Hall. Notice of the public meeting was mailed to approximately 4,000 stakeholders and residents and published in two local newspapers. A second open house is planned to be held in the Village of Canajoharie within a reasonable time following the submission of this PSS.

At the August open house, the Applicant provided information associated with the proposed Facility, including a series of poster boards and maps of the Facility. The Applicant outlined an overview of the Article 10 process, and provided various technical information related to construction, environmental studies and PV panel technology.

In addition to the open house meetings, the Applicant has a Facility specific website (http://avangridren.com/mohawksolar) as well as a local number (315-874-4231) and toll-free number (866-441-4557) to call with any questions or comments. The Applicant has provided paper copies of all documents presented at the open house at the following document repositories:

- Canajoharie Library, Erie Boulevard, Canajoharie, NY 13317. (518) 637-2314
- Fort Plain Free Library, 19 Willet St, Fort Plain, NY 13339. (518) 993-4646

Mohawk Solar has an office at 7650 North State Street, Suite 1, Lowville, NY 13367 and has established a local office at The Ayers Law Firm, 50 W. Grand St, Palatine Bridge, NY 13428 at which interested parties can obtain additional information about the Project and share any comments, concerns or local knowledge with project representatives.

During the time before the submission of the Article 10 Application, the Applicant intends to continue stakeholder outreach. The Applicant will conduct a mailing all stakeholders just 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 one additional open house prior to submitting the Article 10 Application. Finally, the Applicant will also attempt to identify additional community events in which it would participate. All outreach efforts will be tracked in the meeting logs.

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

The Applicant will continue to engage stakeholders following submission of the Article 10 Application. A summary of post-application PIP activities will be included in the Article 10 Application. It is anticipated that the Applicant will continue to attend Town of Canajoharie and the Town of Minden board meetings. In addition, the Applicant will continue to meet with other local public stakeholders such as the Town and County road departments as needed.

All of the above continued PIP activities will continue to be tracked and filed in the monthly tracking report. The Applicant will respond to suggestions and comments through a detailed response to the commenter and will summarize the response in the monthly tracking report.

(e) Brief Overall Analysis

This section will 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 (a) ecology, air, ground and surface water, and wildlife and habitat (b) public health and safety (c) cultural, historic and recreational resources and (d) 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: (a) that the Facility is a beneficial addition or substitution for electric generation capacity of the State, (b) the construction and operation of the Facility will serve the public interest, (c) that the adverse environmental effects of the construction and operation of the Facility will be minimized or avoided to the maximum extent practicable, d) 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; (e) and 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

(a) Topographic Maps

Mapping/figures in the Article 10 Application will show the location of the components of the major electric generation and interconnection facilities associated with the proposed Mohawk Solar Project including the PV panels, access roads, electrical collection system, project substation, POI switchyard, and construction staging/laydown areas. 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, 2017a). 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, 2016). 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).

(1) Proposed Major Electric Generating Facility Locations

In the Article 10 Application, the Facility Site is defined as those parcels currently under, or being pursued for lease (or other real property interests) with the Applicant for the location of all Facility components. Mapping/figures in the Article 10 Application will depict the location of all Facility components within the Facility Site displayed at a scale of 1:24,000 or greater, including the following:

- PV panels
- access roads
- buried electrical collection
- overhead electrical collection
- construction staging/laydown areas
- POI switchyard
- collection substation
- O&M facility (if determined necessary)

As currently designed, it is not anticipated that any permanent storm water features of a significant nature (e.g., large detention basin) will be utilized during construction and operation of the Facility.

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 impacts to streams/wetlands or historic resources, such locations will be mapped.

(2) Interconnection Location

All Facility components, including the interconnection facilities, will be located within the defined Facility Site and therefore 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 has been and will be subject to a number of studies in support of the Article 10 Application. A single, universal study area will not be utilized for all studies/analyses, rather the various studies will utilize resource-specific study areas, which will be described briefly in this section of the Article 10 Application, and are described in more detail in the respective section of this PSS. For example, see PSS Section 2.20 for a detailed description of the cultural resources study area.

(b) Municipal Boundary Maps

Mapping/figures in the Article 10 Application will depict the location of the proposed Facility with respect to village, town, county, and school district boundaries.

(c) Description of Proposed Facility Locations

The locational relationship of the Facility to village, town, county, and school district boundaries will be described in the Article 10 Application.

Please note that with respect to siting various Facility components, existing disturbances will be utilized wherever practicable. For instance, in many locations linear features of the Facility (e.g., access roads, collection lines) will be sited, in part, on agricultural farm roads. This will be further described in the Article 10 Application.

(d) Facility Shapefiles

The Article 10 Application will include Facility shapefiles and will show the proposed PV panel locations, access roads, collection lines, collection substation, POI switchyard, and construction staging/laydown areas.

However, the Applicant will be seeking confidential information protection for shapefiles for all Facility components, and will submit the shapefiles under separate and confidential cover, seeking the requisite protection for this information pursuant to NY Public Officer's Law Section 87(2)(d) and 16 NYCRR 6-1.4.

2.4 LAND USE

(a) Map of Existing Land Uses

As described in the PIP for the Facility, due to the nature of the technology and the setting specific to this proposed Facility, the Applicant has proposed a 2-mile radius Study Area from (and including) all Facility components, which includes the host Towns of Canajoharie and Minden. Existing land uses within a 2–mile radius of the Facility will be mapped in the Article 10 Application using publicly available data, including the property classification codes used by the New York Office of Real Property Services ("NYSORPS"). The following land uses occur within the Facility boundary:

Table 1. Property Classes Within the Facility Area

Property Class Code	Property Class Description
105	Vacant Farmland
111	Poultry Farm
112	Dairy Farm
113	Cattle Farm
114	Sheep Farm
117	Horse Farm
120	Field Crops
210	Single Family Residential
240	Rural Residential
241	Rural Residential & Agricultural
270	Mobile Home
311	Residential Vacant Land
312	Vacant Land with Improvement
314	Rural Vacant Land < 10 acres
320	Rural Vacant Land
322	Residential Vacant Land > 10 acres

Property Class Code	Property Class Description
323	Other Rural Vacant Lands
330	Vacant Land in Commercial Areas
340	Vacant Land in Industrial Areas
440	Warehouse
483	Converted Residence
612	School
870	Electric and Gas
875	Electric Generation - Fossil Fuel
910	Private Forest Land

In addition, the map of existing land uses will include: (i) land subject to a forest management plan pursuant to Real Property Tax Law Section 480-a; (ii) agricultural district land at the Facility Site, which is established pursuant to the NYS Ag. & Markets Law; and (iii) any land subject to a conservation program. To determine the location of any conservation program lands in the vicinity of the Facility Site, publicly available resources will be consulted such as the National Conservation Easement Database ("NCED"), an initiative of the U.S. Endowment for Forestry and Communities to compile records from land trusts and public agencies throughout the United States.

(b) Transmission Facilities Map

Existing overhead and underground major facilities for electric, gas, and telecommunications within a 2–mile radius of the Facility will be identified and mapped (to the extent known by the Applicant). This information will be based on publicly available data sources. The Applicant will also coordinate with public (i.e., NYSDPS) and private (i.e., National Grid, GeoTel Communications, Inc.) regarding other available underground major utilities. The Applicant has identified the Dominion and Iroquois Gas Pipelines, which both run through the Facility Area. Additional data on natural gas and oil wells, and gas transmission pipelines within the Facility vicinity will be obtained from the NYSDEC and provided in the Article 10 Application.

(c) Tax Parcel Map

A map of all properties containing proposed electric generating components or related facilities will be identified and mapped in the Article 10 Application. This map(s) will show land use, tax parcel number, and owner of record of each property, and any publicly known proposed land use plans for any of these parcels. Parcel and land use data will be obtained from the Montgomery County GIS Department and through consultations with the Towns of Canajoharie and Minden.

(d) Zoning District Map

Existing and proposed zoning districts within a 2–mile radius of the Facility, based on data obtained from local governments, will be depicted in the Article 10 Application. As described in Section 2.31 of this PSS, the Applicant will review zoning regulations for each of the towns and villages within 2 miles of the proposed Facility, and a summary of the zoning regulations will be presented in the Article 10 Application, with a focus on the permitted and prohibited uses within each zoning district where Facility components will be located.

(e) Comprehensive Plan

The proposed Facility is located in the Towns of Canajoharie and Minden in Montgomery County, New York. Canajoharie adopted a Comprehensive Plan in 1992. Minden drafted a Comprehensive Plan in 2012. Montgomery County is currently developing a Comprehensive Plan. The Article 10 Application will include a review of the Comprehensive Plans for the Town of Canajoharie and the Town of Minden, and Montgomery County. The Article 10 Application will also discuss whether the proposed Facility is consistent with these plans.

(f) Map of Proposed Land Uses

The Applicant will gather information about proposed land uses from discussions with local planning officials, open houses, the PIP implementation/PSS development process, and other sources. Any information gathered will be described and/or mapped in the Article 10 Application.

(g) Map of Specially Designated Areas

Designated coastal areas, inland waterways, agricultural districts, special flood hazard areas, Local Waterfront Revitalization Program ("LWRP") communities, and other specially designated areas potentially occurring within a 2–mile radius of the Facility will be mapped in the Article 10 Application. There are no designated Critical Environmental Areas ("CEAs") in Montgomery County. Table 2-1 summarizes the sources of data to be used to prepare these maps.

Table 2-1. Sources of Data Used to Prepare Mapping of Specially Designated Areas

Mapping Requirement	Source
Designated coastal areas	NYS GIS Clearinghouse, NYS Department of State
Inland waterways and local waterfront revitalization program areas	NYS GIS Clearinghouse, NYS Department of State

Groundwater management zones	NYS GIS Clearinghouse
Agricultural districts	NYS GIS Clearinghouse
Flood hazard areas	NYS GIS Clearinghouse, FEMA
Critical Environmental Areas	NYSDEC

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

Recreation areas and other sensitive land uses known to the Applicant within a 2–mile radius of the Facility will be mapped in the Application. Table 2-2 summarizes the sources of data to be used to prepare these maps.

Table 2-2. Sources of Data Used to Prepare Mapping of Recreational and Sensitive Areas

Requirement	Source
Wild, scenic and recreational river corridors	National Wild and Scenic Rivers System
Open space	NYS GIS Clearinghouse and local governments
Wildlife management lands	NYS GIS Clearinghouse, NYSDEC, USFWS
Forest management lands	NYS GIS Clearinghouse, NYSDEC
Conservation easement lands	National Conservation Easement Database; NYS GIS Clearinghouse
State and federal scenic byways	NYSDOT; NYS GIS Clearinghouse
Nature preserves	NYS GIS Clearinghouse
Designated trails	NYS GIS Clearinghouse and local Governments
Public-access fishing areas	NYS GIS Clearinghouse, NYSDEC
Oil and gas production	NYSDEC
Gas pipelines	NYSDEC, NYSDPS
Major communication and utility uses and infrastructure	TBD
Institutional, community and municipal uses and facilities	ESRI; TIGER/line files; NYS GIS Clearinghouse

The Facility's Visual Impact Assessment (see Section 2.24 for additional information) will also identify visually sensitive resources, including recreational and other sensitive land uses that may be affected by potential visibility of the Facility.

The Article 10 Application will address the potential for the Facility to have a direct impact on the recreational resources and other sensitive areas identified. In addition, the Facility's potential indirect effect on these resources (e.g., a change in the property's visual setting), will be addressed.

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

The Article 10 Application will quantify the existing land use(s) in the area based on parcel data and NYSORPS classification codes, specifying the area in acres and percentage of the total Facility Area occupied by each land use type. Proposed land uses will be identified through consultation with local officials (i.e., Town Supervisors, Planning Boards, Code Officers, etc.), review of town planning documents, attendance at Town meetings, and/or other outreach efforts. The Article 10 Application will present, in acres, the permanent (if any) and temporary impacts to each of the existing and proposed land use classes to be physically affected by the Facility. The Article 10 Application will identify nearby land uses of particular concern to the communities, and will address the land use impacts of the Facility on residential areas, agricultural areas, schools, civic facilities, recreational facilities and commercial areas.

The Facility's consistency with the Town of Canajoharie's Comprehensive Plan, the Town of Minden's Comprehensive Plan, and other relevant plans for the region and the State, such as the 2014 NYRCR Montgomery County Resiliency Plan; the 2014 New York Open Space Plan ("OSP"); the New York State Historic Preservation Plan 2015-2020; the Statewide Comprehensive Outdoor Recreation Plan 2014-2019; the New York State Office of Parks, and the Recreation and Historic Preservation Sustainability Plan (April 22, 2009) will be addressed in the Article 10 Application. The following Comprehensive Plans, in effect as of the date of this PSS, will be evaluated:

- Town of Canajoharie Comprehensive Plan
- Town of Minden Comprehensive Plan

The proposed Facility will result in significant, temporary changes to land use within the footprint of the project. This area will be occupied by Facility components, so current land use practices will temporarily change for the life of the Facility. The PV panels to be utilized for the Facility do not require excavation, or concrete foundations. Additionally, construction and operation of solar energy projects does not typically require extensive land clearing or significant

soil disturbance, particularly when sited in relatively level agricultural areas. Siting the Facility in agricultural fields curbs the need for major earthmoving processes in turn reducing environmental impacts. Following construction, any disturbed areas will be restored with topsoil, and a cover of native grass species will be established underneath and around the solar panels. During operation of the Project, the soils within the Project Site will not, as a general practice, be treated with fertilizers, herbicides, or pesticides. However, specific treatments may be necessary based changing conditions over the life of the Project. Allowing the on-site soils to be replenished over the life of the Project and result in an added benefit of restoring nutrients and productivity to the soils. Lease agreements provide a stable and predictable revenue stream for the life of the Facility, and will keep the land "in the family".

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

The proposed Facility may utilize above-ground interconnect lines where the usage of underground lines would cause greater environmental impacts, and/or are cost prohibitive, including (but not limited to) along the edges of select agricultural fields, and crossing steep terrain, streams, wetlands, and public roads. The compatibility of proposed above-ground interconnect lines will be assessed in the Article 10 Application.

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

The Facility's proposed underground collection lines will not prohibit the continued use of the land as the impact will only be a temporary disturbance. Compatibility of proposed underground interconnections and temporary disturbances associated with construction will be addressed in the Article 10 Application.

(l) Conformance with the Coastal Zone Management Act

The Facility Area is not located within a designated coastal area or in direct proximity of a designated inland waterway. Therefore, conformance with the Coastal Zone Management Act is not applicable.

(m) Aerial Photographs

Aerial photographs within a 1-mile radius of the Facility will be included with the Article 10 Application. This mapping will likely be prepared using 0.5-meter resolution natural color orthoimagery from the USDA's National Agriculture Imagery Program ("NAIP") captured during the 2015 growing season, or the most recent available at the time of the Article 10 Application.

(n) Aerial Photograph Overlays

The Article 10 Application will map 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; point symbols to depict panel locations; and polygon symbols to depict the substation, 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). This mapping will likely be prepared using 0.5-meter resolution natural color orthoimagery from the USDA's NAIP captured during the 2015 growing season, or the most recent available at the time of the Article 10 Application.

(o) Source of Aerial Photographs

It is anticipated that mapping associated with (n) above will be prepared using 0.5-meter resolution natural color orthoimagery from the USDA's NAIP captured during the 2015 growing season, or the most recent available at the time of the Article 10 Application. The ultimate source will be identified in the Article 10 Application.

(p) Community Character

The Facility is proposed to be located in a rural area of Montgomery County, which is characterized by a mix of agricultural and forested land. The population of Montgomery County is estimated to be 49,276 in 2016. 63% of the population lives in hamlets and villages. Historically, dairy farming has been the principal focus of farmers in Montgomery County. Currently, dairy farms make up 30% of the agricultural land in the County while field crops comprise 23%. 42,354 acres (32%) of the farmland within Montgomery County is vacant. The Article 10 Application will provide a description of community character that includes defining features and interactions of the natural, built, and social environment, and takes into account local land use and zoning. The Facility has been sited to avoid areas with significant aesthetic or scenic resources, as well as areas that are used by the public for recreation. The Article 10 Application will assess the compatibility of the Facility with existing and proposed future uses with respect to community character, and identify avoidance and mitigation measures that will be implemented to minimize adverse impacts on community character.

2.5 ELECTRIC SYSTEM EFFECTS

(a) System Reliability Impact Study

A System Reliability Impact Study (SRIS) was completed for the Facility on behalf of the New York Independent System Operator (NYISO). The SRIS was approved by the NYISO Operating Committee on August 10, 2017. The SRIS will be included with the Article 10 Application, but will be filed separately under confidential cover, as NYISO requires the SRIS to remain confidential due to Critical Energy Infrastructure Information (CEI) Regulations. The Applicant anticipates entering into the NYISO 2018 Class Year for Facilities Studies. Should the Class Year start date prevent the Applicant from maintaining its overall Project schedule, Applicant may choose to accelerate the NYISO study schedule by posting the required security, and following the NYISO procedures for accelerated review. The Applicant's plan for Facilities Study participation will be included in the Article 10 Application.

(b) Potential Reliability Impacts

Based on NYISO scope, the SRIS was performed for Summer Peak, Winter Peak and Light Load system conditions. The study system includes the Capital Zone (Zone F) and the Mohawk Zone (Zone E) in the New York ISO system. The Article 10 Application will describe the impact of the proposed Facility and interconnection on transmission system reliability in the State in detail.

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

Based on the results of the SRIS, all identified benefits and detriments associated with the Facility will be discussed in the Application.

(d) Reasonable Alternatives to Mitigate Adverse Reliability Impacts

The SRIS will evaluate alternatives to eliminate adverse reliability impacts, if any. The results of the alternatives evaluation will be presented in the Article 10 Application.

(e) Estimated Change in Total Transfer Capacity

The Article 10 Application will provide an estimate of the increase or decrease in the total transfer capacity across each affected interface. If a forecasted reduction in transfer capability across affected interfaces violates reliability requirements, the discussion will include an evaluation of reasonable corrective measures that could be employed to mitigation or eliminate said reduction.

(f) Criteria, Plans, and Protocols

(1) Applicable Engineering Codes, Standards, Guidelines, and Practices

The Facility 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, National Grid requirements will be followed.

34.5 kV Overhead Collection System

It is anticipated that all collection systems for the Facility will be buried underground. However, in the event that overhead lines are necessary in some areas, the overhead collection systems will be designed in accordance with (but not limited to):

- RUS Bulletin 1724E-200
- National Electric Safety Code (NESC)
- ANSI – American National Standards Institute
- ASTM – American Society of Testing of Materials
- OSHA – Occupational Safety and Health Administration
- IEEE – Institute of Electrical and Electronic Engineers
- ASCE – American Society of Civil Engineers
- NEC – National Electric Code

34.5 kV Underground Collection System

The underground line design shall incorporate, but is not limited to, the following standards and codes when applicable:

- ANSI - American National Standards Institute
- ASTM - American Society for Testing and Materials
- IEEE 48 - Standard Test Procedures and Requirements for Alternating-Current Cable Terminations 2.5 kV through 765 kV
- IEEE 80 - Guide for safety in AC substation grounding
- IEEE 400 - Guide for Field Testing and Evaluation of the Insulation of Shielded Power Cable Systems

- IEEE 400.1 - Guide for Field Testing of Laminated Dielectric, Shielded Power Cable Systems Rated 5kV and Above with High Direct Current Voltage
- IEEE 400.3 - Guide for Partial Discharge Testing of Shielded Power Cable Systems in a Field Environment
- IEEE C2 - National Electric Safety Code (NESC)
- IEEE C57.12.10 - American National Standards for Transformers
- NFPA 70 - National Electric Code (NEC)
- TIA/EIA - Telecommunications Industry Association/Electric Industry Alliance
- NEMA - National Electrical Manufacturer's Association

Collection substation

The substation design will incorporate, but is not limited to, the following standards and codes when applicable:

- NESC - National Electric Safety Code.
- NFPA 70 - National Fire Protection Association - National Electric Code
- NFPA 850 - National Fire Protection Association – Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations
- ACI - American Concrete Institute
- ANSI - American National Standard Institute
- ASCE - American Society of Civil Engineers
- ASTM - American Society for Testing and Materials
- IBC - International Building Code
- IEEE 80 - IEEE Guide for safety in AC substation grounding
- IEEE C37.2 - IEEE standard electrical power system device function numbers and contact designation
- IEEE C37.90 - IEEE standard for relays, relay systems and associated with electrical power apparatus
- IEEE C37.110 - Guide for the application of current transformers used for protective relaying purposes
- IEEE C57.13 - IEEE standard requirement for instrument transformers
- IEEE 485 - IEEE Recommended Practice for Sizing Lead-Acid Batteries for Stationary Applications
- IEEE C57.12.10 - American national standards for transformers
- IEEE 998 - IEEE Guide for direct stroke shielding of lightning for substations
- IEEE C37.119 - IEEE Guide for Breaker Failure Protection of Power Circuit Breakers
- IEEE C37.605 - IEEE Guide for Design of Substation Rigid-Bus Structures
- IEEE 605 - Guide for Design of substation rigid-bus structures

- IEEE 693 - IEEE Recommended practices for seismic design of substation
- IEEE 980 - IEEE Guide for Containment and control of spills in substations

The Article 10 Application will provide additional detail on the Facility's electric system codes, standards, guidelines, and practices.

(2) Generation Facility Type Certification

The Article 10 Application will provide a type certification for one of the PV solar panels types under consideration for the proposed Facility (assuming one is available at the time of application). The third-party type certificate, if provided, will be filed separately under confidential cover. The Applicant will ultimately select a technology that has achieved the necessary third-party certification, and proposes to submit this information to the Siting Board as a post-Certification compliance filing.

(3) Procedures and Controls for Inspection, Testing, and Commissioning

The various aspects of the Facility will have a written inspection, testing and commissioning plan, as briefly summarized below, 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.

34.5 kV Overhead Collection System

It is anticipated that all collection systems for the Facility will be buried underground. However, in the event that overhead lines are necessary in some areas, the overhead lines will be inspected, tested and commissioned in accordance with various ANSI, IEEE, NFPA, IETA, ASTM, etc. requirements, as necessary. All tests will be performed with the line de-energized, except where specifically required for it to be energized for functional testing.

All material received for construction of the overhead lines will be visually inspected for defects and compatibility with the design/specifications. This includes, but is not limited to anchors, poles, conductor, fiber, insulators, hardware, and grounding material.

34.5 kV Underground Collection System

The collection system 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.

Underground cables systems have comparatively less components than the overhead lines or substation described above. All material received for construction of the underground lines will be visually inspected for defects and compatibility with the design/specifications. This includes, but is not limited to, cables, transformers, fiber, splices/junction boxes and grounding material.

Collection Substation

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.

All material received for construction of the substation will be visually inspected for defects and compatibility with the design/specifications. Various industry standard electrical and mechanical tests are performed on equipment before leaving the manufacturers' facilities. Some tests are performed on a "class" of equipment, such that the passing tests results apply to all specific equipment produced. Other tests are required to be performed on each individual piece of equipment. Additional tests will be performed on specific equipment after installation at the Facility site to ensure that there was no damage during handling including, but not limited to:

- Main transformer
- High/medium voltage circuit breakers
- Disconnect switches
- Instrument transformers (current transformer, voltage transformer, etc.)
- Surge arresters
- Station service transformer
- High/medium voltage cables
- Capacitor bank or reactor banks
- DC battery bank and charger

PV Panels

(4) Maintenance and Management Plans, Procedures, and Criteria

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 pro-actively detect any significant safety or maintenance issues.

Detailed operations and maintenance plans, procedures, and criteria related to the Facility's electrical components will be presented in the Application.

(g) Heat Balance Diagrams

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

(h) Interconnection Substation Transfer Information

(1) Description of Substation Facilities to be Transferred and Timetable for Transfer

National Grid is the interconnecting transmission owner for this Facility. The interconnection of the Facility will be accomplished via a POI with the National Grid St. Johnsville-Marshville 115kV transmission line. The Article 10 Application will include a General Arrangement Plan View drawing of the POI switchyard.

(2) Transmission Owner's Requirements

The POI switchyard will be owned by National Grid (i.e., the transmission owner), and therefore the POI switchyard will be in accordance with their requirements. Design and construction of the POI switchyard may be done by National Grid or by the Applicant. If by the Applicant, National Grid will be responsible for design reviews, construction oversight, and commissioning. The description of the design will not be known until the Facilities Study is complete.

(3) Operational and Maintenance Responsibilities

National Grid, as the transmission owner, will define and perform the operational and maintenance responsibilities for the POI switchyard.

(i) Facility Maintenance and Management Plans

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. Each of these is briefly described below.

(1) Electric Transmission and Collection Line Inspections

(i) Vegetation Clearance Requirements

It is anticipated that all collection systems for the Facility will be buried underground. However, in the event that overhead lines are necessary in some areas, the requirements for clearing vegetation around the overhead 34.5 kV lines will be illustrated in the Application. All vegetation within the clear-cut boundary, with the exception of low lying growth as shown, will be completely cleared. In addition, vegetation extending above the danger tree clearance line (outside of the clear-cut boundary) will be cleared to prevent a potential tree from falling into the line.

(ii) Vegetation Management Plans and Procedures

The Article 10 Application will include a vegetation management plan and describe measures that will be used to maintain vegetation throughout the Facility Site.

(iii) Inspection and Maintenance Schedules

The Article 10 Application will describe the inspection and maintenance procedures that will be implemented during operation of the Facility.

(iv) Notifications and Public Relations for Work in Public Right-of-Ways

If work is to be performed in a public right-of-way, notification and any permit(s) to conduct such work will be addressed with the appropriate agencies prior to starting the work.

(v) Minimization of Interference with Distribution Systems

The Article 10 Application will describe measures that will be used to minimize interference with existing distribution systems.

(j) Vegetation Management Practices for Substation Yards

Within the substation fence, and immediately surrounding, it is important to eliminate all above-ground growth. Vegetation in this area could come in contact with the substation's below grade grounding grid. If the vegetation extends above ground, coming in contact with a person could put them in danger in the event of an electrical system ground fault, which energizes the below grade grounding grid with high voltages and currents. Normally, a person is protected by the crushed stone on the surface of the station, but the vegetation could bridge the safety gap created by the stone. Pre-emergent herbicide is preferred to prevent vegetation from becoming established, but post-emergent herbicide and/or manual weed removal will be used in the event vegetation does begin to show.

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

The Applicant does not anticipate sharing facilities with other utilities at this time.

(l) Availability and Expected Delivery Dates for Major Components

The Applicant is not aware of any equipment availability restrictions. The Applicant currently plans to place the Facility in-service in Q4 2019. Based on this in-service time-frame, major Facility components would be expected to arrive onsite starting in Q2 2019 through Q4 2019.

(m) Blackstart Capabilities

The Facility is not anticipated have blackstart capabilities.

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 included 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 included in the Article 10 Application.

2.8 ELECTRICAL SYSTEM PRODUCTION MODELING

(a) Computer-based Modeling Tool

The analyses to be presented in Exhibit 8 of the Article 10 Application will be developed using GEMAPS or similar industry accepted tool. The Applicant will consult with the NYSDPS and NYSDEC following submission of this PSS to develop an acceptable input data set to be used in the simulation analyses, including modeling for the Applicant's proposed Facility and inputs for the emissions analysis. Portions of the data to be provided are proprietary and/or Critical Energy Infrastructure (CEII) and will be filed under a protective agreement. The Applicant will seek the requisite trade secret protection for this information pursuant to NY Public Officer's Law Section 87(2)(d) and 16 NYCRR 6-1.4.

(1) Estimated Statewide Levels of Greenhouse Gas Emissions

The Article 10 Application will list the estimated statewide levels of SO2, NOx, and CO2 emissions, in short tons, with and without the Facility for the 2020 year.

(2) Estimated Prices Representative of all NYISO Zones

The Article 10 Application will list 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 for the studies 2020 year.

(3) Estimated Capacity Factor

An 8760 hourly generation profile will be developed. Energy production will be forecasted, based on certain user inputs, utilizing the computer simulation program PVsyst®, using the appropriate solar resource data based on an analysis of the SolarAnywhere® satellite-derived dataset from which a typical direct-normal irradiance year ("TGY") is generated.

(4) Estimated Annual and Monthly Output Capability Factors

The Article 10 Application will provide the monthly as well as the 2020 annual on-peak and off-peak MWh output capability factors for the proposed Facility.

The gross average energy yield for each month will be determined from the validated data described in (3) above with each monthly dataset adjusted to the monthly long-term. From this the monthly gross energy distribution for the year will be determined. The net long-term energy yield for each month will be estimated by applying monthly specific loss assumptions to include availability and environmental factors. The monthly net capacity factor is calculated based on the number of days in each month, and overall annual net capacity factor from the sum of all monthly net energy yields and the total per year.

(5) Estimated Annual and Monthly Production Output

The Article 10 Application will provide the monthly net production output of the proposed Facility in MWh as well as the total annual MWh production to be presented in the Article 10 application.

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. 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.

(6) Estimated Production Curve Over an Average Year

Hourly production of the Facility will be calculated using GEMAPS (or similar) and 8760 hours of solar production profile data provided by the Applicant. Estimates of hourly production and scheduled hourly production will be provided in tabular and graphical formats (based on one PV panel model). However, this information will be filed separately under confidential cover. The Applicant will seek the requisite trade secret protection for this information pursuant to NY Public Officer's Law Section 87(2)(d) and 16 NYCRR 6-1.4.

(7) Estimated Production Duration Curve Over an Average Year

The Article 10 Application will provide the hourly production of the Facility, the hours count for milestones production (production duration only), and a graph that shows the production duration curve for the Facility.

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

In order to assess 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), a Generation Dispatch Forecasting Analysis will be prepared based on one PV panel technology. However, this analysis will be filed separately under confidential cover.

To conduct the analysis, the NYISO 2020 system will be modeled to the extent that information is available, with and without the proposed Facility, and compared the generation dispatch of must run resources with the NYISO service territory between the two scenarios. This comparison will be performed using GE's Multi-Area Production Simulation (MAPS) and PowerWorld Corp. Simulator software which is heavily utilized for market studies within the NYISO service territory. The first step in the analysis will be to complete a powerflow 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 2020 study year, while taking into consideration system constraints including the critical constraints identified in the powerflow calculations. The analysis will simulate the effect of energy schedules from energy resources on must run resources re-dispatching to reliably serve the grid and avoid curtailment.

The Article 10 Application will present the annual MWh dispatch of the must run resources for the 2020 study year in the two scenarios (with and without the proposed Facility).

(b) Digital Copies of Inputs Used in the Above Simulations

The Article 10 Application will provide digital copies of all inputs used in the simulations required in subdivision (a) of this section. The Applicant will seek the requisite trade secret protection for this information pursuant to NY Public Officer's Law Section 87(2)(d) and 16 NYCRR 6-1.4.

2.9 ALTERNATIVES

(a) Description of Reasonable Alternative Location Sites

At 90 MW, the Mohawk Solar facility is currently the largest utility-scale solar power plant(s) in New York under consideration by the Siting Board. As discussed further herein, there are a number of critical factors taken into

consideration when siting a large-scale solar project perhaps most important being reasonable proximity to a transmission line with existing capacity so the power from the project may be injected into the electric system without prohibitive cost. The proposed Project site offers an interconnection opportunity to the St. Johnsville-Marshville 115-kV transmission line at a reasonable cost. Based on the Feasibility and System Reliability Impact Studies prepared on behalf of the New York Independent System Operators (NYISO), the St. Johnsville-Marshville 115-kV transmission line is anticipated to be able to accommodate the Applicant's proposed 90 MW of electric power generation and no other interconnections are proposed at the POI switchyard. Another major factor is finding sufficient amount of under-utilized or unutilized land. Here, the Facility will be located on sub-prime agricultural land that is not currently used by the landowner for production of high-value agricultural products. Other important siting factors considered by Mohawk Solar include:

- clear and unobstructed southern exposure;
- willing land lease participants;
- adequate access to the bulk power transmission system, from the standpoints of proximity and ability of the system to accommodate the interconnection and accept and transmit the power from the Facility;
- contiguous areas of available land;
- compatible land use;
- preliminary environmental screenings providing no indication of significant wildlife habitat or other environmental or societal concerns
- ability to afford visual screening opportunities at reasonable cost; and
- avoiding areas of high statewide significance and/or environmental sensitivity.

The Applicant does not have eminent domain authority. 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. The Commission's regulations permit applicants to limit 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 Mohawk Solar. The Applicant will further show that that the location for the Facility is suitable for utility-scale solar energy generation.

(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. The Siting Board's regulations (16 NYCRR 1001.9) recognize

that it is not practicable to procure land contracts, perform environmental and engineering due diligence studies, enter and progress through multiple interconnection permit processes, and conduct community outreach for alternative locations. Rather, the Siting Board's regulations provide that an applicant need only identify and describe alternative sites owned by, or under option to, the applicant or its affiliates. In the Article 10 Application, this section will provide information regarding the general criteria used to evaluate the suitability of the site for the Facility.

(1) Environmental Setting

The Facility Site is located in the Towns of Canajoharie and Minden, Montgomery County, and is identified on Figure 2 as the "Facility Area." In the PIP, Mohawk Solar identified a Facility Area much larger than the current footprint of the Facility. The Facility Area contained in the PIP represented the broader area within which selected parcels or sub-parcels will be developed with solar facilities. This provided flexibility during the project development phase to minimize and avoid impacts to wetlands, cultural resources, visual resources, sensitive wildlife habitat, and other sensitive attributes. The Facility will ultimately be sited within approximately 1,000 acres of leased private land within the Facility Area, which consists primarily of agricultural land.

The proposed Facility is located in a rural, largely agricultural portion of Montgomery County, characterized by a mix of pastures, cropland and semi-forested land. Land use at the Facility Site is currently dominated by dispersed residential development and vacant land. While both temporary and longer-term impacts to land use will occur, these changes will affect a small percentage of leased lands, and the Facility will not interfere with land uses that dominate the surrounding areas. Aside from the land on which the solar panels and associated infrastructure will be situated, no permanent change to existing land use patterns are anticipated within the Facility Site as a result of Facility operation, and no changes are predicted outside the Facility Site. Aside from occasional visits by Facility maintenance staff, Facility operation will not interfere with ongoing land use (i.e., farming and related activities) immediately outside the areas on which infrastructure is placed. The Article 10 Application will contain a more detailed description of the environmental setting.

(2) Recreational, Cultural, and Other Concurrent Uses of the Site

The Applicant has identified several recreational facilities in the area including, but not limited to, trails (i.e., hiking, snowmobile, biking, etc.), state and local parks, and state forests. As further described in Section 2.20 of this PSS, a Phase 1A Historic Architectural Resources Survey and Work Plan is currently being developed for the Facility. The information and recommendations included in this report will assist the DPS and the New York State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) in their review of the proposed

Facility. Exhibit 20 of the Article 10 Application will provide more detailed information on recreational, cultural, and other concurrent uses of the site. In addition, as further described in Section 2.24 of this PSS, the Applicant is also preparing a Visual Impact Assessment (VIA) that will be summarized in Exhibit 24 of the Article 10 Application. Preparation of the VIA will include outreach to appropriate stakeholders to identify recreational, cultural, and other visually sensitive sites and properties, as well as evaluation of the Facility's potential visual effect on those resources.

(3) Engineering Feasibility

A Preliminary Geotechnical Evaluation will be prepared to specifically address the suitability of the subsurface conditions onsite to support PV panel racking, and provide specific recommendations based on the site-specific conditions. The geotechnical scope will include field exploration including a representative quantity of soil test borings and soil samples, lab testing of soils, and a geotechnical report detailing results. Blasting will not be required. The details associated with this evaluation will be presented in Exhibit 21 of the Article 10 Application.

With respect to interconnection engineering, please see (b)(4), below.

(4) Reliability and Electric System Effects

A System Reliability Impact Study (SRIS) was completed in June 2017 to evaluate the impact of the Facility on the reliability of the New York State Transmission System and to evaluate alternatives to eliminate adverse reliability impacts, if any, resulting from the Facility. The SRIS, which is discussed in more detail in Exhibit 5, evaluated a number of power flow base cases, as determined by the NYISO, including 2020 summer peak, winter peak, and light load. The SRIS also included stability analyses for the system summer peak and light load conditions, both with and without the Facility. The Facility is not expected to result in adverse impacts to the transmission system. Exhibit 5 of the Article 10 Application will provide a more detailed description of the Facility's effects on the reliability of the regional transmission system, based on the results of the SRIS.

(5) Environmental Impacts

Despite the positive effects anticipated as a result of the Facility, its construction and operation will necessarily result in certain unavoidable short-term and minimal impacts to the environment. The vast majority of these environmental impacts will result from construction activities and will be limited and temporary in nature. Long-term unavoidable impacts associated with operation and maintenance of the Facility are likewise anticipated to be limited, but could include solar arrays' visibility, impacts to wildlife habitat, and impacts to wetlands and

streams. Potential environmental impacts associated with the Facility will be addressed through the Facility's permitting process.

After construction, the presence of the solar arrays will not result in a significant change to the observable environment. Due to the strategic positioning of the arrays and the use of natural screening measures where feasible, the Facility will be generally unnoticeable. Even when it is observable, it is unlikely to be a prominent feature. Evaluation by the Applicant's registered landscape architect indicates that the Facility's overall contrast with the visual/aesthetic character of the area will generally be minimal to nonexistent. However, based on the contrast rating scores, it is possible that the Facility will be observable from certain isolated locations. Given evolving attitudes toward climate change and renewable power sources, local reaction to the Facility is generally positive.

Overall contrast with the landscape, as determined through evaluation by an expert panel of landscape architects, will be detailed in Exhibit 24 of the Article 10 Application. The Facility layout will be designed, in part, through an iterative process of identifying sensitive environmental resources (e.g., agricultural land, wildlife habitat, wetlands/streams) and siting Facility components to avoid and minimize impacts to these resources wherever possible. The Article 10 Application will provide detailed information on environmental resource impacts at the Facility Site.

Overall, the Facility is anticipated to have long-term beneficial effects on the environment as well as the use and conservation of energy resources. The operating Facility will generate up to 90 MW of electricity without consuming cooling water, and without emitting pollutants or heat-trapping greenhouse gases. Electricity generated from zero-emission solar energy facilities can displace the electricity generated from conventional power plants, thereby reducing the emissions of conventional air pollutants, such as mercury, sulfur and nitrogen oxides (acid rain and ground level ozone precursors), and carbon dioxide and methane (linked to global climate change).

(6) Economic Considerations

The purpose of the Facility is to create an economically viable solar-powered electrical-generating facility that will provide a significant source of renewable energy to the New York power grid. To do so, sufficient and unappropriated land and access to the existing transmission system are two of the most important considerations in selecting a facility site. Here, the proposed Facility Site satisfies both of these criteria.

With respect to cost, the Article 10 Application will provide an estimate of the total capital costs of the Facility in Exhibit 14. However, because capital cost information is considered proprietary and is retained as a trade secret, this data will likely be provided in the form of an internal work paper that also describes the assumptions in estimating the total capital costs. The Applicant will seek the requisite trade secret protection for this information pursuant to NY Public Officer's Law Section 87(2)(d) and 16 NYCRR 6-1.4.

The proposed Facility will have a positive impact on the local economy. Construction and operation will generate jobs, and the Facility will have a direct economic benefit from the purchase of goods from local sources, the spending of income earned by workers, annual labor revenues, and the income effect of taxes (including income taxes, sales tax and real property taxes). These direct effects will result in additional induced economic benefits in other sectors. The Facility will result in payments to local landowners in association with the landowner agreements, which, in this case, will provide increased income where little was received before given that the land comprising the Facility Area is currently not used in production of high-value agricultural products. These payments will have a positive impact on the region, to the extent that landowners will spend their revenue locally. The proposed Facility will also have a significant positive impact on the local tax base, including local school districts and other taxing districts that service the area where the proposed Facility is to be located. Exhibit 27 of the Article 10 Application will provide detailed information on the socioeconomic effects of the proposed Facility.

(7) Environmental Justice

As indicated in Section 2.28 of this PSS, the Facility is not expected to impact any environmental justice areas.

(8) Security, Public Safety, and Emergency Planning

Overall safety and security risks associated with the Facility are anticipated to be minimal. Please see Section 2.18 of this PSS (Safety and Security), which provides additional detail on preliminary plans for site security during construction and operation. As indicated in Section 2.18, an Emergency Action Plan (EAP) will be developed before the start of construction and will outline the safety plans of the Facility throughout its lifecycle. The information contained in the EAP will be developed in conjunction with local emergency service providers, and will be made available to the employees of the Applicant and any visitors or workers to the Facility Site of the procedures to follow in the event of an emergency.

(9) Public Health

The Facility is not expected to result in any public health concerns. See Section 2.15 of this PSS for additional detail. Additional detail will also be presented in Exhibit 15 of the Article 10 Application.

(10) Vulnerability to Seismic Disturbances and Climate Change Impacts

Based on the 2014 New York State Hazard Map (USGS, 2014), the Facility is located in an area of low seismic hazard, with a 2% or less chance that peak ground acceleration in a 50-year window is between 10% and 14% of standard gravity. There have been five recorded earthquakes in Montgomery County since 1900 with magnitudes ranging from 1.3-2.7 on the Richter scale (USGS, 2017b). While the magnitude of an earthquake does not precisely predict the degree to which damage may occur, the Modified Mercalli Intensity Scale (Intensity Scale) describes the effects from earthquakes of various magnitudes (USGS, 2017c). According to the Intensity Scale, earthquakes with magnitudes ranging from 1.0-3.0 are generally not felt, and are usually only detected by seismographs. Earthquakes with magnitudes ranging from 3.0-3.9 are generally felt by only a few persons at rest, especially on the upper floors of buildings. Considering that no earthquake in Montgomery since 1900 has exceeded a magnitude of 2.7, the potential for damage to the Facility resulting from an earthquake is low.

Furthermore, 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. Exhibit 21 of the Article 10 Application will provide a more detailed description of the Facility's potential vulnerability to seismic disturbances. Regardless, given that the maximum height of the Project facilities will be approximately 10 feet, there is no potential threat to the public health and safety should a seismic event occur.

With respect to climate change, the Facility will not be negatively impacted by climate change. Climate change can be generally defined as a significant and lasting change in the statistical distribution of weather patterns over periods ranging from decades to millions of years. Climate change may be measured as a change in average weather conditions, or in the distribution of weather around the average conditions (i.e., more or fewer extreme weather events). Climate change is caused by factors that include oceanic processes (such as oceanic circulation), variations in solar radiation received by Earth, plate tectonics and volcanic eruptions, and human-induced alterations of the natural world; these latter effects are currently causing global warming, and "climate change" is often used to describe human-specific impacts. According to the EPA, climate change events in the Northeast include warming temperatures and a large increase in the amount of rainfall measured during heavy precipitation events, more frequent heat waves, rising sea level and more frequent heavy rains expected to

increase flooding and storm surge, threatening infrastructure, and, as temperatures rise, agriculture will likely face reduced yields, potentially damaging livelihoods and the regional economy. None of the potential climate change events are expected to impact the solar Facility. The Article 10 application will examine potential climate change events for New York and discuss their potential impact on the Facility.

As stated above, electricity generated from zero-emission solar energy can displace the electricity generated from conventional power plants, thereby reducing the emissions of conventional air pollutants, such as sulfur and nitrogen oxides (acid rain precursors), mercury, and carbon dioxide and methane, all linked to global climate change. Displaced emissions occur because renewable electric generation sources have low marginal operating costs (i.e., fuel). Coupled with energy policy initiatives such as the CES (i.e. 50% renewable generation by 2030 and mandatory REC procurement), renewable energy sources will be first option sources, displacing generation at fossil fuel plants that have higher marginal operating costs. The proposed Facility is anticipated to have significant, long-term beneficial effects on the use and conservation of energy resources. The operating Facility will generate up to 90 MW of electricity without consuming cooling water or emitting pollutants.

(11) Objectives and Capabilities of the Applicant

As noted above, the objective of the Facility is to create an economically viable solar-powered electrical-generating facility that will provide a source of renewable energy to the New York power grid to:

- Satisfy regional energy needs in an efficient and environmentally sound manner;
- Supplement and offset fossil-fuel electricity generation in the region, with emission-free, solar-generated energy;
- Reduce the amount of electricity imported to New York State;
- Take advantage of the solar resource;
- Provide energy that is not susceptible to fluctuations in commodity prices;
- Produce electricity without the generation of carbon dioxide or other greenhouse gases that contribute to climate change;
- Promote the long-term economic viability of rural areas in New York; and
- Potentially assist New York State in meeting its proposed Clean Energy Standard and State Energy Plan goals for the consumption of renewable energy in the State.

Mohawk Solar is a wholly-owned subsidiary of Avangrid Renewables, LLC. Avangrid Renewables, LLC is headquartered in Portland, Oregon, and has more than $10 billion of operating assets totaling more than 6,000 MW of owned and controlled wind and solar generation in 22 U.S. states.

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

Unlike state or municipal entities, private developers do not have the power of condemnation or eminent domain. Consequently, the Applicant does not have the unfettered ability to locate facilities in any area or on any parcel of land. Facilities can only be sited on private property where the landowner has agreed to allow such construction. The Article 10 Application will describe the site selection process and appropriateness of the proposed site for the Facility.

(1) General Arrangement and Design

After identifying a suitable general area for establishing a solar energy generation facility, developing a final layout for Facility components involves continuous evaluation of various constraints and alternatives. Determining the number and locations of solar panels, and the placement of ancillary features within a facility site is based on the complex interplay between a variety of landowner, regulatory (local, state, and federal), engineering, and environmental considerations. The consideration and continual refinement of the potential layout and size for the Facility has occurred since 2015, when an initial layout of the Project was developed based on the above-mentioned site constraints, a desktop review of site features. Since then, multiple revisions to the Facility design have been made, taking into consideration a possible reduction in the number of panels, the overall footprint of the Facility, and changes to the placement of certain components to avoid environmental resources. The Facility design that will be presented in the Article 10 Application will represent the culmination of multiple iterations of refinement to this initial layout in response to the results of regulatory considerations, on-site engineering, and environmental studies.

(2) Technology

Private landowner agreements limit the use of land to a solar power project and, as such, do not allow for the siting of other alternative energy production facilities (e.g., wind, hydro, biomass, or fossil fuel). Moreover, alternative renewable technologies such as wind or hydroelectric generation are not viable at the site given that location does not have adequate wind or water resources. Accordingly, other power generation technologies are not reasonable alternatives, and do not warrant consideration in this Article 10 Application.

The solar panels and other components proposed for the Facility will utilize the latest in solar power generation technology to enhance project efficiency and output. Additional detail regarding solar panel technology will be provided in the Article 10 Application.

(3) Scale or Magnitude

As mentioned previously, various constraints dictate the size and layout of this solar energy power project. Because the Applicant is committed to voluntarily minimizing the visual and other impacts of the Facility, the project will not physically occupy the entirety of the Facility Area. Mohawk Solar has designed the Project layout in a semi-dispersed way that minimizes impacts while still meeting the Project's 90 MW output requirements. The Article 10 Application will address alternate scale and magnitude of the Facility in the context of the interconnection agreement (i.e., a 90 MW Facility) and the financial viability of a smaller project. Information regarding economic benefit to local communities such as PILOT payments, landowner payments, and construction expenditures related to a project of this size will also be addressed.

(4) Timing of In-service Date in Relation to Other Capacity Changes to the Electric System

In 2015, Mohawk Solar filed an application with the NYISO for interconnection of 90 MW into the St. Johnsville-Marshville 115-kV transmission line. The System Reliability Impact Study was approved by the NYISO Operating Committee on August 10, 2017. The SRIS, the results of which will be included in the Article 10 Application, indicates no negative reliability impacts for Summer Peak and Winter Peak Power Flow Analysis.

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

The proposed location is best suited to promote public health and welfare because it properly balances the siting constraints discussed above with the public health benefits of solar power generation. Air pollution and climate change have both short-term and long-term adverse effects on public health and the planet. Electricity generated from zero-emission solar power facilities like the proposed Facility can displace the electricity generated from conventional power plants, thereby reducing the emissions of conventional air pollutants, such as mercury, sulfur and nitrogen oxides, and carbon dioxide. Reduced fossil fuel combustion will improve public health and welfare. Utility-scale solar energy power projects are best sited on lower value land free of tree cover, with adequate southern exposure, access to a point of interconnection, and in less visible locations. The Applicant selected the proposed site for the Facility because of the availability of each of these factors. These factors combine to make the proposed site best suited for solar energy development and the associated

beneficial impacts to air quality. The Article 10 Application will contain additional information as to why the proposed location best promotes the public health and welfare.

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

The benefits of the Facility are anticipated to include positive impacts on socioeconomics (e.g., a substantial number of construction jobs, increased revenues to local municipalities and lease revenues to participating landowners), air quality (through reduction of emissions from fossil fuel-burning power plants), and climate (reduction of greenhouse gases that contribute to climate change). By eliminating pollutants and greenhouse gases, the Facility will also benefit ecological and aquatic resources and human health. Appropriate setbacks and other protective measures will be employed to assure public health and safety during construction and operation of the Facility. The Article 10 Application will include a statement of the reasons why the proposed technology, scale, and timing of the Facility are best suited to promote public health and welfare.

(f) No Action Alternative

The No Action Alternative assumes that the Facility Site would continue to exist as is. This no action alternative would not beneficially nor adversely affect current land use, ambient noise conditions, traffic or public road conditions, television/communication systems, and would maintain the area's current community character, socioeconomic, and energy-generating conditions as they currently exist. The no-action alternative would, however, deprive the state and region of a significant source of clean, pollutant-free electricity and a significant, new revenue stream for project hosts. The Article 10 Application will further discuss why the no-action alternative to the Facility is not the preferred alternative.

(g) Energy Supply Source Alternatives

Alternative power generation technologies, such as fossil-fuel and biomass combustion, would not meet the goals of the Facility, and would pose more significant adverse environmental impacts, particularly on air quality but also on land use, water resources and public health and welfare. The proposed location is also not suitable for other renewable forms of generation such as wind or hydroelectric. Therefore, the Article 10 Application will not evaluate alternative energy sources.

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

Because source and demand-reducing alternatives do not meet the objectives or capabilities of the Applicant, no alternatives have been identified. Therefore, source and demand-reducing alternatives will not be evaluated in the Article 10 Application.

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

As previously described in (d) and (e) above, the Article 10 Application will include a statement of the reasons why the proposed Facility is best suited to promote public health and welfare.

2.10 CONSISTENCY WITH ENERGY PLANNING OBJECTIVES

(a) Consistency with State Energy Plan

New York has adopted strongly proactive policies to combat climate change 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 ("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.[2] The goals directed in the SEP are ambitious and require grid-scale solar projects, such as the Facility, to achieve targeted levels of new renewable generation. At an anticipated size of 90 MW, the Project will contribute significantly to the State's clean energy goals and, as the State's first grid-scale solar facility, also pave the way for future projects of its size.

On August 1, 2016, in accordance with the statutory obligation that agency actions must be reasonably consistent with the most recent SEP, the Commission adopted the SEP's goals that 50% of New York's electricity is to be

[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].

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").

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

In accordance with the New York Independent System Operator's tariff's and procedures, a System Reliability Impact Study (SRIS) is currently being conducted for the Facility. 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 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.

(c) Impact on Fuel Diversity

The proposed Facility will improve fuel diversity within the State by increasing the amount of electricity produced by non-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] By 2013, however, the NYISO determined that "gas has effectively displaced both coal and oil."[4] Since 2000, approximately 2,000 megawatts of generation fueled by coal have retired or suspended operation. Accordingly, alternative forms of electric generation such as solar are becoming 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.

[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.

(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 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 unutilized 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 given taking into consideration also the need for additional renewable generation and locational constraints.

(e) Impact on Electric Transmission Constraints

As noted elsewhere herein, locational requirements dictate placement of renewable resources and, as such, much of the State's renewable power is and will be provided by hydroelectric projects and wind farms located in the western and northern portion of the State, with the southeastern region remaining host to power plants fueled primarily by natural gas. According to the NYISO three main issues must be addressed with respect to system reliability before SEP and CES goals can be achieved: (1) additional transmission capability necessary to reliably transport energy from renewable resources developed in remote areas, mainly western and northern New York, to New York's southeast load centers, (ii) additional energy and ancillary service requirements necessary to maintain system reliability with the level of intermittent resource penetration required by the CES, and (iii) the State's resource adequacy requirements resulting from the significant additional intermittent resource penetration required by the CES.[5] It is anticipated that approximately 90%, or 17,000 MW, of New York's total new renewable generation will locate in Upstate New York (i.e., NYISO Zones A-F).[6] According to the NYISO,

> "[t]he resource mix and geographic distribution of the new renewable resources will dramatically change power flows across the New York State bulk transmission system. Significant additional volumes of renewable energy will have to move east and south across the State to serve load. In

[5] Case 12-T-0502: *Clean Energy Standard Proceeding*, Comments of the NYISO (Filed

[6] See DPS SEIS and 2016 NYISO Load and Capacity Data.

order to achieve 50% by 30, the bulk power transmission system must have the capability to deliver all renewable resources' energy production simultaneously."

The NYISO states that it has begun analyzing potential new transmission facilities to help accommodate additional renewable resource build-out throughout western and northern New York. Based on the volume of new renewable generation resources and the locations for build-out projected in the DPS CES SEIS, the NYISO estimates that one likely transmission development scenario could require nearly 1,000 miles of new bulk power transmission, in addition to the AC Transmission and Western New York public policy initiatives now underway, to avoid frequent west to east transmission constraints in the future.

The Article 10 Application will address the Facility's potential impact on electric transmission constraints taking into consideration current initiatives to increase New York's electric transmission system capabilities and information contained in the NYISO's 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 displacing facilities that rely on fuel for 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.

(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 CO_2 emissions by 50 million tons over the life of the projects. Recent policy initiatives also include a comprehensive Clean Energy Fund ("CEF") proposed by NYSERDA 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.

Large-scale renewables ("LSR"), which are larger utility-scale renewable energy project developments, such as the Facility, are a key component of the REV Order, which outlines the issues and tasks to begin to resolve the technical, marketplace, and regulatory challenges necessary to achieve the REV plan and goals. 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. adequate and unutilized land, willing land lease participants and host communities, 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 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

According to the Commission, "[f]or New York, the need and ability to take steps to combat climate change is immediate."[7] "Climate change will cause not only sea level rise, heat waves, and extreme weather events, but also threatens massive economic and lifestyle disruption from damage to agriculture, water resources, public health, energy and communication systems, and the natural ecosystems that define and support communities." The Facility will assist in combatting climate change and have a positive impact on public health and welfare by producing enough electricity to power 20,000 homes and displacing significant quantities of air pollutants such as CO_2, NOx, SO_2, mercury compounds, and lead compounds.

[7] CES Order at 4.

Despite the significant amount of undeveloped land in upstate New York, the number of viable sites for grid-scale solar development are relatively few. Optimally, as with the case of this Project, grid-scale solar projects should be sited on unutilized land. Here, the land on which the Facility will be located is sub-prime agricultural land currently not used by the landowners. Accordingly, the Facility will provide a guaranteed revenue stream to the landowners while not taking any agricultural land out of production. In addition, grid-scale solar projects must be located in relatively close proximately to a suitable point of interconnection with the local utility to minimize interconnection costs. Significant interconnection costs can easily render a solar project uneconomic. The Article 10 Application will further explain how, taking into consideration locational constraints, the proposed Facility promotes the public health and welfare.

2.11 PRELIMINARY DESIGN DRAWINGS

The Preliminary Design Drawings prepared in support of Exhibit 11 of the Article 10 Application will be prepared using computer software (i.e., AutoCAD), and these drawings will be labeled "for permitting only, not for construction". The Preliminary Design Drawings will be prepared under the direction of a professional engineer, landscape architect or architect who is licensed and registered in New York State.

(a) Site Plan

The Preliminary Design Drawings will constitute the site plan for the Facility and likely will be prepared at a scale of 1" = 100'. This set of drawings will depict all Facility components (PV panels, access roads, buried and above-ground collection lines, collection substation, point of interconnection switchyard, and O&M facility – if determined necessary).

(b) Construction Operations Plan

The Preliminary Design Drawings will depict the location of all anticipated construction staging/material laydown areas, which is where the contractor trailers/offices and parking areas will be located during construction. With respect to notable excavations associated with the Facility, the Preliminary Design Drawings will include plan and profile sheets, each of which will indicate the anticipated cut and fill associated with notable Facility construction activities. Excess soil will be stockpiled along the construction corridors and used in site restoration.

(c) Grading and Erosion Control Plans

The footprint of a solar generating facility is generally a large tract of contiguous area with compact rows of arrays sited to fit within the existing landscape without the need for extensive grading. An erosion control plan will be presented in the Article 10 Application consistent with the requirements of 16 NYCRR 1001.11(c). Two-foot contour data will be utilized for engineering and design purposes. Existing and proposed contours (two-foot intervals) will be depicted on the plan view sheets of the Preliminary Design Drawings. In addition, a soils type map will be included with the drawing set. Exhibit 21 of the Article 10 Application will provide more detailed information such as depth to bedrock, preliminary cut and fill calculations, and a summary of test borings to be conducted at a sub-set of panel locations and substation locations.

(d) Landscaping Plan

The Article 10 Application will include a landscaping plan that will include the locations of security fencing, gates, and any other necessary ancillary infrastructure. The landscaping plan will include any plantings along the fence line of the Facility that may be required as part of visual mitigation.

With respect to those areas where trees may be removed due to Facility construction and operation (which is anticipated to be minimal), the Preliminary Design Drawings will depict the Facility footprint using recent aerial imagery. With respect to the anticipated acreage of tree removal, this will be quantified and discussed in Exhibit 22 of the Article 10 Application. However, an on-site survey of all trees to be removed will not be included in the Article 10 Application.

(e) Lighting Plan

The Article 10 Application will provide details of lighting associated with the PV panels and substation.

(f) Architectural Drawings

The Facility will not require the construction of any structures that would necessitate architectural drawings, and the Applicant will therefore not submit architectural drawings in the Article 10 Application.

(g) Typical Design Detail Drawings

The Preliminary Design Drawings and various appendices of the Application will contain typical design details associated with the Facility. There are anticipated to include:

- Access roads
- Construction areas
- Horizontal directional drilling
- Buried and above-ground collection lines
- PV Panel Mounts
- Inverter Housing
- O&M facility (if a new structure is determined to be necessary)

(h) Interconnection Facility Drawings

A single line drawing of the POI switchyard will be included in the System Reliability Impact Study ("SRIS"), which will be submitted with the Article 10 Application. Additional details on the POI switchyard will be available once the facilities study is complete. However, the facilities study will not be completed until after the Application is submitted to the Siting Board. The general arrangement of the POI switchyard will also be included with the Article 10 Application.

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

The Article 10 Application will provide as a representative list of applicable codes and standards, which will be updated following Certification.

2.12 CONSTRUCTION

The methods that will be used to construct the Facility will be similar to those generally used in the U.S. to construct utility-scale, ground-mounted PV solar facilities generating wholesale power. These methods are much less invasive than construction methods associated with most conventional energy generating facilities. The primary steps for Facility construction will be the following: (1) securing of the perimeter of each of the areas in which construction will occur; (2) installation of storm-water and erosion management controls; (3) clearing vegetation, if any; (4) minor grading, if any; (5) construction of access roads; and (6) installation of equipment (racking, panels, buried electric and communication lines, inverters, pyranometers, the substation and permanent fencing).

The PV panels will be secured on a racking system supported by metal piers driven or screwed into the ground by a pile-driving machine to a depth of approximately 5 to 8 feet. Since the majority of the site is relatively flat, very little grading is anticipated for the Facility. The racking system for the PV panels will be on a single-axis tracking system.

Single-axis tracker designs vary by manufacturer, but generally consist of a series of mechanically linked horizontal steel support beams known as torque tubes, with a drive train system usually located in the center of the rows, dividing the array into two sides. The number of rows within a tracker block is typically limited by the drive system's ability to move multiple torque tube assemblies. This row design is also determined by the amount of the desired solar output to the inverters. The preliminary design specifies that the distance between rows of solar panels would be between 15 feet and 25 feet on-center, and a row length of approximately 180 to 280 feet. Rows would be aligned north to south and the PV panels would pivot, tracking the sun's motion from east to west. The PV panels would have a typical height of up to 10 feet above the ground at their highest point when tracking fully-East or fully-West.

Within each solar field, a network of electric lines and associated communication lines will collect the electric power from different groups of arrays and transmit it to a central location ("DC Collector System"). Solar panels will be grouped into series of circuits that are routed, through cable trays on the racking, to combiner boxes. Power from one or more of the combiner boxes then will be transmitted to a group of related components: a DC-to-AC inverter, a step-up transformer that increases the voltage to 34.5 kV, and a cabinet containing power control electronics ("Inverter"). The equipment comprising each Inverter will be mounted on a foundation such as a metal skid or a concrete block.

The Facility will also necessitate the installation of medium voltage collection lines, which will aggregate the power from the inverters and carry it to the collection substation. The majority of the collection system will be buried to a depth of 3 feet utilizing a trenching method, although overhead cables may also be used where underground installation is not practicable due to environmental constraints (such as steep slopes, rivers, streams or creek crossings, bedrock etc.) and/or cost considerations.

The collection substation will be located on a parcel of land immediately adjacent to the interconnection switchyard. The collection substation will include standard electrical, control, and protective equipment, which may include features such as: collection line feeders and breakers, a 34.5 kV bus, a main power transformer (to increase the voltage from 34.5 kV to 115 kV), a high-voltage breaker, metering/relaying transformers, disconnect switches, an equipment enclosure containing power control electronics, and a lightning mast. The equipment for the collection substation will be constructed on a concrete foundation.

The Facility will also involve the construction of a network of access roads, which will allow for delivery of Facility components during construction, and access to Facility components for maintenance purposes during operation. The access roads for the Facility are anticipated to be surfaced with gravel, and to be approximately 15 feet wide.

(a) Preliminary Quality Assurance and Control Plan

It is typically the responsibility of the Balance of Plant (BOP) contractor, who is responsible for the construction of the Facility, to develop and implement the Quality Assurance and Control Plan. The Applicant will require the BOP to provide a final Quality Assurance and Control Plan prior to starting construction. All sub-contractors will be required to follow the Quality Assurance and Control Plan. The Quality Assurance and Control Plan is site specific and therefore not developed until the BOP has been selected and the Facility is proceeding with construction. The Applicant will submit the final Quality Assurance and Control Plan to the Siting Board prior to the start of construction.

The Preliminary Quality Assurance and Control Plan to be included with the Article 10 Application will include the following components.

1. Statement of Authority and Responsibility
2. Organization
3. Safety
4. Quality Assurance Program
5. Facility Communication
6. Document Control
7. Control of Client/Customer Supplied Material and Services
8. Inspections and Test Control
9. Non-conformance reporting
10. Corrective and Preventive Action & Continual Improvement
11. Documentation
12. Field Audits and Surveillances
13. Security
14. Identification of applicable construction codes

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.

(b) Conformance with Public Service Commission Requirements

(1) Protection of Underground Facilities

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 that the Applicant will become a member of Dig Safely New York. The Applicant will require all contractors, excavators and operators associated with its facilities to comply with these requirements and comply with all requirements of the Commission's regulations regarding identification and numbering of above ground utility poles (16 NYCRR Part 217).

(2) Pole Numbering and Marking Requirements

Although the construction of poles is unanticipated, the Applicant will comply with pole number and marking requirements, as implemented by 16 NYCRR Part 217.

(c) Plans to Avoid Interference with Existing Utility Systems

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. The first step in avoidance of interference with existing utility systems is to identify those entities that have utilities within the Facility Area. Known utilities with assets within the Facility Area have been included in the PIP's stakeholder list. These utilities have received and will continue to receive updates and notifications pertaining to the Facility. The Applicant also talks to landowners regarding utilities located on their properties. This information on utilities will be taken into account during Facility component siting in order to avoid and minimize conflicts with utilities.

Furthermore, the Applicant has begun to gather data on utilities. The Applicant will also coordinate with public (i.e., NYSDPS) and private (i.e., National Grid, GeoTel Communications, Inc.) regarding other available underground major utilities. The Applicant has identified the Dominion and Iroquois Gas Pipelines, which both run through the Facility AreaData on natural gas and oil wells within the Facility vicinity has also been obtained from the NYSDEC and NYSDPS, and will be included in the Article 10 Application.

The Applicant will provide the results of any PIP and landowner utility contacts and information to the BOP. Prior to construction, the BOP will be required to conduct a one-call service to verify the extent and known location of all utilities. This effort will include a confirmation of utility response through the Dig Safely New York system. The BOP will also be required to mark out any locations of planned excavating. This will ensure that both the Facility excavation and existing utilities are marked to determine any conflicts.

The Article 10 Application will include a map of all existing utility systems known at that time. This map will not be comprehensive but will establish what has been identified to date and the plan for continuing to identify existing utilities. It is not appropriate to do a comprehensive utility-locating effort prior to construction, i.e. one-call, because utilities typically prefer to mark out their facilities once and there may be changes to utilities between the time the Facility is certificated and the initiation of construction. In addition, the Article 10 Application will provide a discussion of setback distances from existing utilities that the Facility will adhere to.

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.

(d) Procedures for Addressing Public Complaints and Disputes

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 construction and operation. The Complaint Resolution Plan will also include protocols for notifying the public of the complaint procedures as well as steps to be taken when complaints cannot be resolved by the Applicant. In addition, the Applicant will include a procedure for review and transmittal of complaints, updates, and plans for resolution to DPS Staff.

The Article 10 Application will describe each of these steps in the Complaint Resolution process in significant detail.

2.13 REAL PROPERTY

(a) Real Property Map of Generating Site

The Article 10 Application will include a tax parcel map of the Facility Site which depicts tax parcel information and the additional requirements set forth in the Article 10 regulations.

(b) Real Property Map of Interconnection Facilities

Using the data referenced above, maps showing all proposed interconnection facilities and associated access areas will be prepared and included in the Article 10 Application.

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

The Article 10 Application will provide 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 transmission and collections lines, as well as easement agreements for crossing existing natural gas and transmission lines, and will provide a statement that the Applicant has 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

The Article 10 Application will provide 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

(a) Total Capital Costs

Capital costs will be presented in the Article 10 Application and will include development costs, construction design and planning, equipment costs, and construction costs, and will be broken down by:

- PV Modules/Equipment
- Engineering
- Construction (including contingency)
- Insurance
- Development (including contingency)

(b) Source of Cost Estimates

The basis for the Project's cost estimate will be presented in the Article 10 Application and is anticipated to be based on the following sources:

- Industry standards
- Applicant experience
- Historical and current price quotes

The cost estimate to be provided will be in 2017 dollars.

(c) Work Papers

The Applicant will provide an internal work paper that describes the assumptions in estimating the total capital costs as described above in (a). However, this information is proprietary, confidential and consists of Company trade secrets that are not provided to the public. Therefore, the Applicant will submit this under separate and confidential cover, and will seek the requisite trade secret protection for this information pursuant to NY Public Officer's Law Section 87(2)(d) and 16 NYCRR 6-1.4.

2.15 PUBLIC HEALTH AND SAFETY

Solar generated power is unlike conventional power generating facilities, as solar farms produce energy without emitting pollutants that decrease air quality. This is a major public health benefit since the literary body of negative effects of air pollution and climate change is well established.

New York State's 2015 State Energy Plan involves reducing Greenhouse Gas (GHG) emissions from the energy sector, because this is 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 energy and hydroelectric power. While the use of these means of

producing electric power is not risk-free, 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.

The Article 10 regulations require the assessment of potential risks associated with the construction and operation of the Facility. Public health issues associated with the construction of the Facility are comprised of typical risks associated with commercial construction projects. Section 15 of the Article 10 Application will demonstrate that the aforementioned risks have been identified and evaluated.

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

One of the advantage 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. With respect to construction, the generation of liquid and/or solid waste is primarily limited to standard operation of construction equipment and will be handled by the BOP contractor in accordance with all applicable laws and regulations pertaining to such wastes.

Facility construction will generate minor amounts of solid waste, primarily, plastic, wood, cardboard and metal packing/packaging materials, construction scrap and general refuse. This construction material will be collected from work areas and disposed of at a licensed solid waste disposal facility. The Article 10 Application will provide additional information regarding construction-generated wastes, including sanitary facilities and cleared vegetation.

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

This is not applicable to solar power facilities.

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

This is not applicable to solar power facilities.

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

This is not applicable to solar power facilities.

(e) Wind Power Facility Impacts

This is not applicable to solar power facilities.

(f) Public Health and Safety Maps

The required maps will be prepared and included in the Article 10 Application, and data sources are anticipated to include the NYS GIS Clearinghouse, FEMA, and the USGS.

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

As indicated above in subsections (a) through (d), the Facility is not expected to result in any public health or safety concerns associated with gaseous, liquid, or solid wastes. Solar energy facilities are safer than conventional forms of energy production, since significant use and storage of combustible fuels are not required. The Article 10 Application will include a summary of the potential impacts on the environment, public health, and safety associated with the information identified above in subsection (a) through (e).

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

The Article 10 Application will address all 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

The proposed Facility will require the irreversible and irretrievable commitment of certain human, material, environmental and financial resources. Human and financial resources will be expended by numerous entities including the Applicant, the State of New York (i.e., various state agencies), Montgomery County, and the Towns of

Canajoharie, and Minden for the planning and review of the Facility. The expenditure of funds and human resources will continue throughout the permitting and construction phases of the Facility.

The Facility require a commitment of land throughout its operational life, which is expected to be up to 40 years, (e.g., the land to be allocated for PV arrays, access roads, collection lines, collection substation and the point of interconnect facility). However, because the PV modules and mounting posts may be removed at the end of their useful life, the commitment of this land to the Facility is not irreversible or irretrievable.

Various types of manufacturing and construction materials and building supplies will be committed to the Facility. The use of these materials, such as gravel, concrete, reinforcement steel, cables etc., will represent a long-term commitment of these resources, which will not be available for other projects. However, some of these materials (e.g., steel, gravel) may be retrievable following the operational life of the Facility.

The Article 10 Application will provide additional detail regarding the Facility's irreversible and irretrievable commitment of resources.

(j) Impact Minimization Measures

The Article 10 Application will provide additional detail regarding any measures proposed by the Applicant to minimize public health and safety impacts, if any.

(k) Mitigation Measures

In the Applicant's experience, when a project, such as the Facility, is properly sited and designed, mitigation measures are generally not necessary because significant impacts to public health and safety typically do not occur.

In addition, as further discussed in Section 2.12, the Applicant will implement a Complaint Resolution Plan, which include the following:

- Communications protocol and contacts for construction and operation
- Registering a complaint
- Process for gathering and analyzing information regarding the complaint
- Complaint Response and Tracking

- Complaint Response follow up

The Application will describe each of these steps in the Complaint Resolution process in significant detail, and will identify any other measures proposed by the Applicant to mitigate such impacts. The Article 10 Application will incorporate mitigation measures, where feasible, to meet the impact standards and Facility goals.

(l) Proposed Monitoring

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. No additional monitoring specific to public health and safety is anticipated.

2.16 POLLUTION CONTROL FACILITIES

The proposed Facility, with the exception of the proposed substation, 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 emissions during construction, and Section 2.23 for information on the Facility's State Pollution Discharge Elimination System ("SPDES") General Permit for construction. Transformers integrated into the inverters may, in some instances, contain greater than 500 gallons of liquid. In such cases, the liquid will be of a biodegradable source. If secondary containment is required these transformers will be equipped with an integrated steel catch basin for transformer oil, bar grating for a working surface on top of the skid, and a water separation valve that allows rain water to drain from the catch basin. The packing within the water separation valve will expand when oil is present to prevent the flow from the catch basin. In addition as described in Section 2.23 of this PSS, a Preliminary Spill Prevention, Containment and Counter Measures (SPCC) Plan will be implemented during Facility operation to minimize the potential for unintended releases of petroleum and other hazardous chemicals.

2.17 AIR EMISSIONS

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 leading to serious climate change. By its nature, climate change will 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.[8] 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").

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

In accordance with Section 111 of the Clean Air Act Extension of 1970, the U.S. Environmental Protection Agency ("EPA") established New 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 permit 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 ("SO_2") emissions from existing sources and nitrogen oxides ("NOx") emission controls on new sources in New York State. SO_2 and NOx 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 SO_2 and NOx for environmental and public health

[8] 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].

benefits. These regulations are also not applicable to the Facility because it will generate electricity without releasing SO_2 or NOx.

(b) 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 2016 (NYSDEC, 2016a). 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 4, which encompasses Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady, and Schoharie Counties. There are two monitoring stations in Region 4, both are in Albany County, in Albany and Loudonville. The Loudonville Station measures ozone (O_3), CO, and SO_2, while the Albany Station measures particulate matter ($PM_{2.5}$).

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 2016, all Region 4 sampling points were within the acceptable levels established by the NAAQS for all tested parameters (NYSDEC, 2016a). No local air monitoring data is 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 pollutants into the atmosphere, the specific requirements of 1001.17(d) pertaining to pollutant emissions are not applicable to the proposed Facility and will not be included in the Article 10 Application.

The operation of this Facility is anticipated to have a positive impact on air quality by producing electricity with zero emissions (except for negligible emissions from vehicles that may periodically servicing the Facility). 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 for the following pollutants: CO_2, NOx, SO_2, mercury compounds, and lead compounds.

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 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

Overall safety and security risks associated with the Facility are anticipated to be minimal. The Applicant has developed, based on its experience with other solar projects and reasonable expectations associated with the Facility, preliminary plans for site security, health and safety, and emergency action. 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.

(a) Preliminary Plans for Site Security During Facility Construction

To reduce safety and security concerns, public access to the Facility shall be limited. The BOP and all subcontractors will be required to provide a site security plan for Facility construction, which will be developed by the BOP contractor prior to construction of the Facility will be provided to the Siting Board upon completion. The Application will provide preliminary provisions for security during construction in the Health and Safety Plan, which will include the following:

(1) Access Controls

The PV panels, inverters, and substation will be contained within perimeter fencing with locked gates. The general public would not be allowed on the construction site and vehicular access would be blocked by fencing and locked gates.

(2) Electronic Security and Surveillance Facilities

Trespassing is generally not an issue during construction and operation of solar facilities. However, if problems arise, video cameras or other surveillance technology may be set up to monitor activity.

(3) Security Lighting

Security lighting activities associated with Facility construction will include lighting of the substation. Lighting will be directed downward where possible 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. The Article 10 Application will include a discussion on additional security lighting considerations such as task lighting and full cut-off fixtures.

(4) Setback Considerations

Although none are expected, the Article 10 Application will provide a detailed outline associated with setbacks and related safety concerns.

(b) Preliminary Plans for Site Security During Facility Operation

It is anticipated that the Applicant will own and operate the Facility. Therefore, the Applicant will be responsible for site safety and security during operation and preparation of the associated plan. The Article 10 Application will contain a preliminary site security plan for operation, which will likely include the following:

(1) Access Controls

Access roads will have gates that are kept locked to keep the general public out. All Facility components including PV arrays, inverters, and substation will be fenced, gated, and locked at all times. In the Applicant's

experience, fencing and locked gates have proven to be sufficient to prevent access by unauthorized personnel. However, if trespassing becomes a problem, intrusion detection can be added as needed.

(2) Electronic Security and Surveillance Facilities

Exhibit 18 of the Application will provide a detailed discussion of Facility security and surveillance.

(3) Security Lighting

The Article 10 Application will provide a detailed description of security lighting activities associated with the Facility, including additional considerations such as task lighting and full-cutoff fixtures.

(4) Aircraft Safety Lighting

Given the low profile of solar generating facilities, aircraft safety lighting is not required and will not be included in the Article 10 Application.

(5) Setback Considerations

Exhibit 6 of the Article 10 Application will provide a detailed discussion of Facility setbacks.

(6) Cyber Security Program

The Article 10 Application will provide a discussion on how the Applicant will comply with the North American Electric Corporations ("NERC's") 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 infrastructures of the United States. Subject to 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 is compliant with the necessary NERC CIP standards. All firewalls and servers are monitored 24 hours/day, 7 days/week by a Security Operations Center.

(c) Preliminary Safety Response Plan

A Preliminary Emergency Action Plan ("EAP") which will outline the safety plans of the Facility throughout its lifecycle will be developed by the Applicant and will be provided with the Article 10 Application. The information contained in the EAP will be developed in conjunction with local emergency service providers, and 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. In addition to identifying specific emergencies that could arise at the Facility, the EAP, also provides awareness to the following:

- Identify alarm and emergency evacuation procedures;
- Identify procedures to be followed by site personnel who operate critical operations before they evacuate;
- Identify rescue and medical duties for all on-site personnel of Applicant, the BOP and its subcontractors following emergency evacuation;
- Identify persons who can be contacted for further information or explanation of duties under this plan; and
- Establish training guidelines for site personnel regarding this plan to support safe practices in the event of an emergency.

(1) Identification of Contingencies that Would Constitute an Emergency

The EAP as described above will outline the contingencies that would constitute a safety or security emergency.

(2) Emergency Response Measures by Contingency

In the event an emergency response measure is necessary the EAP described above will provide detailed instructions to site personnel, the general public, and emergency responders.

(3) Evacuation Control Measures by Contingency

Unlike a nuclear facility or a natural gas facility, a solar power project does not create safety concerns of a magnitude that would necessitate an evacuation. Therefore, Facility-related operations are not anticipated to require evacuation. However, in the event an evacuation from the Facility Site is necessary, the EAP described above will provide detailed instructions to on-site personnel of Applicant, the BOP and its subcontractors, the general public, and emergency responders.

(4) Community Notification Procedures by Contingency

The EAP as described above will outline the community notification procedures should an emergency situation occur.

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

The Application will include documentation of submittal of the preliminary Security 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 Area is not located within any part of a city that has a population over one million and therefore a review by the local office of emergency management is not required. However, the Applicant will coordinate with the Montgomery County Emergency Services Department and provide a copy of the Emergency Action Plan to them.

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

The EAP, as described above, will 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

The EAP will contain a section describing actions that would be implemented in the event a fire emergency or hazardous substance incident occurs. Specific care will be taken to ensure fire fighters have access to the Facility in addition to adequate roads to respond to emergencies. 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.

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

The EAP, as described above, will be provided to the local emergency first responders that serve the Facility prior to Application submission, and such consultation will be documented in the Article 10 Application.

2.19 NOISE AND VIBRATION

Compared with all other types of power generation facilities, the potential for any kind of community noise impact from a photovoltaic solar energy project is near non-existent. Moreover, such facilities have the unique characteristic of only operating during daylight hours when noise is much less likely to be an issue in the first place. Any possible concerns about the sound emissions from a solar project are largely confined to the step-up transformer in the new substation, electrical inverters within the various solar panel fields and some short-lived activities during construction. There are no vibration issues associated with the operation of such a facility.

(a) Substation Sound Emissions

The power generated by the project will be collected and routed to a step up transformer in the substation or substation expansion associated with the project. The potential noise impact from any substation is essentially a matter of how prominent and audible the tonal sound emissions are from the transformer(s) at the nearest residences. General broadband (A-weighted) sound is of no real concern. Tones at harmonics of 60 Hz are generated by all transformers and are always noticeable close to the unit as a hum or buzz; however, the prominence of these tonal peaks diminishes quickly with distance and disappears into the background. More specifically, it is generally the case that the principal tones, usually at 120, 360 and/or 480 Hz, become largely imperceptible at distances ranging from 150 to 750 feet, depending on the size and capacity of the transformer(s). Consequently, if a proposed substation is more than 750 feet from any adjacent residence it can be reasonably concluded that no significant adverse noise impact will occur. If there are any residences within 750 feet, there is a possibility that the sound emissions from the substation could be a community noise issue and a field study and impact assessment, as outlined below, would be warranted.

(1) Sensitive Sound Receptor Map

As part of the Article 10 Application, the Applicant will prepare and submit a map showing the project's substation and step up transformer in relation to the nearest potentially sensitive sound receptors (residences, schools, hospitals, etc.) within 750 ft. of the transformer.

(2) Ambient Pre-Construction Baseline Noise Conditions

The Applicant will conduct a sound monitoring survey, preferably during the October through June time frame, to measure the existing sound levels at positions representative of the nearest potentially sensitive receptors as the first step in a modified Carrier-to-Noise Ratio (CNR) analysis to establish the baseline background conditions. The full and 1/3 octave band spectra on a continuous 10 minute time resolution will be measured over at least a 7-day period and will record, at a minimum, the L90, Leq, Lmin and Lmax levels. The presence of any existing tones that might be present at the receptor points if a substation already exists (and the new project will add an additional transformer) will be evaluated per Annex K *Objective method for assessing the audibility of tones in noise* of ISO 1996-2:2017(E) *Acoustics – Description, measurement and assessment of environmental noise*, 2017.

(3) Modeling of Operational Sound Levels

The octave band sound power level spectrum of the proposed step up transformer will be calculated or otherwise obtained. This power level spectrum will then be conservatively projected to the receptor points within 750 feet of the transformer and determine an initial CNR ranking for each location.

(4) Impact Assessment

The study will determine subsequent corrections to the initial CNR ranking at each design point based on the measured average octave band L90 daytime background sound level (since the project will only be operational during daylight hours), 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 core, would be appropriate to maintain a CNR rating of C (no reaction to sporadic complaints) or less.

(b) Inverter Sound Emissions

Apart from the substation transformer, the only other sound sources of any possible significance are the electrical inverters used to convert locally generated DC current into AC power that is then routed to the substation through underground collector cables. Typically, these electrical cabinets are situated within and near the center of each solar field, or independent group of solar panels, so they are usually a considerable distance from the perimeter fence and potential neighbors beyond. Generally speaking, these electrical cabinets emit sound levels on the order of 60 to 70 dBA at 10 ft. and, at this very close-in distance, the sound can be characterized as a hum with overlying ringing tones in the high frequencies. Since high frequency sound diminishes rapidly with distance, the ringing aspect of the sound dies out quickly and the sound at any significant distance consists of a low hum, if it is audible at all.

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 State government, in 209 and indicates that any noise from these cabinets generally drops into the background level and becomes insignificant at a distance of 150 feet - and that they are rarely audible at or beyond the perimeter fence. Consequently, any conventional solar field layout will likely result in a situation where the inverters are more than 150 feet from any neighbors, in which case it can be assumed that no adverse impact will occur. However, if an inverter cabinet is expected to be located within 150 feet of a potentially sensitive non-participating receptor then an impact assessment, as outlined below, would be warranted.

(1) Sensitive Sound Receptor Map

A map showing the project layout in general with a detailed enlargement of any locations where an inverter cabinet is planned within 150 feet of any potentially sensitive non-participating sound receptors will be prepared (residences, schools, hospitals, etc.).

(2) Ambient Pre-Construction Baseline Noise Conditions

A sound monitoring survey, preferably during the October through June time frame, will then be conducted to measure the existing sound levels at positions representative of the nearest potentially sensitive receptors as the first step in a modified CNR analysis to establish the baseline background conditions. The full and 1/3 octave

[9] Guldberg, P., Tech Environmental, "Study of Acoustic and EMF Levels from Solar Photovoltaic Projects", Prepared for the Massachusetts Clean Energy Center, Boston, Dec. 2012.

band spectra on a continuous 10 minute time resolution will be measured over at least a 7-day period. Record, at a minimum, the L90, Leq, Lmin and Lmax levels.

(3) Modeling of Operational Sound Levels

The study will calculate or otherwise obtain the octave band sound power level spectrum of the proposed inverter and conservatively project this power level spectrum to the receptor points within 150 feet of the inverter and determine an initial CNR ranking for each location.

(4) Impact Assessment

Subsequent corrections to the initial CNR ranking at each design point will be determined based on the measured average octave band L90 daytime background sound level (since the project will only be operational during daylight hours), seasonality, character, and attitudinal adjustments. The Impact Assessment will thereafter determine a final CNR rating for each location and further determine if noise mitigation would be appropriate to maintain a CNR rating of C (no reaction to sporadic complaints) or less.

(c) Construction Noise

In contrast to other forms of power generation, the duration of the construction phase for a PV solar facility is remarkably short and the activities that generate any significant noise are few. Where a fossil fuel or wind generating project would require extensive earthworks and the pouring of massive concrete foundations, a solar plant largely involves the installation of mounting posts for the panel racks, which generally follow the existing topography.

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-related disturbance from any construction phase or activity.

2.20 CULTURAL RESOURCES

The Applicant has initiated consultation with the NYSOPRHP to develop the scope and methodology for cultural resources studies for the Facility. To date, formal consultation with NYSOPRHP has included initiating Facility review

and consultation through NYS OPRHP's Cultural Resources Information System (CRIS) website[10] and submission of technical reports/work plans. In addition, On August 9, 2017, EDR and the Applicant met with NYSOPRHP staff in their offices in Waterford, New York. During the meeting, the Applicant described the proposed Mohawk Solar Facility and discussed an appropriate approach to cultural resources studies in support of the Article 10 Application (see PSS Section 2.2). The following summarized key items from these initial outreach efforts which will be incorporated into the Article 10 Application:

- With respect to potential impacts on archaeological resources, NYSOPRHP indicated that it would not consider the installation of posts (by pile-driver or similar device) for PV panel supports or fencing, or the installation of buried cables via cable plow (in a trench less than 1 foot [0.3 meter] wide) to constitute a significant ground disturbance with a potential adverse impact. No Phase 1B archaeological survey would be necessary for these areas, due to the minimal ground disturbance required for construction of the Facility.
- NYSOPRHP further indicated that Phase 1B survey would be necessary only for those areas of significant proposed ground disturbance. This was defined by NYSOPRHP to be any excavation or grading associated with the construction of access roads, inverter pads, and the substation, as well as any buried collection lines installed via an open trench greater than 1 foot (0.3 meter) wide, and any construction staging areas which require grading, paving, and/or the installation of crushed stone.
- In the event that archaeology resources are identified within the Facility Site, the Applicant will explore layout changes to avoid impacts to archaeological resources. Given the nature of the Facility Area and the possibility to modify the design to avoid impacts, the need for mitigation for archaeological impacts is not anticipated.
- NYSOPRHP indicated that visual impacts to historic resources should be assessed with the priority given to the publicly accessible views of each historic property and that internal, private views were less of a priority.
- NYSOPRHP further indicated that the Area of Potential Effect (APE) for Indirect (Visual) Effects should be five miles.
- NYSOPRHP also noted that potential visual effects to the overall traditional vernacular landscape would need to be evaluated, in addition to evaluation of effects on individual historic properties.
- NYSOPRHP indicated that the online CRIS program should be utilized for project submittals and that archaeological and historic architectural studies should be submitted in separate reports. Efforts will be made by the Applicant to utilize CRIS to the maximum extent practicable while maintaining compliance with Article 10 filing requirements.

[10] NYS OPRHP's Cultural Resources Information System is accessible at: http://www.nysparks.com/shpo/online-tools/.

(a) Archaeological Resources

The Article 10 Application will contain 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. As discussed in initial consultation with NYSOPRHP on August 9, 2017 and described herein, development of the proposed Facility presents relatively minimal risk to archaeological resources (relative to other types of energy development). 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. It is expected that once identified, archaeological resources will be avoided by all Facility components with the potential to cause adverse impacts (see discussion of adverse impacts above). The Article 10 Application will include summary of potential impacts as well as potential impact avoidance and minimization measures.

(2) Phase 1A Cultural Resources Study

The Applicant prepared a *Phase 1A Archaeological Resources Survey* (see Appendix D of this PSS), which was submitted through the CRIS website in September, 2017 and is summarized below. The purpose of the Phase 1A archaeological resources survey was 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; 3) summarize the methods and results of preliminary Phase 1B archaeological fieldwork which has already been conducted; and, 4) propose a methodology to identify additional archaeological resources within the APE, evaluate their eligibility for the State/National Register of Historic Places (S/NRHP), and assess the potential effect of the Facility on those resources. Following review and approval of this work plan by NYSOPRHP, additional Phase 1B archaeological survey fieldwork will be conducted. The Phase 1A report was prepared by professionals who satisfy the qualification criteria per the Secretary of the Interior's Standards for archaeology (36 CFR 61) and in accordance with applicable portions of NYS OPRHP's *Phase 1 Archaeological Report Format Requirements* (NYSOPRHP, 2005).

Relative to the potential for archaeological sites to be located in the Facility, the results of the Phase 1A archaeological resources survey for the proposed Facility can be summarized as follows:

- Forty previously recorded archaeological sites occur within 1 mile (1.6 km) of the Facility Area and eight of these sites occur within or partially within the Facility Area.
- Based on topography, setting, soil, and proximity to water sources, as well as the presence of previously recorded archaeological sites within or near the Facility Area, there is a potential for archaeological resources to be located within portions of the proposed Facility Area.
- There is also a potential for historic-period (i.e., nineteenth and/or twentieth-century) archaeological resources to be located within the Facility Area. This potential is generally considered to be low throughout the Facility Area, except in areas located in close proximity to the former locations of structures identified on historical maps (these are identified in Figures 5-7 of the Phase 1A Archaeological Report) where the potential is higher. Archaeological resources associated with these sites could include foundations, structural remains, artifact scatters, and/or other features.

In addition, the Phase 1A archaeological survey report acknowledges that certain elements of the proposed construction of the Facility will include ground disturbing activities that have the potential to adversely impact archaeological resources (see discussion of NYSOPRHP consultation above). The APE for Direct Effects (i.e., archaeological resources) includes all areas of soil disturbance associated with proposed PV arrays, inverter pads, access roads, buried collection lines, laydown and staging areas, and substations. However, as discussed above, NYSOPRHP has determined that the installation of posts/supports for PV panel arrays and fences as well as the installation of buried collection lines with a cable plow in a trench less than 1-foot (0.3 meters) wide do not have the potential to adversely impact archaeological resources. Any archaeological sites located within the Facility Site but that are not within the limits of disturbance for the proposed Facility will not be affected by the Facility.

(3) Phase 1B Cultural Resources Study

A Phase 1B 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 1B survey will be conducted under the supervision of a Registered Professional Archaeologist (RPA) in a manner consistent with the NYSOPRHP *Phase 1 Archaeological Report Format Requirements* (NYSOPRHP, 2005) and the New York Archaeological Council (NYAC) *Standards for Cultural Resource Investigations and Curation of Archaeological*

Collections in New York State (the NYAC *Standards*) (NYAC, 1994). This report will be summarized in the Article 10 Application and appended to Exhibit 20.

As described in the Phase 1A Archaeological Survey report (see Appendix D), preliminary Phase 1B archaeological fieldwork has already been conducted for the proposed Facility. This consisted of the pedestrian surface survey of approximately 133 acres of agricultural fields within the Facility Area which resulted in the identification of four previously unrecorded archaeological sites. The four sites consist of one pre-contact Native American lithic scatter (Nestle Lithic Scatter 1) and three isolated pre-contact Native American lithic artifacts (B2.02 Pre-contact Isolate, B4.03 Pre-contact Isolate, and Survey Area 3 Pre-contact Isolate). Ongoing Facility design will seek to avoid impacts to these archaeological resources. These sites, as well as the preliminary Phase 1B archaeological fieldwork, are described in the *Phase 1A Archaeological Resources Survey* attached as Appendix D of this PSS.

The scope and methodology for additional Phase 1B Archaeological Survey are proposed in the *Phase 1A Archaeological Resources Survey*, which was submitted to NYSOPRHP in September, 2017. The proposed Phase 1B methodology is based on consultation with NYSOPRHP described above and responsive to the relatively minimal ground disturbance necessary to construct the Facility.

The primary methods used during future archaeological survey will include pedestrian surface surveys (in active agricultural settings where ground-surface visibility is greater than 70%); the excavation of shovel tests (in hayfields, forest, and shrubland areas); and pedestrian reconnaissance (in steeply sloped areas). The locations of shovel testing and pedestrian surface survey will be selected as follows:

- All areas where Facility-related impacts involving *significant* ground disturbance (i.e., trenching wider than 1 foot (0.3 meter), or any excavation, grading, paving, and/or spreading of significant quantities of crushed-stone) will be subjected to Phase 1B archaeological survey in the form of either shovel testing or pedestrian surface survey, depending on the ground surface visibility. Areas of *significant* ground disturbance are anticipated to include:
    - All proposed invertor pads;
    - All proposed access roads;
    - All impacts associated with the proposed substations;
    - Any buried collection lines installed in a trench greater than 1 foot (0.3 meter) wide;
    - Any construction staging areas that require grading, paving, and/or spreading of significant quantities of crushed-stone; and,

- Any other areas where Facility-related impacts include earth disturbance beyond the installation of small posts or I-beams or the excavation of a less than 1-foot (0.3-meter) wide trench.

A Preliminary Facility Layout has been developed and Facility design and layout is currently ongoing. In the event that a potentially significant archaeological resource is identified within the Facility Site, and Facility components cannot be relocated to avoid impacts to the resource, then a Phase II archaeological site investigation (in consultation with NYSOPRHP) will be conducted. However, the Facility layout is being intentionally sited to avoid archaeological resources; therefore, no Phase II site investigations are anticipated to be necessary.

The *Phase 1A Archaeological Resources Survey* was submitted to NYSOPRHP in September, 2017 to confirm the proposed Phase 1B fieldwork plan for the Facility and to ensure that the proposed scope of the survey is consistent with NYS OPRHP's expectations. The completed Phase 1B Archaeological Survey Report will be submitted as part of the Article 10 Application.

(4) Phase 2 Study

In the event that a potentially significant archaeological resource is identified within the Facility Site, and Facility components cannot be relocated to avoid impacts to the resource, then a Phase II archaeological site investigation (in consultation with NYSOPRHP) will be conducted. However, the Facility layout is being intentionally sited to avoid archaeological resources; therefore, no Phase II site investigations are anticipated to be necessary. If recommended avoidance measures (e.g., such as removing or re-locating Facility components away from identified archaeological sites) are insufficient to avoid adverse impacts, then Phase 2 archaeological investigations may be conducted to assess the boundaries, integrity and significance of cultural resources identified during the Phase 1B archaeological survey. If warranted based on Phase 1B study results, as determined in consultation with NYSOPRHP, any necessary Phase 2 studies would be designed to obtain detailed information on the integrity, limits, structure, function, and cultural/historic context of an archaeological site, as feasible, sufficient to evaluate its potential eligibility for listing on the S/NRHP. The need for and scope of work for such investigations would be determined in consultation with NYSOPRHP and DPS upon completion and review of the Phase 1B survey report.

(5) Archaeological Material Recovered During Cultural Resources Studies

In the event that any artifacts are recovered during the cultural resources studies for the Facility, archaeologists will record standard provenience information in the field and collect each artifact in sealed plastic bags per standard archaeological field practices. All recovered materials will be washed, dried, and cataloged per standard archaeological laboratory procedures. Recovered artifacts will be described to a level of detail sufficient to prepare an artifact inventory for inclusion in Phase 1B and/or Phase 2 archaeological reports, which will include descriptions of each artifact's material, temporal or cultural/chronological associations, style, and function. In addition, it is anticipated that a selection of representative artifacts will be photographed for inclusion in the reports, but complete photo documentation of all recovered materials is not anticipated. The Applicant understands that all artifacts recovered during this contract will be the property of the land owner from which the artifacts were recovered. The Applicant also anticipates that the Facility's cultural resources consultant will identify appropriate local repositories (such as local historical societies or archaeological museums) for disposition of recovered artifacts so that artifact assemblages remain available and accessible to local and regional researchers and interested members of the public. It is anticipated that all artifacts will be processed in a manner consistent with professional standards, such as the NYAC *Standards (*NYAC, 1994), and suitable for accessioning to the New York State Museum (Albany), in the event that appropriate local repositories cannot be identified.

A complete listing of all recovered artifacts will be included in the Phase 1B Archaeological Survey Report, to be submitted with the Article 10 Application.

(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

(1) A complete Historic Architectural Survey

The Applicant prepared a *Phase 1A Historic Architectural Resources Survey,* which was submitted through the CRIS website in September, 2017 (see Appendix D). The purpose of the *Phase 1A Historic Architectural Resources Survey* is to define the Facility's APE relative to historic architectural resources, determine whether previously identified historic architectural resources are located in the APE, propose a methodology to identify historic architectural resources within the APE, evaluate their eligibility for the S/NRHP, and assess the potential effect of the Facility on those resources.

Area of Potential Effect Relative to Historic Architectural Resources

The Facility will have no physical impacts to historic architectural 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. Per the requirements set forth in 16 NYCRR § 1000.2 (ar), the study area to be used for analysis of major electric generating facilities is defined as:

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

Therefore, the APE for historic resources (or the "APE for Indirect Effects") is defined as those areas within five miles of the proposed Facility which are within the potential viewshed of the Facility (i.e., those areas where the Facility will potentially be visible from; see Section 2.24 of this PSS). The five-mile-radius Visual Study Area for the Facility includes parts of the Towns of Canajoharie, Minden, Palatine, Root, Saint Johnsville, and Stark as well as parts of the Villages of Ames, Canajoharie, Fort Plain, Nelliston, Palatine Bridge, and Sprakers in Montgomery County. It also includes parts of the Towns of Cherry Valley and Springfield in Otsego County and the Town of Sharon and Village of Sharon Springs in Schoharie County.

Previously Identified Historic Architectural Resources Located in the Area of Potential Effect

EDR reviewed the CRIS website maintained by NYSOPRHP to identify significant historic buildings and/or districts located within five miles of the Facility. Prior historic resources surveys were also reviewed as part of preparing the *Phase 1A Historic Architectural Resources Survey*. These included *Uncovering the Underground Railroad, Abolition, and African American life in Montgomery County, New York, 1820-1880* (Wellman and Farquhar, 2011). In addition, the Montgomery County Department of History and Archives recently sponsored a Montgomery County Rural Resources Reconnaissance Level Survey, which was being finalized in August 2017. Relevant information in these prior surveys will be included in the Article 10 Application. Historic properties located within five miles of the Facility Area are more fully described in the Phase 1A Historic-Architectural Resources Survey (see Appendix E), and include:

- 27 individual historic properties listed on the S/NRHP;
- six historic districts listed on the S/NRHP – these include;
- six individual properties that have been determined eligible for listing on the S/NRHP;
- two historic districts that have been determined eligible for listing on the S/NRHP;
- 42 properties identified in CRIS whose S/NRHP eligibility has not been evaluated;

No properties listed on or determined eligible for the NRHP are located within the Facility Area.

Methodology to Identify Historic Architectural 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 NRHP, as well as those properties that NYSOPRHP has formally determined are eligible for listing on the 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 NRHP-listed and NRHP-eligible properties within the study area include residences, bridges, churches, cemeteries, and commercial structures. Numerous nineteenth- and early-twentieth-century structures (primarily residences and farmsteads) are located within the study area that have not been previously evaluated by NYSOPRHP to determine if they are NRHP-eligible. These types of resources are typically determined NRHP-eligible under NRHP Criterion C (i.e., they "embody the distinctive characteristics of a type, period, or method of construction" [CFR, 2004a]), and often derive their significance from being representative examples of vernacular nineteenth-century architectural styles that retain their overall integrity of design and materials. The architectural integrity of historic resources throughout the five-mile radius Visual Study Area is highly variable, with many showing noticeable alteration, or deterioration due to the elements.

The Applicant will conduct a historic resources survey of the Facility's APE for Indirect Effects (as described above and in Section 1.4 of the appended *Phase 1A Historic Architecture Resources Survey* Appendix E). The historic resources survey will be conducted by a qualified architectural historian who meets the Secretary of Interior's Standards for Historic Preservation Projects (36 CFR Part 61). The historic resources survey will identify and document those buildings within the study area that, in the opinion of EDR's architectural historian, appear to satisfy NRHP eligibility criteria. In addition, the survey will also be conducted for the purpose of providing updated photographs and recommendations of eligibility for S/NRHP-eligible resources, as well as previously surveyed resources within the APE whose S/NRHP eligibility has not formally been determined (see Section 2.2 and Table 1 of the Appended Phase 1A Historic Architecture Report).

Historic resources survey fieldwork will include systematically driving all public roads within the study area to evaluate the S/NRHP-eligibility of structures and properties within the study area. When sites that appeared to satisfy S/NRHP-eligibility criteria are identified, the existing conditions of the property will be documented by an architectural historian. This includes photographs of the building(s) (and property) and field notes describing the style, physical characteristics and materials (e.g., number of stories, plan, external siding, roof, foundation, and sash), condition, physical integrity, and other noteworthy characteristics for each resource. Per consultation with NYSOPRHP, the historic resources survey fieldwork will also identify traditional vernacular landscape elements such as stone walls, pastures and agricultural fields, woods roads, and other elements of the landscape which represent the historical relationship between the area's inhabitants and the land.

The evaluation of historic resources within the study area will focus on the physical condition and integrity (with respect to design, materials, feeling, and association) to assess the potential architectural significance of each resource. If deemed appropriate, individual buildings located within villages and hamlets will not be documented as individual properties, but instead will be described collectively as clusters or districts. For previously surveyed historic properties, the architectural historian will provide a recommendation of S/NRHP-eligibility for structures and properties within the study area previously determined S/NRHP-eligible or whose S/NRHP eligibility has not formally been determined. An updated photograph (or photographs) of previously surveyed properties will be taken, and an updated recommendation of S/NRHP-eligibility will occur where applicable.

If significant changes to materials or form are found to have occurred, or if a property is found to no longer be standing, an updated recommendation of S/NRHP eligibility will be provided. Previously identified resources whose S/NRHP eligibility has not formally been determined will be given an updated recommendation of S/NRHP eligibility.

Note that all properties included in the historic resources survey will be photographed and assessed from public rights of way. The condition and integrity of all resources will be evaluated based solely on the visible exterior of the structures. No inspections or evaluations requiring access to the interior of buildings, or any portion of private property, will be conducted as part of this assessment. Based on previous consultation with NYSOPRHP for previous large-scale energy projects,[11] buildings that are not sufficiently old (i.e., are less than 50 years in age), that lack architectural integrity, or otherwise were evaluated by the architectural historian as lacking historical or architectural significance will *not* be included in or documented during the survey.

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

[11] See Historic Resources Survey for the Cassadaga Wind Project (15PR02730) (EDR, 2016).

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

Construction of the Facility will not require the demolition or physical alteration of any buildings or other potential historic resources. No direct physical impacts to historic-architectural resources will occur as a result of the Facility.

The Facility's potential effect on historic resources would be a change (resulting from the introduction of visible components such as PV panel arrays or a substation) in the visual setting associated with a given historic resource. The potential effect of the Facility on the visual setting associated with historic resources is highly variable, and is dependent on a number of factors including the distance to the project, the number of visible PV panels, the extent to which the Facility is screened or partially screened by buildings, trees, or other objects, and the amount of existing visual clutter and/or modern intrusions in the view. It is also worth noting that visual setting may or may not be an important factor contributing to a given property's historical significance. Scenic views and/or association with the landscape are not specifically identified as contributing to the significance of any of the historic resources in the study area. These impacts will be described in the Article 10 Application.

Following NYS OPRHP's review of the Historic Resources Survey results (described above) for the Facility, the Applicant will prepare a Historic Architectural Resources Effects Analysis that will evaluate the potential visual effect of the Facility on properties determined by NYSOPRHP to be S/NRHP-eligible. This will include consideration of distance and the effect of vegetation and other landscape features that may screen or minimize views of the Facility from historic resources, and will include visual simulations where appropriate. The visual effects analysis will specifically address the visual effect of the Facility on the setting associated with S/NRHP-eligible and listed sites and/or districts within the APE. The visual 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 website 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 Architectural Resources Effects Analysis will be submitted as part of the Article 10 Application.

In addition, as further described in Section 2.24 of this PSS, 16 NYCRR § 1001.24 (Exhibit 24: Visual Impacts) describes the necessary components of a Visual Impact Assessment (VIA) that must be conducted as part of the Article 10 application. The VIA must include "identification of visually sensitive resources, viewshed mapping, confirmatory visual assessment fieldwork, visual simulations (photographic overlays), cumulative visual impact

analysis, and proposed visual impact mitigation". 16 NYCRR § 1001.24 also requires that "the applicant shall confer with municipal planning representatives, DPS, DEC, OPRHP, and where appropriate, APA in its selection of important or representative viewpoints" (Article 10, Exhibit 24, Part 1001.24[b][4])[12]. To address this requirement, the Historic Architectural Resources Effects Analysis report will identify those historic resources where visual setting is an important factor in their significance and where viewshed analysis indicates potential visibility of the Facility. The report will recommend those historic resources where preparation of a visual simulation would be appropriate to assess the Facility's potential effect.

2.21 GEOLOGY, SEISMOLOGY, AND SOILS

This exhibit will include a study of the geology, seismology, and soils impacts of the Facility consisting of the identification and mapping of existing conditions, an impact analysis, and proposed impact avoidance and mitigation measures to the extent such impacts are discovered.

(a) Existing Slopes Map

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 will be prepared using the USGS National Elevation Dataset. Digital Elevation Model (DEM) data will be processed using ESRI ArcGIS® Software to delineate a drainage area and develop slope mapping.

(b) Proposed Site Plan

A Preliminary Facility Layout has been developed (see Figure 3 of this PSS) and Facility design and layout is currently ongoing. Preliminary design drawings showing existing and proposed contours at 2-foot intervals will be included in the Article 10 Application. The Applicant will use publicly available 10-meter resolution elevation data to interpolate the 2-foot contours necessary to fulfill the Application requirements.

(c) Cut and Fill

The Article 10 Application will include preliminary and approximate cut and fill calculations based on 2-foot contours interpolated from publicly available 10-meter resolution elevation data, including separate approximations for topsoil,

[12] Note: "DPS" is the New York State Department of Public Service, "DEC" is the New York State Department of Environmental Conservation, "OPRHP" is the New York State Office of Parks, Recreation, and Historic Preservation, and "APA" is the Adirondack Park Agency.

sub-soil and bedrock. A description of typical scenarios that would result in cut and fill necessary to construct the facility will also be included.

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

A preliminary approximation of the amount of required fill, gravel, etc. based on the proposed array layout, access roads, collection lines, substation and all other project facilities and construction areas will be included with the Article 10 Application.

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

No materials will be removed from the site during construction. During excavations, topsoil will be segregated and maintained. Stockpiled soils along the construction corridors will be used in site restoration, and all such materials will be re-graded to approximate pre-construction contours.

(f) Excavation Techniques to be employed

The activities associated with constructing solar power projects in New York State are well understood, and although a given site can have unique characteristics in comparison to other sites, construction methodologies can be reasonably anticipated based on the Applicant's experience (in New York and other states) and available site conditions data. The majority of excavation activities will be associated with substation construction, while additional excavations will likely be associated with other aspects of Facility construction in specific locations as needed. For example, it is anticipated that the majority of the Facility's buried electrical interconnect will be installed through use of a cable plow or blade; however, in select locations a backhoe may excavate a trench for cable installation due to the subsurface characteristics.

The Applicant does not expect Facility-related excavation will result in adverse impacts to geology or soils. 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. This information and analysis will be based on the site-specific Preliminary Geotechnical Investigation, which is described in Section 2.21(h) below.

(g) Temporary Cut and Fill Storage Areas

The process of determining excavation locations will be described, and preliminary cut and fill locations will be described, in the Article 10 Application. Final cut and fill storage areas will be identified following Certification, and included in the final construction drawings.

(h) Suitability for Construction

The Article 10 Application will include the results of a Preliminary Geotechnical Investigation, which will include the following:

- Test borings at a sub-set of PV mount locations and the substation locations
- Literature review and obtaining publicly available data regarding surface and subsurface soil, bedrock, and groundwater conditions
- Data analysis
- A report that describes the following:
    - Surface Soils
    - Subsurface Soils
    - Bedrock Conditions
    - Hydrogeologic Conditions
    - Chemical and Engineering Properties
    - Laboratory Testing
    - Seismic Considerations
    - Construction Suitability Analysis and Recommendations

The Preliminary Geotechnical Investigation will be summarized in Exhibit 21 of (and included as an appendix to) the Article 10 Application. This stand-alone report will be based on a Facility-specific site visit conducted by a geotechnical expert, review of publicly available data (anticipated to include the Surficial Geologic Map of New York, Geologic (Bedrock) Map of New York, Soil Survey of Montgomery County, Deep Wells in New York State, Geology of Montgomery County, Tectonic Units and Preliminary Brittle Structures of New York, Aquifers of New York State, Geology of New York – A Simplified Account, New York State Building Code), and test borings to be completed at a subset of PV mount and substation locations.

In addition, before construction commences, a site survey will be performed to stake out the exact location of proposed Facility components. Once the surveys are complete, a detailed geotechnical investigation will be performed to verify subsurface conditions and allow development of final Facility component design as necessary.

(i) Preliminary Blasting Plan

Based upon review of publicly available data, a general constructability review conducted by the Applicant's construction manager on-site at the Facility, and the Applicant's experience with solar facility construction, it is anticipated that no blasting will be required. The Preliminary Geotechnical Investigation will provide the information necessary to confirm that no blasting is required, which will be discussed in further detail in the Article 10 Application.

(j) Potential Blasting Impacts

Blasting is not anticipated, and as indicated above, the Article 10 Application will provide additional detail, including the results of a Facility-specific Preliminary Geotechnical Investigation. With respect to water wells, please see Section 2.23 of this PSS for additional information. With respect to natural gas production, according to the NYSDEC (2015), the Facility Area does not contain any natural gas wells (producing wells, non-commercial wells, and plugged and abandoned wells).

(k) Mitigation Measures for Blasting Impacts

Blasting is not anticipated. However, should any blasting be required, it will be conducted in accordance with the Facility-specific blasting plan, and any necessary blasting will receive oversight by an Environmental Monitor. In addition, pre- and post-blasting surveys will be conducted as a groundwater well mitigation measure if blasting is needed. The Facility Sponsor will conduct structural, water quality, and water quantity inspections of any wells located within 500 feet of blasting activities before (to establish baseline quality and quantity) and after construction. Although not anticipated, any impacts identified through these inspections will be addressed on a case-by-case basis and appropriately mitigated.

(l) Regional Geology, Tectonic Setting, and Seismology

The Facility Area is located within the Appalachian Plateau physiographic province of New York State. Montgomery County's elevation ranges from 240 feet along the banks of the Mohawk River to 1600 feet in the southwestern portion of the county. The Appalachian Plateau in Montgomery County is characterized by the east-west oriented Mohawk River which is a former glacial spillway of the last ice age. The county contains rounded hills and evidence of glacial till, and outwash deposits. The majority of the county lies on Ordovician shale and sandstone. Additionally, Cambrian-aged limestone and dolostone are found scattered throughout the county in the northeast. The underlying bedrock is characterized by a complex mixture of Schenectady shale, interbedded with Canajoharie shale (USDA, 1978).

Based on the 2014 New York State Hazard Map (USGS 2014), the Facility Area is located in an area of relatively low seismic hazard, with a 2 % or less chance that peak ground acceleration in a 50 year window is between 3% and 5% of standard gravity. Records show one 1.8 magnitude earthquake in Montgomery County in Fonda in August of 2014 (DMA, 2016). 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 Area.

(m) Facility Impacts on Regional Geology

The Facility is not anticipated to result in any significant impacts to geology. Earthwork is expected to include site grading, as necessary, to create finished grade slopes suitable for racking installation and storm water management improvements. The impacts of the construction and operation of the Facility on regional geology will be evaluated in the Article 10 Application.

(n) Impacts of Seismic Activity on Facility Operation

The Facility is not anticipated to have any impacts on seismic activity. Earthwork is expected to include site grading, as necessary, to create finished grade slopes suitable for racking installation and storm water management improvements. Solar Facilities are less invasive in comparison to conventional energy production and wind production which require relatively more earth moving. Where earthwork may be required, it is anticipated to be minor and of limited extent.

As previously indicated, faults within the vicinity of the Facility are not associated with any historic earthquakes. In addition, the USGS Earthquakes Hazards Program does not identify any young faults within the vicinity of the Facility. Therefore, this topic will not be further addressed in the Article 10 Application.

(o) Soil Types Map

A map delineating soil types on the facility and interconnections sites will be prepared using data from the USDA NRCS Web Soil Survey. It is anticipated that soil data from this source will be categorized by mapping unit and hydric characteristics, at a minimum.

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

The Soil Survey of Montgomery County, New York (USDA, 1978) indicates that the Facility Area predominantly consists of three General Soil Associations. These are the Appleton, Darien, and Lansing associations. From these associations, there are 35 individual soil map units within the Facility Area. The Appleton, Darien, and Lansing associations comprise approximately 60% of the soils within the Facility Area. General descriptions of these series are provided in Table 3 below.

Table 3. Soil series and their characteristics within the Facility Area.

Soil Series	Main Characteristics
Appleton Series	• Gently sloping to moderately steep on upland plateaus • Well expressed fragipan at a depth of 14–23 inches • Rate of water movement is moderate above the fragipan and slow in and below the fragipan
Darien Series	• Deep, level, poorly drained soils • Medium textured • Water table around 6 inches in wet periods • Restricted for agriculture unless drained
Lansing Series	• Deep, gently-steep sloping, soils • Well drained, medium textured • Water table is below 3.5 feet • Suitable for agriculture

Source: Soil Survey of Montgomery County (USDA, 1978)

The Article 10 Application will include the results of a detailed geotechnical study that will be conducted for the proposed Facility. The geotechnical study will extensively characterize the soil conditions in the proposed locations of Facility components, and address the suitability of these soils for construction of the Facility.

(q) Bedrock Analyses and Maps

Maps, figures, and analyses will be prepared using information obtained from the USGS Online Spatial Geology Data, the USDA NRCS Web Soil Survey, and the Preliminary Geotechnical Analysis conducted for the Facility. These data will identify depth to bedrock and underlying bedrock types, including vertical profiles showing soils, bedrock, water table, and seasonal high groundwater, in relation to anticipated depths of excavation for the Facility, and any area to be disturbed for roadways to be constructed, and all off-site interconnections required to serve the Facility.

(r) Suitability for Construction Evaluation

(1) Preliminary Engineering Assessment

As previously indicated, a Preliminary Geotechnical Evaluation is planned to include a literature review of publicly available data, a site visit to observe surficial features and assess general constructability of the proposed Facility, and a preliminary subsurface investigation conducted at a subset of test borings. The suitability analysis will be included in the Preliminary Geotechnical Evaluation, which will be summarized in Exhibit 21 of (and appended to) the Article 10 Application.

(2) Pile Driving Assessment

It is not anticipated that pile driving will be needed for this Facility. However, it is anticipated that the PV panel mounting system will consist of driven supports, similar to those used for highway signs or guide rails.

(3) Mitigation Measures for Pile Driving Impacts

Due to the fact that large, sheet piling use is not anticipated for this Facility, the mitigation measures for such piling are not necessary. The driven supports for the PV panels are dramatically smaller than standard sheet piling. Therefore, the potential negative effects of installation are also dramatically lower than those of standard sheet piling.

(s) Vulnerability to Earthquake and Tsunami Events

As previously indicated, the Facility appears to have minimal vulnerability associated with seismic events based on review of publicly available data. In addition, because the Facility is located approximately 100 miles from the nearest large water body (Lake Ontario), there is no vulnerability associated with tsunami events.

2.22 TERRESTRIAL ECOLOGY AND WETLANDS

(a) Plant Communities

For the purposes of the Article 10 Application, plant communities will be broadly identified based on desktop review and reconnaissance-level field review, as summarized below.

Desktop Review

Land Cover in the Facility Area was determined using National Land Cover Data (NLCD) information, which is compiled by the United States Geological Survey (USGS) (Homer et. al, 2015). The Facility Area encompasses approximately 6,590 acres and is primarily agricultural land (39% including pasture, and 32% cultivated crops) as shown in Table 4. According to the NLCD, the Facility Area also includes <5% developed open space, shrub/scrub, and woody wetlands. The Facility will ultimately be sited on approximately 1,000 acres of leased private land within the Facility Area, which consists primarily of agricultural land. The Applicant is leasing land from private landowners, which will provide a stable and predictable revenue stream that can offset the risk of growing crops and help keep the land “in the family”.

Table 4. Land Cover Classes Found within the Facility Area

Land Cover Class	Acres	Percent Cover (%)
Pasture/Hay	2584	39.19
Cultivated Crops	2170	32.91
Deciduous Forest	577	8.75
Shrub/Scrub	213	3.23
Emergent Herbaceous Wetlands	168	2.55
Developed, Open Space	228	3.46
Woody Wetlands	373	5.66
Mixed Forest	143	2.17
Grassland/Herbaceous	41	0.62
Developed, Low Intensity	61	0.93
Evergreen Forest	27	0.41
Developed, Medium Intensity	6	0.09
Developed High Intensity	2	0.03
Total	6593	

Source: NLCD 2011

Field Review

Plant communities found within the Facility Area were identified and characterized during reconnaissance level field surveys conducted by EDR during the fall of 2016, and are shown on Figure 8. All of the major plant communities found within the Facility Area are common to New York State. Agricultural lands and forestlands and agricultural lands are the dominant community types in the Facility Area, while successional old field and developed/disturbed communities occur to a lesser extent. Brief descriptions are provided below for each of these ecological communities.

Agricultural Land

Agricultural land constitutes the largest ecological community within the Facility Area. Approximately 4,500 acres (72%) of the Facility Area are actively managed as row crops, field crops, or pastureland. Corn, soybeans and hay are the primary agricultural crops observed during the field investigations. Pastureland is primarily used for the grazing of cattle, and is typically characterized by mixed grasses and broad-leafed herbaceous species, including timothy (*Phleum pretense*), orchard grass (*Dactylis glomerate*) alfalfa (*Metacago sativa*), clovers (*Trifolium sp.*), plantains (*Plantago sp.*), and dandelion (*Taraxacum officinale*). Wetlands dominated by herbaceous plant species, including reed canary grass (*Phalaris arundinacea*), soft rush (*Juncus effusus*), sedge species (*Carex, spp.*), and

narrow-leaf cattail (*Typha angustifolia)* were observed in drainage swales, wet meadows, and some small emergent wetlands that were observed within the Agricultural community type.

Mixed Deciduous Forestland

Forestland covers approximately 750 acres (11%) of the Facility Area, and resemble the Appalachian oak-hickory forest communities described in the *Ecological Communities of New York State* (Edinger et. al., 2014). These forests occur throughout the Facility Area, on hilltops, hillsides, and in woodlots interspersed among agricultural fields. Species observed during the Field Investigations included shagbark hickory (*Carya ovata*), red maple (*Acer rubrum),* and ash species (*Fraxinus sp*.) Other overstory tree species typically found in the Appalachian oak-hickory forest community include red oak (*Quercus rubra*), white oak (*Q. alba*), and/or black oak (*Q. velutina*). Mixed with the oaks, usually at lower densities, are pignut (*Carya glabra*), sweet pignut (*Carya ovalis*), and hop hornbeam (*Ostrya virginiana*) (Edinger et. al., 2014). Understory species observed included bush honeysuckle (*Lonicera sp*.), dogwoods (*Cornus sp*.) and staghorn sumac (*Rhus typhina*).

Forestland within the Facility Area was found to include streams and forested wetlands in some locations. Forested wetland communities were dominated by trees that included red maple and green ash (*Fraxinus pennsylvanica*), with swamp white oak (*Quercus bicolor*), American elm (*Ulmus americana),* gray birch (*Betula populifolia*), and eastern hemlock (*Tsuga Canadensis)* also present in the canopy. Understory vegetation typically included saplings of the above-mentioned species, or shrub species such as dogwood, willows (*Salix spp*.) and speckled alder (*Alnus incana*). Herbaceous species observed in forested wetlands included sedges (*Carex spp*.), sensitive fern (*Onoclea sensibilis*), and field horsetail (*Equisetum arvense*). Evidence of wetland hydrology in the forested wetlands observed during the field investigations included water-stained leaves, water marks, moss trim lines, drainage patterns, surface water, saturated soils, and microtopographic relief.

Disturbed/Developed

Disturbed/developed land constitutes approximately 70 acres (1%) of the Facility Area. Disturbed/developed land within the Facility Area is characterized by the presence of buildings, paved and unpaved roads, barn yards, road shoulders, and lawns. Vegetation in these areas is generally either lacking or highly managed/maintained (e.g., mowed grass and landscaped yards). Volunteer vegetation in these areas is generally sparse, and comprised of old-field, often non-native, herbaceous species such as dandelion, thistle (*Cirsium spp*.), ragweed (*Ambrosia spp*.), burdock (*Arctium spp*.), common mullein (*Verbascum thapsus*), and various upland grasses.

Successional Old Field

Successional old field constitutes approximately 273 acres (6%) of the Facility Area. As defined by the *Ecological Communities of New York State*, a successional old field is a meadow dominated by forbs and grasses that occurs on sites that have been cleared and plowed (for farming or development), and then abandoned (Edinger et. al., 2014). Species observed in this community included but are not limited to, Canada goldenrod (*Solidago canadensis*), timothy, reed canary grass (*Phalaris arundinacea*), and Queen Anne's lace (*Dacus carota*). Other species typically found in successional old fields include goldenrods (*Solidago spp.*), blue grasses (*Poa spp.*), smooth brome (*Bromus inermis*), orchard grass, common chickweed (*Cerastium arvense*), old-field cinquefoil (*Potentilla simplex*), asters (*Symphyotrichum spp.*), ragweed, and dandelion. Characteristic shrubs include dogwoods, arrowwood (*Viburnum recognitum*), raspberries (*Rubus sp.),* and sumac (Edinger et. al., 2014).

In some locations, emergent wetlands were observed in this ecological community type. Emergent wetlands observed on site were characterized by the dominance of erect rooted herbaceous wetland plants and evidence of persistent inundation/saturation. Emergent wetlands observed during the field investigations were dominated by herbaceous plants such as sensitive fern, soft rush (*Juncus effuses*), sedges, narrow-leaf cattail (*Typha angustifolia)*, purple loosestrife (*Lythrum salicaria*), reed canary grass, and sensitive fern. Evidence of wetland hydrology in the emergent wetlands identified included inundation, drainage patterns, high water table, saturated soils, microtopographic relief, and saturation visible on aerial imagery.

Successional Shrubland

Successional shrubland covers approximately 223 acres (5%) of the Facility Area. This community type occurs on sites that have been previously cleared for farming, logging, development or otherwise disturbed (Edinger et. al., 2014). Species observed within this community type include dogwoods, wild grape (*Vitus sp.*), smooth arrowwood (*Viburnum dentatum* var. *lucidum*), nannyberry (*Viburnum lentago*), and bush honeysuckles. Other species typically found in this community include, raspberries, choke-cherry (*Prunus virginiana*), wild plum (*Prunus Americana*), sumac and invasive shrubs such as multiflora rose (*Rosa multiflora*), and buckthorns (*Rhamnus sp.*) (Edinger et. al., 2014). In addition, scrub-shrub wetlands were occasionally observed within this ecological community type.

Scrub-shrub wetlands, including portions of two NYSDEC-regulated wetlands (SS-1 and C-18) were observed in the eastern portion of the Facility Area. Scrub-shrub wetlands observed during the field investigations were characterized by dense stands of shrub species less than 20 feet tall, including red-osier dogwood (*Cornus alba*), speckled alder, willow species and meadowsweet (*Spirea alba*). Herbaceous vegetation in these areas included sensitive fern, sedges, reed canary grass, and soft rush. Evidence of wetland hydrology in the scrub-shrub wetlands identified included the presence of soil saturation, water marks, water-stained leaves, surface water, drainage patterns and microtopographic relief.

The Article 10 Application will build on the information presented above, and will contain the following specific information:

- Plant community mapping, which will be created using GIS software and will be based on Facility-specific field investigations, along with roadside observations and aerial photo interpretation for adjacent properties.
- Detailed description of all ecological communities identified within the Facility Area
- Plant species list based on Facility-specific field investigations.

(b) Impact to Plant Communities

Impacts to plant communities presented in the Article 10 Application will be calculated using GIS software. Specifically, Facility-related impacts to all plant communities depicted in the mapping described above in support of 1001.22(a) will be calculated in ArcGIS based on the design of the Facility as provided in the Article 10 Application. A conservative estimate of all potential construction-related impacts will be applied to calculate the total potential permanent and temporary impacts of the Facility on plant communities.

The Article 10 Application will include an Invasive Species Control Plan (ISCP), which will describe methods for conducting a pre-construction invasive plant survey. This survey will not be conducted prior to the Article 10 Application, but rather will take place as close to the start of construction date as possible, in order to accurately identify conditions existing at the commencement of construction. The ISCP included in the Article 10 application will describe measures to control the spread of invasive species, including construction materials inspection; target species treatment and removal; construction equipment sanitation; and restoration. The ISCP will also outline post-construction monitoring to take place after the Facility is operational. The complete ISCP will be provided in the Article 10 Application.

(c) Measures To Avoid or Mitigate Plant Community Impacts

The Article 10 Application will include a description of measures that will be implemented to avoid or minimize any impacts to plant communities within the Facility Site. Such measures may include siting considerations, minimizing tree clearing, demonstrated avoidance of sensitive vegetative communities, locating Facility Components within existing disturbances (e.g., existing farm roads), and access restrictions to be implemented during construction and operation.

(d) Vegetation, Wildlife, and Wildlife Habitats

Vegetation

See Plant Communities discussion above in Section (a).

Wildlife

Mammals

Publicly available information regarding the occurrence of mammalian species in the Facility Area is generally not available. Therefore, the occurrence of mammals will be documented through observations made during on-site field surveys for other studies such as wetland and stream delineations, including signs of occurrence such as tracks or scat, and evaluation of available habitat. Mammals species expected to be found in the Facility Area include raccoon, rabbit, porcupine, gray squirrel, eastern chipmunk, whitetail deer, opossum, beaver, skunk, muskrat, woodchuck, mink, weasel, fox, bat species, and a variety of small mammals (mice and shrews).

Birds

As discussed in Section 2.22(a) (above), the majority of the Facility Area is comprised of agricultural land. However, the Facility Area also includes areas of grassland, early successional communities, wetland, shrubland, and forest. Consequently, it is anticipated that a large suite of avian species utilize portions of the Facility Area for foraging and breeding habitat. These species are likely to include various species of sparrow, warblers, finches, and other passerines. In addition, various raptor species likely utilize portions of the Facility Area for foraging habitat.

The Article 10 Application will present information on birds from the New York State Breeding Bird Atlas (BBA), which is a comprehensive, statewide survey that indicates the distribution of breeding birds in the State. Point counts are conducted by volunteers within 5-km by 5-km survey blocks across the state (McGowan and Corwin, 2008). The Facility Area is located within or immediately adjacent to four survey blocks, including 5275C, 5275D, 5274A, 5274B. The Article 10 Application will compile information on birds within the vicinity of the Facility based on records from these survey blocks.

Two other publicly available data sources that contain information about bird species are the North American Breeding Bird Survey (BBS) and Audubon Christmas Bird Count (CBC). The BBS, overseen by the Patuxent Wildlife Research Center of the USGS, is a long-term, large-scale, international avian monitoring program that tracks the status and trends of North American bird populations. Each survey route is 24.5 miles long, with 3-minute point

counts conducted at 0.5-mile intervals. During the point counts, every bird seen or heard within a 0.25-mile radius is recorded. Since the closest BBS route (the Duanesburg route) is over 10 miles west of the Facility Area, data from the BBS is not applicable due to the distance between the Facility Area and the survey route, and will not be included in the Article 10 Application.

The primary objective of the CBC is to monitor the status and distribution of wintering bird populations across the Western Hemisphere. Counts take place on a single day during a three-week period around Christmas, when volunteers comb a 15-mile (24 km) diameter circle in order to tally up all bird species and individuals observed. The Facility Area falls within the 15-mile count circle of the Fort Plain CBC location. Consequently, data from the Fort Plain CBC count circle will be included in the Article 10 Application.

In addition, the Applicant has initiated consultation with DEC staff regarding the need for Facility-specific avian field surveys, and the extent of information that will be provided in the Article 10 Application. These discussions took place during a meeting with DEC staff in Albany, New York on August 8, 2017.

Amphibians and Reptiles

The New York State Amphibians & Reptile Atlas Facility (Herp Atlas) was a survey conducted over ten years (1990-1999), that was designed to document the geographic distribution of New York State's herpetofauna. The USGS 7.5 minute topographic quadrangle is the unit of measurement for data collection for the Herp Atlas. Data from this survey will be queried for the Fort Plain, Canajoharie, Sprout Brook, and Sharon Springs USGS 7.5 minute quadrangles, which encapsulate the Facility Area. Information based on this query, as well as assessments of suitable habitat in the vicinity of the Facility Area and reptile and amphibian distribution ranges, will be included in the Article 10 Application.

Invertebrates

Publicly available data on terrestrial invertebrate species are generally not available for upstate New York. The New York Natural Heritage Program (NYNHP) is an interagency collaboration administered by the DEC that maintains data and facilitates conservation of rare, threatened, and endangered plant and animal species, as well as significant ecological communities in the State. NYNHP does track several invertebrate groups, although not all invertebrate groups are monitored (NYNHP, undated). A site-specific request for data on rare wildlife species was submitted to NYNHP on June 27, 2016. The NYNHP provided a response August 10, 2016, which did not identify any rare, threatened, and endangered invertebrates within the Study Area (see Appendix F of this PSS). The Article 10 Application will also provide information on major taxonomic groups of invertebrates likely to be found in the Facility Site, based on available habitat, but will not identify these invertebrates to the species or generic level.

Wildlife Habitat

The plant community types identified in 2.22(a) serve as habitat for various wildlife species, and these communities will be discussed in the context of wildlife habitat in Exhibit 22 (d) of the Article 10 Application.

As stated above, a request for data on occurrence of significant natural communities was submitted to NYNHP on June 27, 2016. In its response, the NYNHP did not identify any significant natural communities within the Study Area.

The Article 10 Regulations state that Exhibit 22(d) shall include an identification and depiction of any Significant Coastal Fish and Wildlife Habitats (SCFWH) designated by the New York Department of State and NYSDEC. The Facility Area is not within any coastal areas. Therefore, the Facility will not result in impacts to any SCFWH, and SCFWH will not be discussed in the Article 10 Application.

(e) Species List

A Plant Species Inventory and a Wildlife Species Inventory will be included in the Article 10 Application, both of 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.

(f) Impacts to Vegetation, Wildlife, Wildlife Habitats, and Wildlife Travel Corridors

Any impacts to vegetation will be addressed in the Article 10 Application as described above in 1001.22(b).

With respect to wildlife and wildlife habitat impacts, the Article 10 Application will address any construction-related impacts that may occur, including incidental injury and mortality due to construction activity and vehicular movement, construction-related silt and sedimentation impacts on aquatic organisms, habitat disturbance/loss associated with clearing and earth-moving activities, and displacement of wildlife due to increased noise and human activities. Potential operational impacts, if any, will also be addressed, which may include minor loss of habitat, possible forest fragmentation, and wildlife impacts due to the presence of PV Panels. To the extent any documented wildlife travel corridors are identified within or adjacent to the Facility Site, impacts to such corridors will be addressed. With regard to State and Federal Threatened Endangered Species, please see Section (o) below.

(g) Measures to Avoid or Mitigate Impacts to Vegetation, Wildlife and Wildlife Habitat

With respect to measures to avoid or mitigate impacts to plant communities (including vegetation), please see 1001.22(c) above.

The Article 10 Application will include a description of measures to be implemented to avoid or mitigate impacts to wildlife and wildlife habitat within the Facility Site. It is anticipated such measures will include careful site design (e.g., utilizing existing roads, avoiding sensitive habitat, avoiding tree clearing, and minimizing disturbance to the extent practicable), adherence to designated construction limits and avoidance of off-limit sensitive areas, adhering to seasonal restrictions (e.g., tree clearing dates), and adhering to construction best management practices. With regard to State and Federal Threatened Endangered Species, please see Section (o) below.

(h) Avian and Bat Impact Analysis and Monitoring Program:

The proposed Facility is not a wind-powered facility, and therefore the requirements set forth in 1001.22(h) do not apply.

(i) Map Showing Delineated Wetland Boundaries

Wetland delineations within the Facility Site will be conducted within a 200-foot wide corridor centered on linear Facility components (e.g., access roads, buried electrical interconnect, overhead transmission line), and within a 200-foot radius of PV panel modules and other components such as construction staging areas, and the collection substation and POI switchyard. This area where delineations will take place is referred to as the Delineation Study Area. 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). Wetland boundaries will be defined in the field by sequentially numbered pink surveyor's flagging marked "wetland delineation", the locations of which will be documented using Global Positioning System (GPS) technology with sub-meter accuracy. Wetlands identified by these methods will be referred to as delineated wetlands.

In order to define boundaries out to 500 feet from Facility components, the Applicant's consultant will use interpretation of aerial imagery signatures, on-site observations, analysis of topography, and existing databases of

wetland mapping maintained by National Wetland Inventory (NWI) and NYSDEC. Wetlands identified in this way will be referred to as approximate wetlands.

On-site wetland delineations, and desktop approximations, will be supported by existing databases of state- and federally-mapped wetlands. Review of NYSDEC mapping indicates that two mapped freshwater wetlands occur within the Facility Area (see Figure _). These wetlands occur in the eastern portion of the Facility Area. Table 5 provides a summary of State-regulated wetlands in the Facility Area.

Table 5. NYSDEC-Mapped Wetlands

Wetland	Class[1]	Total Size (Acres)	Size Within Facility Area (Acres)
C-18	1	239.7	44
SS-1	II	121.1	42

[1]NYS classification system. Four separate classes that rank wetlands according to their ability to provide functions and values (Class I having the highest rank, descending through Class IV).

National Wetland Inventory (NWI) mapping indicates 65 wetland communities exist within the Facility Area, which cumulatively total 266 acres. It should be noted that many of these wetlands are comprised of two or more individually mapped wetland communities. Consequently, there are far fewer than 65 individual mapped wetlands located on-site. The NWI data indicate that freshwater emergent wetlands comprise the majority of wetland communities on-site, totaling approximately 140 acres. Other NWI-mapped wetland communities on-site include freshwater forested/shrub wetlands (86 acres), and freshwater ponds (20 acres).

(j) Description of Wetlands

The characteristics of all field delineated wetlands will be described in the Article 10 Application, which will also include a summary of the field data collected regarding vegetation, soils, and hydrology. In addition, it is anticipated that copies of the Corps *Wetland Determination Data Form* completed for each field delineated wetland will be included with the Wetland Delineation Report attached to the Article 10 Application.

(k) Wetland Functional Assessment

A functions and values assessment will be included in the Article 10 Application. It is anticipated that this assessment will follow the general methodology described in the *Wetlands Functions and Values: Descriptive*

Approach in the September 1999 supplement to *The Highway Methodology Workbook* (Supplement) by the New England Division of the USACE (USACE, 1995).

Wetland functions are ecosystem properties that result from the biologic, geologic, hydrologic, chemical and/or physical processes that take place within a wetland. These functions include:

1. Groundwater Recharge/Discharge
2. Floodflow Alteration
3. Fish and Shellfish Habitat
4. Sediment/Pollutant Retention
5. Nutrient Removal/Retention/Transformation
6. Production (Nutrient) Export
7. Sediment/Shoreline Stabilization
8. Wildlife Habitat

Wetland values are the perceived benefits for society that can be derived from the ecosystem functions and/or other characteristics of a wetland. Values attributed to wetlands in the Supplement include the following:

1. Recreation
2. Education/Scientific Value
3. Uniqueness/Heritage
4. Visual Quality/Aesthetics
5. Threatened or Endangered Species Habitat

These functions and values will be evaluated in the Article 10 Application.

(l) Offsite Wetlands Analysis

As described above in 22(i), wetland boundaries within 500 feet of all Facility components will be mapped using interpretation of aerial imagery signatures, on-site observations, analysis of topography, and existing databases of wetland mapping maintained by NWI and NYSDEC. This mapping will be used to inform an analysis of hydrological connections to offsite wetlands, including those that are state mapped wetlands protected by NYSDEC.

(m) Wetland Impacts

During construction, potential direct or indirect impacts to wetlands and surface waters may occur as a result of the installation of access roads, the upgrade of local public roads, the installation of above-ground or buried electrical interconnects, and the development and use of temporary workspaces. Direct impacts, including clearing of vegetation, earthwork (excavating and grading activities), and the direct placement of fill in wetlands and surface waters, may occur as a result of the development of access roads and workspaces. 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). This indirect impact may occur at wetlands adjacent to work areas where no direct wetland impacts are anticipated, including areas adjacent to proposed access road upgrade/construction, electrical collection and transmission routes, or the substation.

The Article 10 Application will quantify both temporary and permanent impacts to wetlands, based on the level of detail available at the time of submittal (i.e., potential impacts based on application of impact assumptions).

(n) Measures to Avoid/Mitigate Wetland Impacts

The Article 10 Application will discuss measures to be implemented to avoid, temporally limit, and mitigate wetland impacts. It is anticipated that direct impacts to wetlands/streams will be minimized by utilizing existing or narrow crossing locations whenever possible. 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.

(o) State and Federal Endangered or Threatened Species

The Applicant has initiated consultation with the NYSDEC regarding the potential need for additional surveys to determine the presence of, and potential use of the Facility Area by T&E species. The potential need for such studies was discussed with DEC staff during a meeting on August 8, 2017.

In order to assess the potential occurrence of federally-listed threatened and endangered species within the Facility Area, EDR consulted the USFWS IPaC system, which aids developers in identifying potential project conflicts with federally-listed threatened and endangered species. According to the IPaC system, the northern long-eared bat (*Myotis septentrionalis* or NLEB) is the only federally-listed (threatened) species identified as potentially occurring

within the Facility Area (see results in Appendix F). Review of a separate database maintained by the USFWS indicates that the closest known NLEB winter hibernacula locations are approximately 4.3 and 6.2 miles east of the Facility Area.

In addition to review of the IPaC system described above, a formal request for information regarding state- and federally-listed endangered and threatened species within the Facility Area was sent to the NYSDEC Natural Heritage Program (NYNHP) on June 27, 2016. The response received from the NYNHP on August 10, 2016, indicated that two bird species, the bald eagle (*Haliaeetus leucocephalus*) and upland sandpiper (*Bartramia longicauda*), as well as the NLEB, all state-listed as threatened, have been documented in proximity to the Facility Area (see correspondence in Appendix F).

In addition, on behalf of the Applicant, Environmental Design & Research, Landscape Architecture, Engineering & Environmental Services, D.P.C. (EDR) prepared an Ecological Communities and Threatened and Endangered Species Habitat Assessment for the proposed Facility (See Appendix H). EDR collected information regarding ecological resources and T&E species potentially occurring in the Facility Area from a number of existing data sources, including recent aerial imagery, USGS topographic mapping, 2010 USGS National Land Cover Dataset (NLCD), U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, New York State Freshwater Wetland maps, the USFWS Information for Planning and Conservation (IPaC) system, the New York Natural Heritage Program (NYNHP), the New York State Department of Environmental Conservation (NYSDEC) Nature Explorer web site, and other publicly-available data sources. In addition, follow-up reconnaissance-level field investigations were performed within approximately 40% of the Facility Area in locations where components are likely to be sited and permission for access had been granted by the property owner. The areas that were visited during the field reconnaissance generally represent conditions typical of the larger Facility Area.

In addition to the species identified by the IPaC and NHP consultation described above, EDR (2017) identified three additional New York State-listed species with the potential to occur within the Facility Area. These are the short-eared owl (*Asio flammeus*), northern harrier (*Circus cyaneus*), and Henslow's sparrow (*Ammodramus henslowii*).

Information on the natural history and likely occurrence in the Facility Area of the species identified by the IPaC System, NYNHP, and EDR (2017) is provided below:

<u>Northern Long-Eared Bat</u>

The NLEB bat is a primarily forest-dwelling, medium sized bat with a body length of 3 to 3.7 inches and a wingspan of 9 to 10 inches. Coloration ranges from medium to dark brown on the back and yellowish to light-brown on the underside. The NLEB is recognizable by its long ears, as its name suggests (USFWS, 2015).

During the winter, NLEBs congregate in hibernacula in caves and mines, where there is a consistent temperature and high humidity. In spring, females leave their hibernacula and form small maternity colonies of up to 60 individuals. Most bats give birth to a single pup in late May or early June to late July depending on the location of the colony within the species range. Juvenile bats begin flying 18 to 21 days after birth. NLEBs most frequently select mature-growth forests with decaying trees and/or live trees with cavities or exfoliating bark during the summer maternity season (Lacki & Schwierjohann, 2001), although captures from New York suggest this species may also be found utilizing younger forest types (NYNHP, 2016).

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). In managed forests of West Virginia, NLEBs utilized home ranges averaging 160.6 acres, and patches significantly smaller than this likely represent unsuitable habitat (Owen et al., 2003). 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 listing of NLEB as a threatened species is directly attributable to the effects of white-nose syndrome (WNS), a debilitating fungal infection that infects the skin of the muzzle, ears, and wings of hibernating bats and disrupts both their hydration and hibernation cycles. Symptoms of this disease were first observed in New York in 2006 where it spread rapidly from the northeast to the mid-west and southeast. Since 2006, WNS has been confirmed in 29 states. To-date, the disease is responsible for an estimated 5.7 to 6.7 million bat fatalities, primarily in the northeast U.S. (USFWS, 2016a). Populations of NLEB (from hibernacula counts) have decreased by up to 99 percent in the northeast (NYNHP, 2016).

As described above, approximately 622 acres (14%) of the Facility Area consist of Mixed Deciduous Forestland ecological communities. Reconnaissance-level field investigations indicate that these forests include species of hickory and oak and represent suitable roosting and foraging habitat for the NLEB. In addition, USFWS data indicates that the known NLEB winter hibernacula are located approximately 4.3 and 6.2 miles east of the Facility Area, well within the dispersal distance of this species. Consequently, it is reasonable to assume that NLEB could occur within the Facility Area. Construction of the Facility is not anticipated to result in significant tree clearing, and

any tree clearing that does occur will be conducted between November 1 and March 31. Consequently, the Facility is not anticipated to result in impacts to the NLEB.

Bald Eagle

The bald eagle was federally de-listed as a T&E species in 2007; however, it is still listed as a threatened species in New York State, and is federally protected under the Bald and Golden Eagle Protection Act (BGEPA). The adult bald eagle is a large raptor with a distinctive white head, white tail, large yellow bill, and dark (black) body and wings. The average size of an adult is 79-94 cm (31-37 inches) long with a wingspan of 178-229 cm (70-90 inches) (NYNHP, 2015a). Bald eagles are typically found near large bodies of water (such as rivers, reservoirs, estuaries, and lakes) that support a healthy population of fish and waterfowl, their primary food source. This species will also feed on small mammals, snakes, and carrion. Generally, bald eagles tend to avoid areas with human activities and require a good food base, perching areas, and nesting sites. They will perch in either deciduous or coniferous trees. Large, heavy nests are usually built near water in tall pine, spruce, fir, cottonwood, oak, poplar, or beech trees. During the winter, roosts sites may be farther from food sources. This may be due to the need for more sheltered, warmer area. Feeding areas during the winter months usually have a high concentration of fish, waterfowl, and open water (NYNHP, 2015a). According to the NYNHP correspondence, bald eagles have been documented within 10 miles of the Facility Area (see Appendix F). According to eBird, an online data repository created for amateur birders by the Cornell Lab of Ornithology and National Audubon Society, two sightings of bald eagles have occurred since 2014 just south of the Facility Area, along West Ames Road (eBird, 2012).

The most suitable habitat for bald eagles in the vicinity of the Facility Area is the Mohawk River valley, which is located approximately 1-mile to the northeast (see Figure 2). In addition, there is some potential for bald eagles to perch in trees along Canajoharie Creek, to the west of the Facility Area. However, no sightings have been documented within the Facility Area, and no eagles or eagle nests were observed during field investigations conducted during November 2016. In addition, the Facility Area itself does not contain open water bodies large enough to provide foraging habitat for bald eagles. Consequently, other than the occurrence of transient individuals, the presence of bald eagles within the Facility Area is considered unlikely. In a meeting with DEC staff on August 8, 2017, DEC concurred with this assessment and indicated that impacts to the bald eagle are not anticipated as a result of Facility construction and operation.

Upland Sandpiper

Known as the shorebird of the prairie, the upland sandpiper is an obligate grassland species. Adults measure approximately 28 to 32 cm (11 to 13 inches) with a long thin neck, long yellow legs and a small head with large dark eyes and white eye ring. Adults are buffy with dark brown barring above with both sexes appearing similar. In New

York State, upland sandpipers return to breeding grounds by late April; pairs arrive together or form immediately after arrival. The age at first breeding is one year and pairs produce only one brood per season. This species builds nests on the ground, using grass and other vegetation for cover. Chicks fledge at approximately 30 days. Diet for the upland sandpiper consists almost entirely of flying insects, but they will also feed on other small invertebrates. This species is an early fall migrant and leaves New York for wintering grounds by mid-September (NYSDEC, 2017).

The breeding range of the upland sandpiper extends from southern Canada south through the central plains states from the Rocky Mountains east to the Appalachian Mountains. In New York, this species is known to occupy agricultural lands on the Lake Plains in western New York, and the St. Lawrence and Mohawk valleys in eastern New York. Preferred habitat includes large areas of short grass for feeding and courtship interspersed with, or adjacent to, taller grasses for nesting and brood cover. Typical nesting cover includes idle cropland, pasture, highway edges, hayfields, untilled crops such as clover, alfalfa or blueberries, and mowed grass (Ailes 1976, Carter 1992, Pierson et al. 1996). In the northeastern U.S., airfields currently provide the majority of suitable habitat, though grazed pastures and grassy fields also are used. Research on this species suggests a subtle distinction between suitable and unsuitable habitat. Heavy or early grazing, standing water, burning, and recent manure application may reduce or exclude nesting from fields accepted the previous year. Abandoned fields with invading shrubs and trees also sometimes exclude upland sandpipers. Large pastures with small perimeter/area ratios (i.e., fewer edges) seem to be preferred, particularly those that are homogenous in floristic structure (i.e., have few plant species) with nearby barns and fence posts for perching (NYNHP, 2015b).

The upland sandpiper is classified as threatened in New York State, and has declined dramatically within the state since the mid-1980s, both in distribution and abundance. The overall statewide distribution has decreased 65%, while abundance has declined by about 16% per year. All regions of the state have shown steep declines in occupancy, and the statewide population appears to be collapsing toward its core in Jefferson County. The primary habitat threats to this species are agricultural conversion, fragmentation, and intensification, all of which are ongoing and expected to increase (NYNHP, 2015b).

Observations of this species along West Ames Road, 1-mile south of the Facility area, have been reported on eBird as recently as April of 2016 (eBird, 2017). Further, possible suitable habitat for the upland sandpiper, in the form of mowed hayfields and successional old fields, was observed by EDR ecologists during the November 2016 field investigations. Although it was not possible for EDR staff to access all parcels proposed for Facility development and determine their suitability as upland sandpiper habitat, based on nearby observations of upland sandpipers and an abundance of open fields, it is assumed this species could be present within the Facility Area.

Short-eared Owl

Short-eared owls are small to medium sized owls with small ear tufts and a dark band around their bright yellow eyes. The back and upper wings are tawny brown to buff colored with some streaking with bold vertical streaking on their breast and a pale belly that is lightly streaked. Short-eared owls prefer open areas such as grasslands, including hayfields, fallow farm lands, and pastures. Fresh and salt water marshes are typically used during the breeding season in New York. Females make a simple nest in a small depression on the ground, lined with grass, leaves, twigs, or feathers. Short-eared owls detect prey by coursing open areas while flying low over the ground but have been observed hunting from a perch. Their diet consists of small rodents, primarily voles, but can also include small mammals and sometimes birds. Short-eared owls are found in New York State year-round, although their breeding range is limited to the St. Lawrence and Lake Champlain valleys, the Great Lakes Plains, and marshes along the south shore of Long Island. Breeding occurs between April and June. In New York, an increase in short-eared owl observations has been noted during the winter, as northern populations migrate south in search of food. Ecological communities associated with this species include cropland, dwarf shrub bog, high and low salt marsh, and successional old field. The most significant threat to the short-eared owl is habitat loss due to development, reforestation, wetland loss, and changes in farming practices such as conversion of hayfields to row crops or frequent mowing of hayfields. As a ground-nesting bird, eggs and unfledged young are at risk of predation by predators including foxes, raccoons, and skunks. A limiting factor for short-eared owls is their dependency on rodent populations (NYNHP, 2015e). The short-eared owl is state listed as endangered in New York.

Observations of this species along Dingman Road, approximately 3-miles southwest of the Facility Area, have been reported as recently as November of 2016 (eBird, 2012) and possible suitable habitat for the short-eared owl, in the form of mowed hayfields and successional old fields occur within the Facility Area. Based on nearby observations of short-eared owls and an abundance of suitable habitat, this species could be present within the Facility Area, particularly during the winter months. It should be noted that the NYNHP did not identify any occurrence records for the short-eared owl within the Facility Area.

Northern Harrier

The northern harrier is a slim, medium-sized hawk with long broad wings, long legs and tail. They are recognizable by their facial ruff that gives them an owl-like appearance, a white rump, and their habit of flying low over fields or hovering in flight to catch prey. 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, and successional shrubland. Northern harrier is state-listed threatened in New York, due primarily to the loss of suitable grassland habitat. (NYNHP, 2015d).

Observations of this species just south of the Facility Area have been reported as recently as August of 2016 (eBird, 2012). Suitable habitat for this species, consisting of successional old field and successional shrubland, were observed by EDR ecologists during the November 2016 site visit; therefore, it is possible that northern harriers could be present within the Facility Area. It should be noted that the NYNHP did not identify any occurrence records for the northern harrier within the Facility Area.

Henslow's Sparrow

Henslow's sparrow is a small, inconspicuous song bird. This sparrow is mostly brownish with a sparsely streaked breast, large head and short tail. It is a grassland bird species, preferring tall, dense, grassy fields without woody vegetation. Henslow's sparrows are most active and vocal during breeding season, which occurs between May and July. These birds construct nests of dry grasses on the ground and lay their eggs in the spring. According to the NYNHP, Henslow's sparrow is associated with sedge meadow, maritime grassland, successional old field, and pastureland ecological communities. In New York State this species occurs in central and western New York and in a few locations in the Hudson River Valley (NYNHP, 2015c). Field size has been identified as an important component of Henslow's sparrow habitat. Area was found to be the best predictor of occurrence in grasslands in New York, with observations of the species primarily occurring in fields with ≥30 ha (74 acres) of contiguous grassland (Herkert et al 2003). The Breeding Bird Atlas (BBA) documented this species in the vicinity of the Facility Area in 2005 (NYS, 2005). Henslow's sparrow is listed as threatened in New York State due to the loss of suitable grassland habitat (NYNHP, 2015c).

Possible suitable habitat for Henslow's sparrow, in the form of successional old fields and pastureland, was observed by EDR ecologists during the November 2016 field investigations. As discussed previously, it was not possible for EDR staff to access all parcels proposed for Facility development and determine their suitability as habitat for Henslow's sparrow. However, based on the presence of successional old fields and pastureland, and BBA documentation of this species occurring in the area, it is assumed that Henslow's sparrow could be present within the Facility Area. It should be noted that the NYNHP did not identify any occurrence records for the Henslow's sparrow within the Facility Area.

(p) Invasive Species Prevention and Management Plan

Please see (b) above for a description of the Invasive Species Control Plan (ISCP) to be prepared.

(q) Agricultural Impacts

The presence of agricultural land will be documented based on site-specific field investigations and review of aerial imagery. The type of agricultural use (e.g., row crops, hayfields, pasture) will also be documented in the Article 10 Application. In addition, the Article 10 Application will include a map and summary of all locations classified as "prime farmland," "prime farmland if drained", "unique farmland", "farmland of statewide importance", and "farmland of local importance" within the Facility Site. All impacts to agricultural land will be based on GIS calculations, as described above in association with 1001.22(b), and mitigation is anticipated to generally follow the guidelines established by the New York State Department of Agriculture and Markets (NYSDAM).

2.23 WATER RESOURCES AND AQUATIC ECOLOGY

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

(a) Groundwater

(1) Hydrologic Information

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 Area, with high water tables most common in low-lying areas in and adjacent to wetlands. Depth to bedrock ranges from 61 centimeters to greater than 200 centimeters, with the large majority of the Facility Area having soils greater than 200 centimeters (Soil Survey Staff, 2017). The Article 10 Application will include maps showing depth to bedrock and depth to water table throughout the Facility Site, based on the Soil Survey of Montgomery County, New York.

(2) Groundwater Aquifers and Recharge Areas

Based on preliminary evaluations conducted in support of this PSS, the Facility Area does not border or contain any part of a primary aquifer, a designation applied by US Geological Survey (USGS) and New York State Department of Environmental Conservation (NYSDEC) to aquifers that are highly productive and utilized by major municipal water supply systems (NYSDEC, 2011). The nearest primary aquifer is the Schenectady aquifer, 25 miles east of the Study Area.

The Facility Area also overlays parts (in some cases very small parts) of one low-yield unconsolidated aquifer 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 Schenectady-Niskayuna Sole Source Aquifer is the nearest sole-source aquifer, located over 25 miles east of the Facility Area (USEPA, 2011). Therefore, it is anticipated that the Facility will not result in impacts to sole-source aquifers. This will be confirmed in the Article 10 Application.

To identify existing water wells in the area, a Freedom of Information Law request letter was sent to the NYSDEC and to Montgomery County in September, 2017. These letters requested any information pertaining to groundwater wells (including location, construction logs, depths, and descriptions of encountered bedrock) within the Facility Area. The Article 10 Application will include information received from the NYSDEC and Montgomery County on water wells, including location, depth, yield, and use, if such data are available.

In addition, private wells will also be identified by sending a well survey to all residences/businesses located within a 2,000-foot radius of the proposed Facility. A summary of responses received from the well survey will be included in the Article 10 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.

(3) Groundwater Impacts

Despite proximity to mapped 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 foundation, roadways, and 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, and will have a negligible effect on groundwater recharge. Additional detail regarding groundwater impacts will be provided in the Article 10 Application, including results from a geotechnical evaluation, as well as specific avoidance, minimization, and

mitigation measures that will be implemented to protect groundwater resources during construction of the Facility.

(b) Surface Waters

(1) Surface Waters Map

A map will be prepared identifying all surface waters within the Facility site, including intermittent streams (to the extent such streams are identified in publicly available data). Sources of information will include publicly available data from the NYSDEC and ESRI, along with stream data collected during on-site wetland and stream delineations. This map will be included with the Article 10 Application.

(2) Description of Surface Waters

The Facility Area is located in the Mohawk River basin (USGS Hydrologic Unit 02020004), a sub basin of the Hudson River. The Mohawk River Basin is the largest tributary to the Hudson River and drains approximately 3,460 square miles of New York State, which is 25% of the Hudson River Basin. The Mohawk River Basin drains Oneida, Herkimer, Hamilton, Fulton, Montgomery counties, and a small portion of Saratoga County.

Under Article 15 of the Environmental Conservation Law (Protection of Waters), the New York State Department of Environmental Conservation (NYSDEC) has regulatory jurisdiction over any activity that disturbs the bed or banks of protected streams. Any stream, or particular portion of a stream, that has been assigned by the NYSDEC any of the following classifications or standards is considered a protected stream: AA, AA(t), A, A(t), B, B(t) or C(t) (6 NYCRR Part 701). A classification of AA or A indicates that the best use of the stream is as a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The best usages of Class B waters are primary and secondary contact recreation and fishing. The best usage of Class C waters is fishing and non-contact activities, and Class D waters represent the lowest classification standard. Streams designated (t) indicate that they support trout, and also include those more specifically designated (ts) which support trout spawning. The Article 10 Application will identify the classification for all NYSDEC mapped streams within the Facility Site (see Figure 6). Characteristics of the streams in the Facility Site will be described in the Article 10 Application, based on publicly available data and when available, supplemented by field data collected during any on-site wetland and stream delineations.

With respect to fish species, an email request was submitted to the NYSDEC in September, 2017 for data on fish communities in streams associated with the Facility Area. These data provide information on fish species that have been caught or identified in the streams of interest. The data will be compared to the state and federal databases of threatened and endangered species and included in the Article 10 Application.

Please note that 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 and included in the Article 10 Application. However, a comprehensive inventory of aquatic species or aquatic invasive species will not be included.

(3) Drinking Water Supply Intakes

A FOIL request on the location of downstream surface drinking water intake sites was submitted to Montgomery County Department of Public Health in September, 2017. The inquiry requested data on public surface drinking water intake sites within 1 mile of the proposed Facility or, if there are no such intake sites, the nearest intakes downstream of the Facility Area. The Article 10 Application will identify the surface drinking water intake sites identified through this correspondence, and discuss the type, nature, and extent of services provided by each source based on the information received.

(4) Impacts to Surface Waters

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 mounting systems and substation, are anticipated to avoid surface waters to the maximum extent practicable. In addition, temporary construction areas will avoid surface water impacts to the maximum extent practicable. Number and overall impacts due to access road and collection line crossings will be minimized by utilizing existing crossings and narrow crossing locations to the extent practicable.

During construction, potential direct or indirect impacts to surface waters may occur as a result of the installation of the Facility, the upgrade of local public roads, the installation of above ground or buried electrical interconnects, and temporary workspaces around the substation. Direct impacts 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 sedimentation and erosion caused by construction activities (e.g., removal of vegetation and soil disturbance).

As previously stated, an on-site wetland and stream delineation will be conducted and a Wetland and Stream Delineation Report will be prepared and included with the Article 10 Application. Based on the Facility layout (i.e., proposed footprint of all Facility components) and the 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. The Article 10 Application will also address potential Facility-related impacts to drinking water supplies. No dredging is proposed as part of this Facility. Therefore, the Article 10 Application will not identify precautions taken to avoid or minimize the need for dredging.

(5) Measures to Avoid or Mitigate Surface Water Impacts

Direct impacts to surface waters will be minimized by designing the Facility layout to avoid surface water impacts where practicable, and other measures such as utilizing existing or narrow crossing locations whenever possible. In addition, the results of on-site approximate wetland and stream surveys conducted during November, 2016 (Appendix G) have been incorporated into the Facility design for impact avoidance purposes. Upgrading 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 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 the USACE. Specific mitigation measures for protecting surface water resources will be described in the Article 10 Application, and may include the following:

- *No Equipment Access Areas:* Except where crossed by permitted access roads 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. Restrictions will include:
    - No deposition of slash within or adjacent to a waterbody;

- No accumulation of construction debris within the area;
- Herbicide restrictions within 100 feet of a stream or wetland (or as required per manufacturer's instructions);
- No degradation of stream banks;
- No equipment washing or refueling within the area;
- No storage of any petroleum or chemical material; and
- No disposal of excess concrete or concrete wash water.

- *Sediment and Siltation Control*: A soil erosion and sedimentation control plan will be developed and implemented as part of the SPDES General Permit for the Facility. Silt fences, hay bales, and temporary siltation basins will be installed and maintained throughout Facility construction. Exposed soil will be seeded and/or mulched to assure that erosion and siltation is kept to a minimum along wetland boundaries. 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. These features will be inspected on a regular basis to assure that they function properly throughout the period of construction, and until completion of all restoration work.

(c) Stormwater

(1) Stormwater Pollution Prevention Plan

Prior to construction, the Applicant will seek coverage under the NYSDEC State Pollution Discharge Elimination System (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) (please see http://www.dec.ny.gov/docs/water_pdf/gp015002.pdf). This authorization is subject to review by NYSDEC, and is independent of the Article 10 process. The Article 10 Application will contain a Preliminary SWPPP, which will describe in general terms the erosion and sediment control practices that will likely be implemented during construction activities. The Preliminary SWPPP will provide typical information on temporary and permanent erosion and sediment control measures (vegetative and structural), construction phasing and disturbance limits, waste management and spill prevention, and site inspection and maintenance.

(2) Post-Construction Erosion and Sediment Control Practices

As described above, the Preliminary SWPPP and associated erosion and sedimentation control plan will address the anticipated stormwater management practices that will be used to reduce the rate and volume of stormwater runoff after Facility construction has been completed. The Article 10 Application will include a description of the green infrastructure practices (e.g., vegetative filters) for stormwater quality to be implemented at the Facility Site, as described in the Preliminary SWPPP.

Following Certification of the Facility, it is anticipated that hydrologic models (e.g., Hydraflow Hydrographs Extension for AutoCAD Civil 3D software) based upon measurable watershed characteristics will be utilized by professional engineers to calculate stormwater discharges. Stormwater runoff rates discharged from the site under existing conditions (pre-construction) will provide the basis for evaluation and comparison to proposed conditions (post-construction). Design points of interest will be established where stormwater runoff exits the site (e.g., where proposed Facility access roads intersect with existing public roads/roadside ditches). These design points will provide fixed locations at which existing and proposed stormwater quantities can be compared. The areas draining to these design points will be delineated using land survey information and proposed grading plans, and a hydrologic analysis of each of the drainage areas will be conducted to model their discharges (typically for the 1, 2, 10, 25, 50 and 100-year storm events). Because final engineering will not be completed until the Facility has been certified, and because the Applicant will ultimately seek coverage under the SPDES General Permit independent of the Article 10 process, a final SWPPP will not be included in the Article 10 Application.

(d) Chemical and Petroleum Bulk Storage

(1) Spill Prevention and Control Measures

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, Containment and Counter Measures (SPCC) Plan that will be implemented during Facility operation to minimize the potential for unintended releases of petroleum and other hazardous chemicals. This plan is anticipated to contain information about water bodies to be included in the final SPCC, 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 information.

(2) Compliance with New York State Chemical and Petroleum Bulk Storage Regulations

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 the State of New York's chemical and petroleum bulk storage programs (e.g., fuel oil, petroleum, etc.). This will be confirmed in the Article 10 Application.

(3) Compliance with Local Laws for Storage of Chemicals or Petroleum

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.

(e) Aquatic Species and Invasive Species

(1) Impact to Biological Aquatic Resources

The Article 10 Application will contain the results of the on-site wetland and stream delineation field effort, which will be used to micro-site various Facility components (as needed) so as to further minimize impacts to surface waters, as practicable. Based on the Facility layout and the delineated stream and wetland boundaries, calculations will be performed to determine the anticipated acreage of surface waters to be temporarily and permanently impacted, as discussed above in Section 2.23(b)(4). 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, or special concern species that may occupy potentially affected waters.

For additional information on how aquatic invasive species will be addressed in the Article 10 Application, please see Section 2.23(b)(2) above.

(2) Measures to Avoid or Mitigate Impacts to Aquatic Species

Avoidance measures implemented to minimize impacts to surface waters will also serve to avoid or mitigate impacts to aquatic resources. Please see Section 2.23(b)(5) above for additional information.

(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

(a) Visual Impact Assessment

A Visual Impact Assessment (VIA) will be conducted to determine the extent, and assess the significance of, Facility visibility. The 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.

(1) Character and Visual Quality of the Existing Landscape

Per the definition set forth at 1000.2(ar), the visual study area to be used for analysis of major electric generating facilities is defined as "*an area generally related to the nature of the technology and the setting of the proposed site. For large facilities or wind power facilities with components spread across a rural landscape, the study area shall generally include the area within a radius of at least five miles from all generating facility components, interconnections and related facilities and alternative location sites. For facilities in areas of significant resource concerns, the size of a study area shall be configured to address specific features or resource issues*."

Unlike a wind power project that contains wind turbines that may be 500 feet or more in height and which are visible from a relatively large surrounding area (e.g., five miles or more), a solar generating facility does not have any prominently visible components. The tallest components of the generating portion of the proposed Facility will be the PV panels and inverter equipment, which have a relatively low profile, and are not expected to be more than 10 feet above grade, less than a single-story residence. The nature of the technology is such that visibility is anticipated to be relatively limited to those areas located adjacent to the Facility.

With respect to setting, the Facility Area is in an upland ridgeline area, on the generally south-facing slopes of the ridge that defines the southern boundary of the Mohawk River Valley (i.e., on the backside of the ridgeline relative to the Mohawk Valley). Because of the Facility's geographic location on the south side of the ridge that defines the Mohawk Valley (i.e., facing away from the valley), the Facility will not be visible from the nearby Village of Canajoharie or other densely populated areas. In addition, because of the rolling topography in the

immediate vicinity of the Facility and its low-profile, visibility of the Facility components is anticipated to be limited to the immediate vicinity of the proposed Facility.

Due to the nature of the technology and the setting specific to this proposed Facility, in the PIP the Applicant proposed a two-mile-radius Study Area for Article 10 purposes, which includes the host Towns of Canajoharie and Minden. In DPS staff comments on the PIP they acknowledged that two-miles was adequate for general purposes but that visual effects would need to be considered more broadly and they specifically referred to "scenic vistas at elevated landscape positions several miles southerly of the facility site." Ongoing consultation with DPS staff has clarified that they are concerned with potential visual impacts to the US Route 20 Scenic Byway, which is located between four and five miles south of the Facility, outside of the two-mile-radius Article 10 Study Area.

To ensure that potential visual effects on regional visually sensitive resources are adequately considered in the Article 10 Application, the VIA will address a broader five-mile-radius Visual Study Area. The five-mile Visual Study Area will be used for the purpose of identifying visually sensitive resources of regional and/or statewide significance, and evaluating visibility and potential visual impacts to those sites. A more inclusive inventory of locally significant visually sensitive resources will be conducted for the area within two miles of the proposed Facility.

The Article 10 Application will discuss the physiographic and vegetative community characteristics of the five-mile-radius visual study area. Per the requirements set forth in 16 NYCRR § 1000.24(b)(1), Landscape Similarity Zones must be defined within the visual study area to be shown along with other indicators of potential visual impact (i.e. viewshed maps). Definition of discrete landscape types within a given study area provides a useful framework for the analysis of a project's potential visual effects. These landscape types, referred to in the PSS and Article 10 Application as Landscape Similarity Zones (LSZs), are defined based on the similarity of various landscape characteristics including landform, vegetation, water, and/or land use patterns, in accordance with established visual assessment methodologies (Smardon et al., 1987; USDA Forest Service, 1995; USDOT Federal Highway Administration, 1981; USDI Bureau of Land Management, 1980). Distinct LSZs within the visual study area will be identified, defined, and the approximate location of these LSZs will be illustrated in the VIA appended to the Article 10 Application.

Visibility of the Facility

The VIA will include an analysis of potential visibility and identify locations within the Visual Study Area where it may be possible to view the proposed Facility arrays or substation. Viewshed maps will be created to identify

potential visibility of the PV arrays. The methodology for these analyses is described in detail below in Section (b)(2). In addition, site visits will be conducted to obtain photographs from visually sensitive sites as well as representative photographs from LSZs in the study area. During these site visits, public roads and public vantage points will be visited to document locations from which the arrays would likely be visible, partially screened, or fully screened. This determination will be made based on the visibility of the distinctive Facility site features, including existing tall structures (such as silos), which will serve as locational and scale references. These site visits will result in photographs from numerous (typically over 100) 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 area of high public use throughout the visual study area.

During the site visits, photos will be taken using digital SLR cameras with a minimum resolution of 10 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 (CEIWEP, 2007). 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.

(2) Visibility of Above-ground Interconnections and Roadways

Access roads, fences, and any other above ground component of the Facility will be included in all visual simulations in which they would be visible. It is anticipated that all collection systems for the Facility will be buried underground. However, in the event that overhead lines are necessary in some areas, the engineering design (e.g., pole locations and height) will likely not be completed at the time of the Article 10 Application is submitted. However, to address the potential visual effect any overhead collection lines (if any are proposed), representative photographs of similar built facilities would be included in the Article 10 Application.

(3) Appearance of the Facility Upon Completion

To show anticipated visual changes associated with the proposed Facility, high-resolution computer-enhanced image processing will be used to create realistic photographic simulations of the proposed Facility from selected viewpoints. The photographic simulations will be developed by using appropriate software (e.g., Autodesk 3ds Max Design®) 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., topography, buildings, roads) will be

modeled based on aerial photographs and DEM data, and a three dimensional ("3-D") topographic mesh of the landform (based on DEM or LIDAR data) will be brought into the 3-D model space. At this point minor adjustments will be made to camera and target location, focal length, and camera roll to align all modeled elements with the corresponding elements in the photograph. This assures that any elements introduced to the model space (i.e., the proposed PV panel arrays) will be shown in proportion, perspective, and proper relation to the existing landscape elements in the view. As a result, the alignment, elevations, dimensions and locations of the proposed Facility structures will be accurate and true in their relationship to other landscape elements in the photograph.

A computer model of the proposed array layout will be prepared based on specifications and data provided by the Applicant. All arrays will be modeled in east-west aligned rows facing the sun (e.g., oriented to the south). Using the camera view as guidance, the visible portions of the modeled arrays will be imported to the landscape model space described above, and set at the proper coordinates.

Once the proposed Facility is accurately aligned within the camera view, a lighting system will be created based on the actual time, date, and location of the photograph. Thus, light reflection, highlights, color casting, and shadows will be accurately rendered on the modeled Facility based on actual environmental conditions represented in the photograph. The rendered Facility will then be superimposed over the photograph and portions of the arrays that fall behind vegetation, structures or topography will be masked out. In addition, for some views, "wireframe renderings" may be prepared to illustrate the potential screening effect of vegetation or other features in the photograph from a given viewpoint that screen or partially screen views of the Facility. In these wireframe renderings, the portions of the proposed arrays that would be screened by vegetation (or other factors) will be shown in a bright color (for illustrative purposes). These wireframe renderings may be prepared for viewpoints that are being considered as candidates for visual simulations, or for the explicit purpose of illustrating the effects of screening.

(4) Lighting

No lighting will be installed as part of the PV arrays. The only lighting that will be installed as part of the Facility will be at the proposed substation. The potential impact of proposed lighting at the substation, as well as mitigation measures, will be described in the Article 10 Application. It is anticipated that these mitigation measures may include security lighting and use of shielded, downward facing fixtures to minimize light pollution and/or off-site lighting impacts.

(5) Photographic Overlays

To show anticipated visual changes associated with the proposed Facility, high-resolution computer-enhanced image processing will be used to create realistic photographic simulations of the completed arrays from each of the selected viewpoints. See Section (a)(4) above for discussion of the methodology to be used for creating the simulations.

(6) Nature and Degree of Visual Change from Construction

Visual impacts during construction are anticipated to be relatively minor and temporary in nature. Representative photographs of construction activities will be included in the VIA. Anticipated visual effects during construction will include disturbance, loss of vegetation, and addition of construction equipment and materials to certain views. Impacts will be fully described and illustrated in the Article 10 Application.

(7) Nature and Degree of Visual Change from Operation

To evaluate anticipated visual change, the photographic simulations of the completed Facility will be compared to photos of existing conditions from each of the selected viewpoints. These "before" and "after" photographs, identical in every respect except for the Facility components to be shown in the simulated views, will be provided as 11 x 17-inch color prints to a panel of three registered landscape architects, who will determine the effect of the proposed Facility in terms of its contrast with existing elements of the landscape. The methodology to be utilized was developed by EDR in 1999 for reviewing visual impacts to energy development projects and is a simplified version of the U.S. Bureau of Land Management (BLM) contrast rating methodology (USDI BLM, 1980). It involves using a short evaluation form, and a simple numerical rating process to assign visual contrast ratings on a scale of 0 (insignificant) to 4 (strong). A copy of this form is included in Appendix I to this PSS. This methodology 1) documents the basis for conclusions regarding visual impact, 2) allows for independent review and replication of the evaluation, and 3) allows a large number of viewpoints to be evaluated in a reasonable amount of time. Landscape, viewer, and Facility-related factors to be considered by the landscape architects in their evaluation will include the following:

- *Landscape Composition:* The arrangement of objects and voids in the landscape that can be categorized by their spatial arrangement. Basic landscape components include vegetation, landform, water and sky. Some landscape compositions, especially those that are distinctly focal, enclosed, detailed, or feature-oriented, are more vulnerable to modification than panoramic, canopied, or ephemeral landscapes.

- *Form, Line, Color, and Texture*: These are the four major compositional elements that define the perceived visual character of a landscape, as well as a Facility. Form refers to the shape of an object that appears unified; often defined by edge, outline, and surrounding space. Line refers to the path the eye follows when perceiving abrupt changes in form, color, or texture; usually evident as the edges of shapes or masses in the landscape. Texture in this context refers to the visual surface characteristics of an object. The extent to which form, line, color, and texture of a Facility are similar to, or contrast with, these same elements in the existing landscape is a primary determinant of visual impact.

- *Focal Point*: Certain natural or man-made landscape features stand out and are particularly noticeable as a result of their physical characteristics. Focal points often contrast with their surroundings in color, form, scale or texture, and therefore tend to draw a viewer's attention. Examples include prominent trees, mountains and water features. Cultural features, such as a distinctive barn or steeple can also be focal points. If possible, a proposed Facility should not be sited so as to obscure or compete with important existing focal points in the landscape.

- *Order*: Natural landscapes have an underlying order determined by natural processes. Cultural landscapes exhibit order by displaying traditional or logical patterns of land use/development. Elements in the landscape that are inconsistent with this natural order may detract from scenic quality. When a new Facility is introduced to the landscape, intactness and order are maintained through the repetition of the forms, lines, colors, and textures existing in the surrounding built or natural environment.

- *Scenic or Recreational Value*: Designation as a scenic or recreational resource is an indication that there is broad public consensus on the value of that particular resource. The particular characteristics of the resource that contribute to its scenic or recreational value provide guidance in evaluating a Facility's visual impact on that resource.

- *Duration of View*: Some views are seen as quick glimpses while driving along a roadway or hiking a trail, while others are seen for a more prolonged period of time. Longer duration views of a Facility, especially from significant aesthetic resources, have the greatest potential for visual impact.

- *Atmospheric Conditions*: Clouds, precipitation, haze, and other ambient air related conditions, which affect the visibility of an object or objects. These conditions can greatly impact the visibility and contrast of landscape and Facility components, and the design elements of form, line, color, texture, and scale.

- *Lighting Direction*: Backlighting refers to a viewing situation in which sunlight is coming toward the observer from behind a feature or elements in a scene. Front lighting refers to a situation where the light source is coming from behind the observer and falling directly upon the area being viewed. Side lighting refers to a viewing situation in which sunlight is coming from the side of the observer to a feature or elements in a scene. Lighting direction can have a significant effect on the visibility and contrast of landscape and Facility elements.

- *Scale*: The apparent size of a proposed Facility in relation to its surroundings can define the compatibility of its scale within the existing landscaping. Perception of Facility scale is likely to vary depending on the distance from which it is seen and other contextual factors.

- *Spatial Dominance*: The degree to which an object or landscape element occupies space in a landscape, and thus dominates landscape composition from a particular viewpoint.

- *Visual Clutter*: Numerous unrelated built elements occurring within a view can create visual clutter, which adversely impacts scenic quality.

(8) Operational Effects of the Facility

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. 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. The reflectivity of a surface is often measured as albedo, which is the fraction of solar energy reflected by that surface. For comparison, the albedo of PV panels (0.1 -0.3) (Lasnier and Ang, 1990) is generally similar to, or lower than many natural surfaces such as coniferous forests (0.2), grasslands (0.25), dry sand (0.45), and snow cover (0.50) (Budikova, 2010). Furthermore, the glare and reflectivity of PV panels have been found to be lower than the glare and reflectivity generated by standard glass (SunPower, 2009). In addition, Mohawk Solar intends to use single-axis trackers, which direct the panels at the sun for optimal energy production. An added benefit of the use of trackers is that

any glare, however small, that might be generated is reflected directly back at the sun, therefore essentially eliminating any glare available to observers.

In addition, operation of the Facility will not generate plumes or any other visible effect. The only visual effect of the Facility is the visibility of PV panels and other Facility components. Therefore, construction and operation of the Facility is not anticipated to result in potential impacts from glare or other off-site effects (such as plumes) and therefore these types of effects will not be addressed in the Article 10 Application.

(9) Measures to Mitigate for Visual Impacts

In accordance with New York State Department of Environmental Conservation (NYSDEC) Program Policy DEP-00-2 *Assessing and Mitigating Visual Impacts* (NYSDEC, 2000), various mitigation measures will be considered, these include the following:

- Professional Design
- Screening
- Relocation
- Camouflage
- Low Profile
- Alternate Technologies
- Non-specular Materials
- Lighting
- Maintenance
- Offsets

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. 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. Security fencing needs to be considered in terms of 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. However, 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:

- *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, such as the Facility Area) 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.
- *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 urban and suburban settings, however, it may not be appropriate in some settings (such as relatively undeveloped agricultural areas) where the introduction of evergreen hedges would be inconsistent with the existing visual setting.
- *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.

The Application will discuss feasibility and potential effectiveness of the various mitigation options.

(10) Description of Visual Resources to be Affected

As mentioned previously, visually sensitive resources of statewide significance will be identified within the five-mile Visual Study Area. As defined in the NYSDEC Visual Policy, these include any of the following types of resources:

- Properties listed on or determined eligible for listing on the National Register of Historic Places.
- State Parks.
- Urban Cultural Parks (now referred to as New York State designated Heritage Areas).
- The State Forest Preserve (i.e., the Adirondack or Catskill Parks).
- National Wildlife Refuges, State Game Refuges, and State Wildlife Management Areas.
- National Natural Landmarks.
- National Parks, Recreation Areas, Seashores, or Forests.
- Rivers designated as National or State Wild, Scenic or Recreational Rivers.
- A site, area, lake, reservoir, or highway designated or eligible for designation as scenic.
- Scenic Areas of Statewide Significance.
- A state or federally designated trail, or one proposed for designation.
- Adirondack Park Scenic Vistas.
- State Nature and Historic Preserve Areas.
- Palisades Park.
- Bond Act Properties purchased under Exceptional Scenic Beauty or Open Space category.

In addition, resources of local significance within the Visual Study Area will also be identified. These scenic areas include places of concentrated activity such as village centers and heavily used roadways, or landscapes of high aesthetic merit that may be considered important by local residents. See Section (b)(3) below for additional detail on visually sensitive resources.

(b) Viewshed Analysis

The VIA will include a Viewshed analysis to identify locations within the visual study area where it may be possible to view the proposed PV arrays and other proposed above-ground facilities from ground-level vantage points. The methodology to be employed in this analysis is described below.

(1) Viewshed Maps

Viewshed maps define the maximum area from which an array within the completed Facility could potentially be seen within the study area. Maps showing the results of viewshed analysis will be prepared based on the screening effect of topography alone, and the combined screening effect of topography, vegetation, and built structures within the environment. A preliminary viewshed analysis that depicts predicted Facility visibility based on the combined screening effect of topography, vegetation, and built structures is included as Figure _ of this PSS. The preliminary viewshed map is based on the Preliminary Facility Layout shown in Figure 3 of this PSS and was prepared per the methodologies described below. Updated viewshed maps, based on the Facility Layout presented in the Article 10 Application will be included in the VIA.

In addition, the VIA included in the Article 10 Application will include maps that show the results of the viewshed analysis along with visually sensitive sites, viewpoint locations, and LSZs.

With respect to line-of-sight profiles, please note that the computer model program defines the viewshed (when evaluating topography only for instance) by reading every cell of the digital elevation model (DEM) data and assigning a value based upon the existence of a direct, unobstructed line of sight to the location/elevation coordinates of each cluster of PV panels from observation points throughout the entire visual study area. Therefore, for the purposes of the Article 10 Application, the viewshed analyses will also serve to document the line-of-sight profiles for resources of statewide concern.

(2) Viewshed Methodology

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 solar panel locations based on the Facility Layout presented in the Application; an assumed maximum solar panel height of 10 feet; an assumed viewer height of six feet; and ESRI ArcGIS® software with the Spatial Analyst extension. For the purpose of generating the viewshed, sample points with an assigned height of 10 feet (representing the solar panels) will be placed 200 feet apart in a grid pattern throughout all developable areas within the Facility

Site. This provides an effective and manageable GIS data set for evaluating potential Facility visibility. There are portions of the five-mile Visual Study Area where no LiDAR data is available. In these areas, topographic data will be derived from USGS-based DEM Hillshade and the most recent edition 1:24,000-scale USGS topographic base maps.

The ArcGIS program defines the viewshed (using topography only) by reading every cell of the bare earth (or ground surface) DEM data and assigning a value based upon the existence of a direct, unobstructed line of sight to the solar panel sample points from all areas within the five-mile Visual Study Area. The resulting topographic viewshed map defines the maximum area from which any solar panel sample point could potentially be seen within the study area (i.e., ignoring the screening effects of existing vegetation and built structures). Because the screening provided by vegetation and buildings is not considered in this stage of the analysis, the topographic viewshed represents a "worst case" assessment of potential Facility visibility. This “worst case” assessment significantly overstates the actual anticipated visibility of the Facility.

In addition, 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. As noted above, there are portions of the five-mile Visual Study Area where no LiDAR data is available. In these areas, a base vegetation layer has been created using the USGS National Land Cover Dataset (NLCD) to identify the mapped location of forest land within those portions of the Visual Study Area where LiDAR data is not available. Based on standard visual assessment practice, the mapped locations of the forest land in these areas will be assigned an assumed height of 40 feet and added to the DEM.

As described above, a preliminary viewshed analysis that depicts predicted Facility visibility based on the combined screening effect of topography, vegetation, and built structures is included as Figure _ of this PSS. The preliminary viewshed map is based on the Preliminary Facility Layout shown in Figure 3 of this PSS. Updated viewshed maps, based on the Facility Layout presented in the Article 10 Application will be included in the VIA.

Because it accounts for the screening provided by structures and trees, this second-level analysis is a more accurate representation of probable Facility visibility. However, it is worth noting that because certain characteristics of the solar panels that may influence visibility (color, low profile, distance from viewer, etc.) are not into taken consideration in the viewshed analyses, being located within the DSM viewshed does not necessarily equate to actual Facility visibility.

Per the requirements set forth in 16 NYCRR § 1000.24(a), the potential cumulative visual effect of the Facility as well as other energy projects built or proposed in the surrounding region must be considered. Cumulative impacts are two or more individual environmental effects which, when taken together, are significant or that compound or increase other environmental effects. The Application will address the potential cumulative visual impacts that may arise from simultaneous visibility of the proposed Facility and other nearby operating solar facilities. However, the Applicant is not aware of any other currently proposed solar projects (or other energy projects) in the Visual study Area. Consequently, it is not anticipated that any cumulative visual impacts will occur due to construction of the proposed Facility.

(3) Sensitive Viewing Areas

In accordance with standard visual impact assessment practice in New York State, visually sensitive resources will be identified in accordance with the NYSDEC Program Policy DEP-00-2 *Assessing and Mitigating Visual Impacts* (NYSDEC, 2000), which define specific types of properties as visually sensitive resources of statewide significance. The types of resources identified by NYSDEC in Program Policy DEP-00-2 are consistent with the types of resources identified in 16 NYCRR § 1000.24(b)(4) and include landmark landscapes; wild, scenic or recreational rivers administered respectively by either the DEC or the APA pursuant to ECL Article 15 or Department of Interior pursuant to 16 USC Section 1271; forest preserve lands, scenic vistas specifically identified in the Adirondack Park State Land Master Plan, conservation easement lands, scenic byways designated by the federal or state governments; Scenic districts and scenic roads, designated by the Commissioner of Environmental Conservation pursuant to ECL Article 49 scenic districts; Scenic Areas of Statewide Significance; state parks or historic sites; sites listed on National or State Registers of Historic Places; areas covered by scenic easements, public parks or recreation areas; locally designated historic or scenic districts and scenic overlooks; and high-use public areas.

To identify visually sensitive resources within the visual study area, a variety of data sources including digital geospatial data (shapefiles) obtained primarily through the NYS GIS Clearinghouse or the Environmental Systems Research Institute (ESRI) will be used to identify visually sensitive resources of local and statewide significance. This data consists of numerous national, state, county and local agency/program websites as well as websites specific to identified resources; the DeLorme Atlas and Gazetteer for New York State; USGS 7.5-minute topographical maps; and web mapping services such as Google Maps. Identified aesthetic resources of statewide or local significance, areas of intensive land use within five miles of the proposed Project, and location of visually sensitive resources within the visual study will be included with the Article 10 application.

A preliminary desktop inventory of visually sensitive resources of potential statewide significance within five miles of the proposed Facility has been completed. Aesthetic resources of statewide significance located within five miles of the proposed Facility include the US Route 20 Scenic Byway, the Canajoharie and Fort Plain Historic Districts, and other sites listed on the National Register of Historic Places (NRHP). Visually sensitive resources identified by the applicant to date within five miles of the proposed Facility are depicted on Figure _.

In addition, per the requirements set forth in 16 NYCRR § 1000.24(b)(4), the Applicant will conduct a systematic program of public outreach to assist in the identification of visually sensitive resources. A detailed summary of this process will be included in the VIA.

(4) Viewpoint Selection

16 NYCRR § 1000.24(b)(4) includes the requirements that "the applicant shall confer with municipal planning representatives, DPS, DEC, OPRHP, and where appropriate, APA in its selection of important or representative viewpoints". The Applicant intends to coordinate outreach to agency staff and stakeholder groups to determine an appropriate set of viewpoints for the development of visual simulations. It is anticipated that outreach efforts will include the following:

- The Applicant will distribute a request in the form of a Visual Outreach Letter (See Appendix J) to appropriate agency personnel, municipal representatives, and other visual stakeholders, seeking feedback regarding the identification of important aesthetic resources and/or representative viewpoints in the Facility vicinity to inform field review efforts and the eventual selection of candidate viewpoints for the development of visual simulations. The materials provided as part of this request will include: a summary of the purpose and necessity of consultation per the requirements of Article 10; a definition, explanation, and map of the visual study area; a preliminary inventory and map of visually sensitive resources identified in accordance with the NYSDEC Program Policy DEP-00-2 *Assessing and Mitigating Visual Impacts*; a discussion of anticipated subsequent steps, including additional consultation regarding the eventual selection of viewpoints for development of visual simulations; and, a request for feedback regarding additional visually sensitive resources to be included in the analysis.

Following receipt of feedback from the initial outreach effort, field work will be conducted to obtain photos from representative and sensitive locations throughout the study area. Upon completion of the visual fieldwork and associated data processing, the following actions will be taken:

- The Applicant will distribute a memorandum related to recommendations for Visual Simulations to the visual stakeholders. This memo is anticipated to include: a summary of research and consultation undertaken to date; description of the field review/photography for the Facility; a rationale for viewpoint selection; and, recommendations for viewpoints to be considered by agencies and stakeholders from which a subset will be selected for the preparation of visual simulations. Viewpoint selection will include the following factors:

    - Providing representative views from the various LSZs and Distance Zones within the study area.
    - The locations of visually sensitive resources/sites within the study area, including recommendations for sensitive sites received from stakeholders.
    - The predicted visibility of the Facility based on viewshed analysis.
    - The availability of open views towards the proposed Facility as determined by field review/site visits.

- The Applicant will host up to two on-line meetings, which will include a conference call and link to a computer screen to solicit comments from visual stakeholders on the viewpoints selected. These meetings will include: a review of the visual studies conducted to date; discussion of proposed and alternate viewpoints for use as simulations; and, a discussion of any additional suggestions or comments regarding: viewpoint selection.

Ultimately, viewpoints will be selected for simulation based upon the following criteria:

1. They provide open views of proposed PV arrays (as indicated by field verification), or provide representative views of the screening effects of vegetation and/or buildings from selected areas.
2. They illustrate Facility visibility from sensitive resources with the visual study area identified by local stakeholders and state agencies.
3. They illustrate typical views from LSZs where views of the Facility will be available.
4. They illustrate typical views of the proposed Facility that will be available to representative viewer/user groups within the visual study area.
5. They 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.
6. The photos obtained from the viewpoints display good composition, lighting, and exposure.

(5) Photographic Simulations

In order to show anticipated visual changes associated with the Facility, high-resolution computer-enhanced image processing will be used to create photo-realistic simulations of the completed Facility from each of the selected viewpoints. As indicated in Section (b)(4) above, viewpoints to be included in the VIA will be selected, in part, for their open views and as such there will be no significant screening of the proposed Facility due to foreground vegetation in the photographic simulations. Therefore, it is not anticipated that both leaf-on and leaf-off simulations will be necessary.

(6) Additional Simulations Illustrating Mitigation

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.

(7) Simulation Rating and Assessment of Visual Impact

A panel of three registered landscape architects (LAs) will evaluate the visual impact of the proposed Facility. Utilizing 11 x 17-inch digital color prints of the selected viewpoints, the LAs will review the existing and proposed views, evaluate the contrast/compatibility of the Facility with various components of the landscape (landform, vegetation, land use, water, sky, land use and viewer activity), and assign quantitative visual contrast ratings on a scale of 0 (insignificant) to 4 (strong). The average contrast score assigned by each member of the rating panel will be calculated for each viewpoint, and an average score for each viewpoint will be determined. A copy of the visual rating form is included in Appendix I to this PSS, and will be included in the VIA. The methodology for the rating panel exercise is described above in Section (a)(8). Results of the rating process for the proposed Facility will be presented in the Article 10 Application, along with an explanation of the factors contributing to visual impact and the significance of that impact.

(8) Visible Effects Created by the Facility

As described previously, 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. 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. The glare and reflectivity of PV panels have been found to be lower than the glare and reflectivity generated by standard glass

(SunPower, 2009). In addition, Mohawk Solar intends to use single-axis trackers, which direct the panels at the sun for optimal energy production. An added benefit of the use of trackers is that any glare, however small, that might be generated is reflected directly back at the sun, therefore essentially eliminating any glare available to observers. In addition, operation of the Facility will not generate plumes or any other visible effect. Therefore, therefore these types of effects will not be addressed in the Article 10 Application.

2.25 EFFECT ON TRANSPORTATION

(a) Conceptual Site Plan

For the purposes of the Article 10 Application, the preliminary design drawings prepared in association with Exhibit 11 will serve as the conceptual site plan, and those drawings 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

(1) Traffic Volume and Accident Data

Data will be obtained from the New York State Department of Transportation (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.

(2) School District Bus and Routes

The Article 10 Application will include a review of school district routes within the Study Area, including the Canajoharie Central School District, Cherry Valley Central School District, and Fort Plain Central School District. This will be accomplished by obtaining school bus routes, number of buses, and times from these 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, including approximate distances to select locations within the Facility Site. In addition, the Article 10 Application will summarize consultations that have

occurred between the Applicant and local emergency service providers, including local fire departments, police, and ambulance services.

These consultations will result in the fire departments learning about the Facility, the Article 10 process, and how the Applicant typically interacts with fire and emergency service providers during construction and operation. The Applicant will alert all Fire Departments that there will be a fire and emergency training and communication plan developed as part of the Article 10 process.

Further consultation with each service provider will determine specific routes that are currently used by service providers within the vicinity of the Facility Area. The Article 10 Application will provide a map of service provider locations and routes. A map of all emergency service provider locations and routes will be posted in the Facility's collector substation (and provided to the emergency service providers).

(4) Available Load Bearing and Structural Rating Information

For non-posted bridges along identified potential Facility transportation routes, information from the NYSDOT's Highway Data Services website will be reviewed to determine potential load capacity restrictions. In addition, prior to the submittal of the Article 10 Application, the Applicant will correspond with local highway supervisors and hold follow-up meetings as necessary. Such consultations will continue throughout the Article 10 process and prior to construction. This information will be summarized in the Article 10 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

(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 typical volume of materials and number of vehicles anticipated to construct the Facility. 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

During Facility construction, all trucks carrying water, fuels, or chemicals will utilize the same haul routes used by other construction vehicles/component delivery haulers.

(3) Cut and Fill Activity

In general, it is not anticipated that significant cut and fill to accommodate vehicles, delivery, or other transportation access will be necessary. The Article 10 Application will provide an estimate of cut and fill activity, based on typical volume of materials and number of vehicles, and the preliminary design drawing prepared in support of Application Exhibit 11. 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

Any 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 specified haul routes.

(d) Traffic and Transportation Impacts

(1) Levels of Service along Linear Segments of Highway

Based on the experience of the Applicant and analysis on traffic volumes from solar projects, typical operations of the Facility will have a negligible increase over existing traffic volumes during operation. 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. As indicated above, the Facility is not in a congested urbanized area requiring detailed intersection analysis.

(2) Route Evaluation Study

As indicated above, the Article 10 Application will identify the anticipated haul routes to be utilized, and the adequacy of these routes to accommodate deliveries during construction as well as traffic during operation of the Facility. A detailed description of potential haul routes will be provided, and will include information associated with roadway condition, width, bridges, culverts, and any observed potential obstacles.

Once the Facility is commissioned and construction activities are concluded, traffic associated with Facility operation will be negligible and limited to occasional trips associated with routine maintenance activities.

(3) Over-sized Deliveries

The Route Evaluation Study will include turning radii requirements of anticipated delivery vehicles, and 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

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.

Prior to construction, any public road upgrades that may be required to accommodate construction vehicles will be identified. These improvements will be made at the Applicants' expense prior to the arrival of oversized/overweight vehicles. 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.

Additional detail regarding measures to mitigate traffic and transportation impacts will be included in the Article 10 Application and the Route Evaluation Study (or similar).

(5) Road Use and Restoration Agreements

This section of the Article 10 Application will identify and tabulate all anticipated County and Town road use agreements that will be required for construction and post-construction use of public roads, including highway work permits and special use permits from the NYSDOT. The Applicant will provide a draft road use agreement as an Appendix to the Article 10 Application.

In addition, the Article 10 Application will summarize the meetings and consultations that the Applicant has had 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.

(e) Impact of the Facility on Mass Transit Systems

There are no mass transit systems within the Facility Area. Accordingly, mass transit systems are not anticipated to be affected by the construction and operation of the Facility and 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

(1) Department of Defense Review

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

(2) Consultation with Nearby Airports/Heliports

In accordance with the PIP filed on behalf of the Facility, 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. However, construction and operation of the Facility are not anticipated to affect aviation.

(3) Responses from the FAA and DoD

Please see Section (f) and (f)(1) above.

2.26 EFFECT ON COMMUNICATION

(a) Existing Broadcast Communication Sources

The Article 10 Application will identify all existing broadcasting communication sources within a two-mile radius of the Facility and the associated interconnection.

The Applicant is not aware of any research conducted to date that indicates that utility-scale solar generation facilities have the potential to interfere with any existing communication systems. The Facility is not expected to have any material impact on AM/FM radio, television reception, or microwave communication because it lacks tall structures, it lacks exposed moving parts, and it will generate only very weak electromagnetic fields (EMFs). Furthermore, these EMFs will only be generated during the day and will dissipate rapidly within short distances. 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 (3) solar arrays in Massachusetts, electric 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. As noted above, it also lacks exposed moving parts and it will generate only very weak EMFs that 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).

(1) AM Radio

AM radio stations are not anticipated to be affected by the construction and operation of the Facility and will not be addressed in the Article 10 Application.

(2) FM Radio

FM radio stations are not anticipated to be affected by the construction and operation of the Facility and will not be addressed in the Article 10 Application.

(3) Television

Television broadcasting sources not anticipated to be affected by the construction and operation of the Facility and will not be addressed in the Article 10 Application.

(4) Telephone

Telephone broadcasting sources are not anticipated to be affected by the construction and operation of the Facility and will not be addressed in the Article 10 Application.

(5) Microwave Transmission

As stated in section (a), the installation and operation of solar facilities is not anticipated to affect microwave transmission communication systems and will not be addressed in the Article 10 Application.

(6) Emergency Services

Emergency services communication is not anticipated to be affected by the construction and operation of the Facility and will not be addressed in the Article 10 Application.

(7) Municipal/School District Services

Municipal and school district communication sources are not anticipated to be affected by the construction and operation of the Facility and will not be addressed in the Article 10 Application.

(8) Public Utility Services

Public utility communication sources are not anticipated to be affected by the construction and operation of the Facility and will not be addressed in the Article 10 Application.

(9) Doppler/Weather Radar

Given the profile of solar arrays, and the slow motion of the trackers, doppler/weather radar is not anticipated to affect the construction and operation of the Facility and will not be addressed in the Article 10 Application.

(10) Air Traffic Control

Air traffic control is not anticipated to be affected by the construction and operation of the Facility and will not be addressed in the Article 10 Application.

(11) Armed Forces

Armed forces' communication systems are not anticipated to be affected by the construction and operation of the Facility and will not be addressed in the Article 10 Application.

(12) GPS

Effects on the Global Positioning System (GPS) are not anticipated. The GPS ground facility located closest to the proposed Facility will be identified in the Article 10 Application.

(13) LORAN

LORAN was a long range navigation system developed during World War II that has since been deemed obsolete. Radio signals were sent through a series of towers across long distances as an aid to keep ships and aircraft on course. In accordance with the 2010 Department of Homeland Security Appropriations Act, the U.S. Coast Guard terminated the transmission of all U.S. LORAN signals in 2010. Therefore, no further discussion of LORAN will be provided in the Article 10 Application.

(14) Amateur Radio Licenses

Amateur radio users are not anticipated to be affected by the construction and operation of the Facility and will not be addressed in the Article 10 Application.

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

Locations of underground fiber optic cable within two miles of the Facility Site will be identified in the Article 10 Application, to the extent known.

(c) Anticipated Effects on Communication Systems

Section (a) of Exhibit 26 of the Application will provide a description of the communication systems within a two-mile radius of the Facility and describe any expected impacts to those systems. A more general discussion of the anticipated effects of the proposed Facility (including the electric interconnection) on the communication systems identified above in Sections (a) and (b), will be provided as Exhibit 26(c) of the Application, organized as follows:

(1) Physical Disturbance by Construction Activities
(2) Adverse Impacts to Co-located Lines due to Unintended Bonding
(3) Other Potential for Interference

(d) Evaluation of Design Configuration

A map illustrating Facility components and relevant communication system constraints (e.g., underground fiber optic cables) will be provided in the Article 10 Application.

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

Communication systems are not anticipated to be affected by the construction and operation of the Facility. However, as described in Section 2.15, the Applicant will 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.

(f) Potential Interference with Radar

Radar is not anticipated to be affected by the construction and operation of the Facility (FAA, 2010) and will not be addressed in the Article 10 Application.

2.27 SOCIOECONOMIC EFFECTS

To quantify the local economic impacts of constructing and operating the Facility, the Job and Economic Development Impact (JEDI) model will be used, which was created by the National Renewable Energy Laboratory (NREL), a facility of the United States Department of Energy. The JEDI model requires Facility-specific data input (such as year of construction, size of Facility, and location), and then calculates the economic impacts, typically through the use of 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. The resulting data are paired with industry standard values (e.g., wage rates) and data reflecting personal spending patterns (e.g., percent of household income dedicated to housing expenditures) to calculate on-site, supply chain, and induced impacts. This model allows impacts to be estimated for both the construction and operation phases of the proposed development. The Article 10 Application will present the results of the JEDI model.

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 and 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 (also known as "backward-linked" industries).
- **Induced impacts:** Induced impacts measure the estimated effect of increased household income resulting from the Facility. Induced 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.

Each of these three categories can be measured in terms of three indicators: jobs (as expressed through the increase in employment demand), 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 the development. Persons employed for less than full time or less than a full year are included in this total, each representing a fraction of a 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.

(a) Construction Workforce

The Article 10 Application will identify the estimated construction workforce associated with the Facility, as indicated above. 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 quarter during construction.

(b) Construction Payroll

The Article 10 Application will identify the estimated annual construction payroll and non-payroll expenditures associated with the Facility, as indicated above. 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

The Article 10 Application will identify the estimated secondary employment and economic activity associated with Facility construction, as indicated above. 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

The Article 10 Application will identify the estimated number of jobs associated with Facility operation, as indicated above. The Article 10 Application will also provide an estimate of other expenditures likely to be made in the vicinity of the Facility during operation.

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

Facility operation will also result in payment to local landowners in association with the lease agreements executed to host Facility components. The Article 10 Application will provide additional information regarding the economic benefit associated with these expenditures.

(f) Incremental School District Operating and Infrastructure Costs

The Facility is not expected to result in any additional operating or infrastructure costs to the local school districts. The Article 10 Application will confirm this expectation.

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

The Facility is not expected to result in any additional operating or infrastructure costs to local municipalities, authorities, or utilities. The Article 10 Application will confirm this expectation.

(h) Jurisdictions that Will Collect Taxes or Benefits

- Montgomery County
- Town of Canajoharie
- Town of Minden
- Canajoharie Central School District
- Fort Plain Central School District

(i) Incremental Amount of Annual Taxes or Payments

The Applicant expects to enter into a PILOT agreement but the specific terms of the PILOT agreement have not yet been negotiated. The PILOT payments will increase the revenues of the local taxing jurisdictions, and will represent a significant portion of their total tax levy.

The Article 10 Application will provide more detail regarding the anticipated PILOT agreement.

(j) Comparison of Incremental Costs and Incremental Benefits

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 Agreement, and through the potential increase in sales tax revenue.

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

As indicated in Section 2.18 of this PSS, 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 local emergency responders are expected to have typical first aid, medical emergency and fire vehicles and equipment that would be at a local fire and emergency department. The Applicant has had initial conversations with all local fire departments regarding equipment necessary to respond to a potential fire, hazardous substance, or medical emergency at the Facility. More detailed meetings prior to the Application will be held to discuss specifics of the Facility, and to obtain any necessary design information (e.g. turning radii for fire vehicles) to permit access during emergency situations. The Applicant will continue consultation with local fire departments and first responders in order to confirm all necessary equipment and training for fire and medical emergencies either by the Applicant or fire and emergency responders.

(l) Consistency with State Smart Growth Public Infrastructure Criteria

The New York State Smart Growth Public Infrastructure Policy Act is meant to maximize the social, economic, and environmental benefits from public infrastructure development by minimizing the impacts associated with unnecessary sprawl. State infrastructure agencies, such as the NYSDOT, shall not approve, undertake, or finance a public infrastructure Facility, unless, to the extent practicable, the Facility is consistent with the smart growth criteria set forth in ECL § 6-0107.

Although the Facility does not include any infrastructure that will promote or facilitate secondary growth or sprawl as specified in this law, the Article 10 Application will address the Facility's consistency with the smart growth criteria as defined in in ECL 6-0107(2).

2.28 ENVIRONMENTAL JUSTICE

Exhibit 28 of the Article 10 Application requires the Applicant to provide sufficient information for the New York State Department of Environmental Conservation ("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. CP-29 has limited applicability, applying only to applications for major projects and major modifications for permits relating to water pollution, air pollution, solid and hazardous waste management, and siting of industrial hazardous waste facilities. The Project will not require any such permits. Accordingly, CP-29 is not applicable to the Project. Although CP-29 is not applicable, the Applicant has considered whether the Project could have negative impacts on nearby environmental justice areas. As previously indicated, the Facility is a solar powered generation facility that will not result in emissions or air quality impacts beyond vehicle/equipment emissions and fugitive dust during construction (see Section 2.15). 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 ((www.dec.ny.gov/public/911.html), there are no Potential Environmental Justice Areas within the Impact Study Area. The nearest Potential Environmental Justice Area to the Facility is south of the City of Johnstown (in Fulton County) and approximately 10 miles northeast of the Facility Area boundary. 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 in the PIP and, to date, no comments have been received regarding potential impacts to these Environmental Justice Areas. Because of the distance between the proposed Facility and the Potential Environmental Justice Area described above, the Facility is not expected to have an impact on this or any other Environmental Justice Areas. Therefore, the full Environmental Justice Analysis outlined in 6 NYCRR 487.6 is not required, and will not be provided in the Article 10 Application.

2.29 SITE RESTORATION AND DECOMMISSIONING

(a) Performance Criteria

The Article 10 Application will provide a statement of the performance criteria proposed for the restoration or decommissioning of the Facility. It is currently anticipated to include an acceptable form of security adequate to fund the decommissioning of the Facility at the end of its useful life (approximately 20 to 40 years), including site restoration, as appropriate. The decommissioning security will take into account the independently estimated salvage value and/or resale value of the Facility components, as well as the anticipated cost for the removal of Facility components

(b) Decommissioning and Restoration Plan

Utility-scale PV facilities typically have a life expectancy of 20-40 years (NYSUN, 2016). At the end of its useful life, the Facility will be decommissioned, in accordance with a Decommissioning Plan. This Plan will be included in the Article 10 Application and will address the following provisions:

- Decommissioning would be triggered if the Facility is non-operational for not less than two years, unless otherwise agreed to by the Towns and DPS staff.
- All above-ground structures, including PV panels, racking, inverters, fencing, above-ground collection cables and poles, the O&M facility (if a new building is constructed), and the collection substation, will be removed.
- Buried collection lines will be de-energized, and remain in-place as dictated by the Department of Ag & Markets guidelines.
- 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.
- The Applicant will provide written notification to the Towns two weeks prior to the commencement of site restoration following decommissioning activities.
- The type of financial assurance, as needed and secured by the Applicant, for the purpose of adequately performing decommissioning will be described. 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 the wind farm components. The decommissioning estimate will be submitted for DPS Staff and Town review to ensure consistency with the methodology approved in the Certificate.
- The first decommissioning estimate shall be provided prior to Facility construction, the second estimate after one year of Facility operation, and subsequent estimates every fifth year thereafter.

- The time when the Applicant will post and maintain financial assurance in the amount of the net decommissioning costs will be indicated.
- When the Applicant posts the financial assurance, it will provide the Towns with clear instructions as to how they can access the financial assurance should the Applicant violate the provisions of the Decommissioning Plan.
- The Decommissioning Plan will be binding upon the Applicant, or any of its successors, or assigns.
- The Towns in which decommissioning activities are to occur will have access to the Facility Area, pursuant to reasonable notice to the Applicant, to inspect the completed decommissioning activities.

Additional detail will be provided in the Article 10 Application.

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

All Facility components will be located on private land under lease agreement with the landowners, and all leases with private landowners 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 with respect to municipality agreements. 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

The Facility will be located in Montgomery County, New York, in the Towns of Minden and Canajoharie. Throughout the pre-application process, the Applicant has been conferring with these municipalities 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 municipalities during the Article 10 Application process to ensure that all applicable laws and ordinances are addressed in the Article 10 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 may be applicable to the Facility.

Town of Canajoharie Local Law No. 2 of 2017 providing for Solar Energy Systems Rules and Regulations – Article VI, Part C. 14 (Utility-Scale Solar Collector System):

- § C 1 Site Plan
- § E Building Permit

Town of Canajoharie Local Law No. 1 of 2004 providing for Enforcement of the State Uniform Fire Prevention and Building Code

- § 5 Building Permit
- § 6 Fees
- § 7 Certificate of Occupancy

Town of Canajoharie Local Law No. 2 of 2001 providing for the Subdivision Law of the Town of Canajoharie

Town of Canajoharie Local Law No. 1 of 1977 providing for Written Notification of Defects and Obstructions on Town Highways, Bridges, Culverts and Sidewalks

Town of Canajoharie Ordinances:

- Subdivision Law, Article III, Procedure
- Subdivision Law, Article VIII, Fees and Reimbursable Costs
- Zoning, Article VII, Special Use Permits
- Zoning, Article IX, Site Plan Review

Town of Minden Local Law No. 1 of 2017 providing for Solar Facilities – § 90-52.24:

- § D 2 Applications, Permits and Approvals

Town of Minden Local Law No. 1 of 2015 providing for Road Preservation – Chapter 75, Article II:

- § 75-11 Activities Requiring Road Preservation Vehicle Permit
- § 75-14 Application; Permit Requirements; Approval Process
- § 75-16 Highway Permit Bond/Maintenance Bond; Escrow Account

- § 75-19 Fees

Town of Minden Local Law No. 2 of 2000 providing for Fire Prevention and Building Construction – Chapter 50:

- § 50-10 Building Permits
- § 50-11 Certificate of Occupancy
- § 50-14 Fees

Town of Minden Ordinances:

- Chapter 77 (Subdivision of Land), Article I, General Provisions
    - § 77-4 Fees
- Chapter 77 (Subdivision of Land), Article III, Review and Approval Procedure
- Chapter 77 (Subdivision of Land), Article IV, Documents to be Submitted
- Chapter 90 (Zoning), Article VII, Site Plan Approval and Special Permits
- Chapter 90 (Zoning), Article XI, Administration –
    - § 90-58 Building Permit
    - § 90-59 Certificate of Occupancy

(b) Local Procedural Requirements Requiring Board Authorization

All local procedural requirements are supplanted by Article 10 unless otherwise requested by the Applicant or expressly authorized by the Board. At this time, the Applicant has not identified any local procedural requirements requiring Board authorization.

To the extent the Towns require any sort of permit or approval to perform work within the Towns' right-of way, or on the Towns' roads, the Applicant requests that the Board grant the Towns authority to issue such permits or approvals. The Applicant will work with the Towns to follow their procedural and substantive requirements for the permitting of highway work permits as these issues are primarily of local concern and ministerial in nature.

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

Municipal officials for the Towns of Canajoharie and Minden are responsible for reviewing and approving local building permits requirements and compliance with the New York State Fire Prevention and Building Code and Energy Conservation Code of New York State. In addition, the Towns may choose to contract with qualified consultants to assist their review 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.

(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.

Town of Canajoharie Local Law No. 2 of 2017 providing for Solar Energy Systems Rules and Regulations – Article VI, Part C. 14 (Utility-Scale Solar Collector System):

- § B 1-3 Bulk and Area Requirements
- § C 2 Signage
- § C 3 Visual
- § C 4 Lighting
- § C 5 Utilities
- § C 6 Access
- § C 7 Glare and Heat
- § C 8 Ownership
- § C 9 Proof of Insurance
- § C 10 Security
- § C 11 Noise
- § C 12 Inspections
- § C 13 Decommissioning
- § D Removal of Facilities

Town of Canajoharie Local Law No. 2 of 2001 providing for the Subdivision Law of the Town of Canajoharie

Town of Canajoharie Local Law No. 2 of 1985 establishing an Electrical Code

Town of Canajoharie Ordinances:

- Subdivision Law, Article VI, Design Standards
- Subdivision Law, Article VII, Minimum Required Improvements
- Zoning, Article III, Use Regulations –
    - § A General
- Zoning, Article IV, Area and Bulk Regulations –
    - § A General
    - §B Density Standard
    - § C Schedule of Area and Bulk Regulations
- Zoning, Article VI, Supplementary Regulations –
    - § A.1 General Performance Standards Applicable to All Uses§ A.5 Signs
    - § A.6 Protection of Agriculture from Potentially Incompatible Uses
    - § C.11 Personal Wireless Service Facilities

Town of Minden Local Law No. 1 of 2017 providing for Solar Facilities – § 90-52.24:

- § B 3 Applicability
- § D 1 Applicability
- § D 3 General Provisions
- § E Abandonment or Decommissioning

Town of Minden Local Law No. 1 of 2016 providing for Real Property Tax Exemptions – Chapter 83:

- § 83-19 Opt-out of Exemption

Town of Minden Local Law No. 1 of 1986 providing for Electrical Standards – Chapter 45:

- § 45-2 National Electrical Code

Town of Minden Ordinances:

- Chapter 77 (Subdivision of Land), Article V, Design Standards and Required Improvements
- Chapter 90 (Zoning), Article V, Area and Height Regulations Lots, Yards and Buildings
    - § 90-15 Height Regulations
- Chapter 90 (Zoning), Article VIII, Supplementary Regulations –
    - § 90-30 General Land use Performance Standards
    - § 90-31 Personal Wireless Service Facilities
    - § 90-38 Signs
    - § 90-40 Landscaping Requirements
    - § 90-49 Public Utility and Facilities
    - § 90-51 Sanitary Regulations

(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, other than those that are unduly burdensome. The Applicant will work with the municipalities to identify those substantive local laws that are unduly burdensome, if any, and provide justification to the Board in the Article 10 Application to support its request for a waiver of any such local laws or ordinances.

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

The proposed Facility will not require any physical connections for water or sewer lines. Specific to the O&M building, if a new building is constructed water and wastewater needs will be satisfied through a water well (which would be drilled by a NYSDEC-approved water well driller) and the use of an individual on-site wastewater treatment system (e.g., septic system), respectively. The Applicant will work with the Montgomery County Department of Health & Human Services during this process. If an existing building is used for O&M purposes, the Applicant will evaluate the adequacy of the existing water supply and wastewater treatment systems. See below for a preliminary list of applicable local laws of a procedural nature related to water, sewer, and telecommunication lines.

Town of Canajoharie Ordinances:

- Zoning, Article VI, Supplementary Regulations –

- § C.11 Personal Wireless Service Facilities

Town of Minden Ordinances:

- Chapter 90 (Zoning), Article VIII, Supplementary Regulations –
  - § 90-31 Personal Wireless Service Facilities

§ 90-51 Sanitary Regulations

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

The proposed Facility will not require any physical connections for water or sewer lines. Specific to the O&M building, if a new building is constructed water and wastewater needs will be satisfied through a water well (which would be drilled by a NYSDEC-approved water well driller) and the use of an individual on-site wastewater treatment system (e.g., septic system), respectively. The Applicant will work with the Montgomery County Department of Health & Human Services during this process. If an existing building is used for O&M purposes, the Applicant will evaluate the adequacy of the existing water supply and wastewater treatment systems. See below for a preliminary list of applicable local laws of substantive nature related to water, sewer, and telecommunication lines.

Town of Canajoharie Ordinances:

- Zoning, Article VI, Supplementary Regulations –
  - § C.11 Personal Wireless Service Facilities

Town of Minden Ordinances:

- Chapter 90 (Zoning), Article VIII, Supplementary Regulations –
  - § 90-31 Personal Wireless Service Facilities
  - § 90-51 Sanitary Regulations

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

Since, the Facility is not anticipate to 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.

(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.

(j) Zoning Designation

The Towns of Minden and Canajoharie have both adopted zoning regulations. The Article 10 Application will provide a detailed summary of the zoning regulations for each of the Towns in which the Facility is located. As part of that summary, the Article 10 Application will discuss the permitted and prohibited uses in the zoning district where the Facility is proposed to be located, as well as the solar specific regulations that were recently adopted by the Towns. In addition, the Article 10 Application will describe how the Facility will comply with these zoning regulations, or areas where deviation is necessary.

2.32 STATE LAWS AND REGULATIONS

The Applicant has, throughout Project conceptualization and filing of the PIP, consulted with the state agencies and authorities to identify additional potentially applicable statutory or regulatory requirements for the Project, the results of which will be contained in Exhibit 32 to the Application. The Applicant will continue to consult with relevant state agencies and authorities throughout preparation of the Application to ensure that the list of laws and regulations contained in this exhibit, and eventually the Application, represent a complete and accurate list. The Applicant intends to comply with all applicable requirements unless the specifically requested that the Siting Board relieve the Applicant of its obligation to do so.

(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. These approvals, consents, permits and other conditions are as summarized below in Table 6.

Table 6. List of All State Approvals for the Construction and Operation of the Facility that are Procedural in Nature and supplanted by PSL Article 10

STATE AGENCY	REQUIREMENT	LAW OR REGULATION	DESCRIPTION
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 the Siting Board regulations, the WQC will be issued by the Siting Board.

New York State Office of Parks, Recreation, and Historic Preservation (OPRHP)	Consultation Pursuant to of the New York State Historic Preservation Act	Parks, Recreation and Historic Preservation Law §14.09	The Applicant has initiated (and will continue) consultation 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. 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 Protection of Waters	Article 15, 6 NYCRR Part 608	This permit would be required for the crossing of protected streams by Facility components. Protected streams are particular portions of streams designated by the NYSDEC with one of the following classifications: AA, AA(t), A, A(t), B, B(t) or C(t). The permit is required for any change, modification, or disturbance of any protected streams, streambeds, or stream banks. 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	ECL Article 17, Title 8 6 NYCRR Part 750	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 above, certain state procedural requirements may be preempted by PSL Article 10 unless the Board expressly authorizes the exercise of such authority by the state agency. Preemption does not extend to permits issued by the NYSDEC pursuant to Federal recognition of state authority or through delegated programs pursuant to the Clean Water Act, the Clean Air Act and the Resource Conservation and Recovery Act, and permits pursuant to Section 15-1503, Title 9 of Article 27, and Articles 17 and 19 of the ECL,

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

The Applicant does not anticipate requesting waiver of any state approvals.

(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. The following is a list of all substantive state requirements:

- 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 Section14.09 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)

(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.

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

Based on current designs, the Applicant does not anticipate that there will be any offsite features not encompassed by the major electric generating facility. To the extent that offsite ancillary features are identified, however, which are not considered part of the Major Electric Generating Facility, 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.

2.33 OTHER APPLICATIONS AND FILINGS

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

Besides the list of approvals identified in Section 2.32 and below in subparagraph (b) 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., the Facility).

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

Table 7 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.

Table 7. Federal Permits and Approvals for the Facility

AGENCY	ANTICIPATED APPLICATION DATE	DESCRIPTION
U.S. Army Corps of Engineers	Application date to be identified in the Application	Section 10 of the Rivers and Harbors Act of 1899
		Section 404 or Nationwide Permit for Placement of Fill in Federal Jurisdictional Wetlands/Waters of the U.S.
		NEPA Compliance
		Compliance with Section 106 of the National Historic Preservation Act (NHPA)
		Compliance with Section 7 of the Endangered Species Act

2.34 ELECTRIC INTERCONNECTION

Interconnection of the Facility to the electric transmission system will be achieved using multiple systems. The PV panels themselves produce power at a low voltage, which is converted from direct current (DC) to (AC) at the inverters. A medium voltage collection system comprised of underground cables transmits the power to a collection substation. The collection substation then transforms the power up to 115 kV and delivers the power to the adjacent, POI switchyard, which will be constructed either by the Applicant, meeting design specifications offered by National Grid, or by National Grid. The POI switchyard connects the Facility to the National Grid transmission system.

(a) Design Voltage and Voltage of Initial Operation

Inverters will convert the output of the PV arrays from DC to AC. The number and specifications for the inverters, as well as the length and anticipated number of circuits for the electrical collection system will be described in the Article 10 Application.

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

The length of the collection system, broken down by anticipated length of overhead (if any) and underground lines, will be described in the Article 10 Application. The underground system will be comprised of numerous cable sections in parallel, connecting each of the PV arrays to the inverter, then to the collection substation.

(c) Insulator Design

Typical utility-grade ceramic/porcelain or composite/polymer insulators, designed and constructed in accordance with ANSI C29, are anticipated to be used. Insulators in the collector substation and the POI switchyard are anticipated to be porcelain and will be described in the Article 10 Application.

(d) Length of the Transmission Line

The Applicant is not proposing to construct a transmission line as a part of the Facility. The collection substation and the POI switchyard are expected to be located immediately adjacent to each other, and the existing St. Johnsville-Marshville 115KV transmission line owned by National Grid. A short (anticipated to be approximately 200-300 feet) transmission line will be installed to connect the POI switchyard and collector substation, which may require minor reconstruction or modification of the existing transmission line.

(e) Typical Dimensions and Construction Materials of the Towers

Overhead collection lines are not anticipated. To the extent overhead collection lines are required, they will be presented in the Article 10 Application.

(f) Design Standards for Each Type of Tower and Tower Foundation

Overhead collection lines are not anticipated. To the extent overhead collection lines are required, they will be presented in the Article 10 Application.

(g) Type of Cable System and Design Standards for Underground Construction

Direct burial methods through use of a cable plow, rock saw, rock wheel trencher and/or similar equipment will be used during the installation of underground electrical collection system whenever possible. If a rock saw is used, water or other nonhazardous compound would be used as a lubricant. Direct burial will involve the installation of bundled cable (electrical and fiber optic bundles) directly into a "rip" in the ground created by the plow, saw blade or rock wheel. The rip may disturb an area up to approximately 36 inches wide with bundled cable installed to a minimum depth of 36 inches in most areas, and 48 inches in active agriculture and pasture lands. Sidecast material will be replaced with a small excavator or small bulldozer. All areas will be returned to approximate pre-construction grades and restored.

(h) Profile of Underground Lines

A typical drawing of the underground collection cable and associated material will be provided in the Article 10 Application.

(i) Equipment to be Installed in Substations or Switching Stations

The POI switchyard equipment and collection substation will be described in the Article 10 Application. The Article 10 Application will include a plan/overview of the POI switchyard and collection substation.

(j) Any Terminal Facility

The only terminal facilities expected are the POI switching station and collection substation and are described/shown above in section (i).

(k) Need for Cathodic Protection Measures

The potential need for cathodic protection measures will be discussed in the Article 10 Application.

2.35 ELECTRIC AND MAGNETIC FIELDS

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 Mohawk Solar Facility.

(a) Every Right-of-way Segment Having Unique Electric and Magnetic Field Characteristics

None of the electrical lines from the inverter 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 power lines. However, the Article 10 Application will identify 34.5 kV ROW segments with unique EMF characteristics, which will be evaluated in the EMF study. The strength and location of EMFs will be modeled on representative areas of these segments. 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 Showing:

For each of the unique ROW segments, the EMF study will provide both base case (where existing facilities are present) and proposed cross sections that will show, to scale, the following features:

- 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;
- any known underground electric transmission, sub-transmission (i.e., 34.5 kV collection system), and distribution facilities;
- ROW boundaries; and
- structural details and dimensions for all structures (dimensions, phase spacing, phasing, and similar categories) and an overview map showing locations of structures.

The station numbers associated with each of the unique ROW segments will be included in the Article 10 Application.

(c) Enhanced Aerial Photos/Drawings Showing Exact Locations of Each:

The EMF study to be included in the Article 10 Application will include a set of aerial photos/drawings showing the exact location of each unique ROW segment and each cross-section, and any residences or occupied buildings within the ROW segments. If no residence or occupied building is within the ROW segments, the measurement of the distance between the edge of the ROW segment and the nearest residence or occupied building will be provided.

(d) Electric and Magnetic Field Study

(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 1.05 times the nominal line 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 summer normal and winter normal conductor ratings provided by the manufacturer for the conductor specified. Additionally, the measurement location and interval will be described in the Article 10 Application. There is no expected change in amperage under any of the following conditions: summer normal, summer short term emergency, winter normal, winter short term emergency. Therefore, the magnetic field modeling to be performed will be applicable to any of these conditions. Magnetic field strength graphs depicting magnetic fields along the width of the entire ROW and out to 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

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 not require water interconnection facilities, and as such, the requirements of this exhibit are not applicable. Specific to the O&M building, if a new building is constructed it is anticipated that water supply needs will be satisfied through use of a water well, which would be drilled by a NYSDEC-approved water well driller. The Applicant will work with the Montgomery County Department of Health & Human Services during this process. If an existing building is used for O&M purposes, the Applicant will evaluate the adequacy of the existing water supply.

2.39 WASTEWATER INTERCONNECTION

The proposed Facility will not require wastewater interconnection, and as such, the requirements of this exhibit are not applicable. Specific to the O&M building, if a new building is constructed wastewater needs will be satisfied through use of an individual on-site wastewater treatment system (e.g., septic system). The Applicant will work with the Montgomery County Department of Health & Human Services throughout this process. If an existing building is used for O&M purposes, the Applicant will evaluate the adequacy of the existing wastewater treatment system.

2.40 TELECOMMUNICATIONS INTERCONNECTION

It is not anticipated that the Facility will require telecommunication interconnections as defined by Article 10, 16 NYCRR 1000.2. It is likely that data will be transmitted to National Grid 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.

(a) Operational Data Transmitted to NYISO

It is anticipated that the Facility's operational generating data will be transmitted to NYISO/National Grid through an underground conduit or duct from the collection substation into the POI, and will include generation data (MW output, MVAR, and any curtailment) and environmental data. The Article 10 Application will provide additional information on the Facility's meter location, the means of providing the operational data to National Grid, and the secure communications network for this operational data.

(b) Facility Operations Communications Methods

The Article 10 Application will provide information regarding a high-speed internet (T-1 or other provider) to be established, and the means of transmitting the necessary data and other information to the appropriate parties for monitoring and reporting purposes.

(c) Status of Negotiations

The Article 10 regulations require a description of the status of negotiations, or a copy of agreements that have been executed, with companies or individuals for providing the communications interconnection, including any restrictions or conditions of approval placed on the Facility imposed by the provider, 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 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 for the Facility, which will generate up to 90 MW of renewable energy with no emissions of pollutants or greenhouse gases to the atmosphere, and without the need for the use of significant quantities of water. Proposed Facility components will include: PV panels, mounting systems, underground and overhead collection lines, inverters, a collection substation, a point of interconnection (POI) switchyard, gravel access roads, fencing, 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 New York Public Service Law.

The proposed Facility is a utility scale solar project located in Montgomery County, New York in the Towns of Canajoharie, and Minden. The proposed Facility Area boundary (see Figure 2) consists of approximately 6,600 acres of private land, including a mix of agricultural and forest land. The Project's actual footprint will total approximately 1,000 acres within the proposed Facility Area boundary. There are no villages or other urban areas within the Facility Area 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 March 31, 2017, comments on the PIP were received from the New York State Department of Public Service (DPS) on May 5, 2017, and the PIP was updated, finalized and filed by the Applicant on May 26, 2017. The PIP 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?MatterSeq=53189)
- (http://avangridren.com/mohawksolar)

In addition to the website identified above, the Applicant has a local number (315-874-4231) and toll-free number (866-441-4557) to call with any questions or comments. In addition, Mohawk Solar has an office at 7650 North State Street, Suite 1, Lowville, NY 13367 and has established a local office at The Ayers Law Firm, 50 W. Grand St, Palatine Bridge, NY 13428. 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 documents presented at the open houses at the following repositories:

- Canajoharie Library
- Fort Plain Free Library

During the time before the submission of the Article 10 Application, the Applicant intends to continue stakeholder outreach. The Applicant will conduct a mailing to all stakeholders just 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 one additional open house prior to submitting the Article 10 Application. Finally, the Applicant will also attempt to identify additional community events in which it would participate. 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, including:

- Preliminary Emergency Action Plan
- Complaint Resolution Plan
- Noise Impact Assessment
- Phase 1B Archeological Survey
- Historic Architectural Resources Survey
- Preliminary Geotechnical Investigation
- Invasive Species Control Plan
- Preliminary Stormwater Pollution Prevention Plan
- Preliminary Spill Prevention Containment and Countermeasure Plan
- Plant and Wildlife Species Inventory
- Wetland and Stream Delineation Report
- Shadow Flicker Assessment
- 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 8.

Table 8. Comparison of Contents of this PSS with the Requirements of 1000.5(l)

PSL 1000.5(l) Section	Requirement	Corresponding Section of the Mohawk Solar PSS	Notes
PSL 1000.5 (l)(1)	As much information as is reasonably available concerning the proposed facility, generally in the form (though in less detail) that it will appear in the application;	Section 2.0	This Section, and all associated subsections, of the PSS contain reasonably available information related to existing conditions, potential impacts and minimization/mitigation.
PSL 1000.5 (l)(2)	A preliminary scope of an environmental impact analysis containing a brief discussion, on the basis of reasonably available information, of the following items:	Section 1.3	This section includes general information regarding Project-related impacts.
PSL 1000.5 (l)(2)(i)	A brief description of the proposed facility and its environmental setting;	Section 1.1, Sections 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 2.21(l), 2.22(a), 2.22(d), 2.23(a), 2.23(b) provide a brief description of its environmental setting
PSL 1000.5 (l)(2)(ii)	Potentially significant adverse environmental and health impacts resulting from the construction and operation of the proposed facility including also an identification of particular aspects of the environmental setting that may be affected, including any material impacts or effects identified in consultations by the public, affected agencies, and other stakeholders, and a responsive analysis by the Applicant as to those issues identified in consultations;	Section 1.3, 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 1.3 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.
PSL 1000.5 (l)(2)(iii)	The extent and quality of information needed for the application to adequately address and evaluate each potentially significant adverse environmental and health impact, including existing and new information where required, and the methodologies and procedures for obtaining the new information;	Section 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.

PSL 1000.5(I) Section	Requirement	Corresponding Section of the Mohawk Solar PSS	Notes
PSL 1000.5 (I)(2)(v)	A description of how the applicant proposes to avoid adverse impacts to the environment and health;	Section 1.3, 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 1.3 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.
PSL 1000.5 (I)(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
PSL 1000.5 (I)(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	
PSL 1000.5 (I)(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

PSL 1000.5(l) Section	Requirement	Corresponding Section of the Mohawk Solar PSS	Notes
			option to, such private facility applicant or its affiliates.
PSL 1000.5 (l)(2)(ix)	If the proposed facility affects any land or water use or natural resource of the coastal area and federal authorization or funding is necessary, a preliminary analysis of the consistency of the proposed facility with the enforceable policies of the New York State coastal management program or, where the action is in an approved local waterfront revitalization program area, with the local program;	Not applicable to this Project	
PSL 1000.5 (l)(2)(x)	A statement of the reasons why the primary proposed location and source, taking into account the potentially significant and adverse environmental impacts, is best suited, among the alternatives, including a "no action" alternative, to promote public health and welfare, including the recreational and other concurrent uses that the site may serve, except that a private facility applicant may limit its description and evaluation of alternative locations to parcels owned by, or under option to, such private facility applicant or its affiliates and its description and evaluation of alternative sources to those that are reasonable alternatives to the proposed facility that are feasible considering the objectives and capabilities of the sponsor;	Section 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.

PSL 1000.5(l) Section	Requirement	Corresponding Section of the Mohawk Solar PSS	Notes
PSL 1000.5 (l)(2)(xi)	A preliminary identification of the demographic, economic and physical attributes of the community in which the facility is proposed to be located and in which any alternative location identified is located, and a preliminary environmental justice evaluation of significant and adverse disproportionate environmental impacts of the proposed facility and any alternative facility identified that would result from construction and operation considering, among other things, the cumulative impact of existing sources of emissions of air pollutants and the projected emission of air pollutants from the proposed or alternative facility in a manner that is in accordance with any requirements for the contents of an Article 10 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
PSL 1000.5 (l)(2)(xii)	An identification of any other material issues raised by the public and affected agencies during any consultation and the response of the applicant to those issues.	Appendix B	As of the date of filing this PSS, no material issues have been raised by the public or affected agencies beyond what will be addressed in the Article 10 Application. However, Appendix B of the PSS includes the most recently filed Meeting Log, which outlines all consultation activities conducted by the Applicant since January, 2016.

PSL 1000.5(I) Section	Requirement	Corresponding Section of the Mohawk Solar PSS	Notes
PSL 1000.5 (I)(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.
PSL 1000.5 (I)(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(I)(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 2.21 addresses local laws and ordinances.

PSL 1000.5(I) Section	Requirement	Corresponding Section of the Mohawk Solar PSS	Notes
PSL 1000.5 (I)(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 plan to seek to obtain the power of eminent domain.
PSL 1000.5 (I)(7)	A description of the applicant's property rights and interests or those it proposes to acquire to all lands of the proposed facility and any private or public lands or private or public streets, highways or rights-of-way crossed by any interconnections necessary to serve the facility such as, but not limited to, electric lines, gas lines, water supply lines, waste water or other sewage treatment facilities, communications and relay facilities, access roads, rail facilities, or steam lines; and	Section 2.13	Section 2.13 provides information regarding the applicant's property rights and interests.
PSL 1000.5 (I)(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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