PRELIMINARY SCOPING STATEMENT

Flint Mine Solar

Greene County, New York

Prepared For:

FLINT MINE SOLAR

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COMMONLY USED TERMS

Facility:	Collectively refers to all components of the proposed project, including PV modules, access driveways, buried and above ground collection lines, substations, and staging areas.
Project:	Collectively refers to construction and operation of the Facility, as well as proposed environmental and cultural preservation areas, and other efforts proposed by the Applicant.
Facility Site:	Those parcels currently under, or being pursued, for purchase, lease (or other real property interests) by the Applicant for the location of all Facility components.

COMMONLY USED ACRONYMS AND ABBREVIATIONS

APLIC	Avian Power Line Interaction Committee
Applicant	Flint Mine Solar, LLC
BBA	Breeding Bird Atlas (New York State)
BBS	Breeding Bird Survey
BPM	Best Management Practice
BOP	Balance of Plant
CBC	Christmas Bird Count
CEF	Clean Energy Fund
CES	Clean Energy Standard
CIP	Critical Infrastructure Protection
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
PV	Photovoltaic
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 AND ARTICLE 10 PROCESS OUTLINE

Flint Mine Solar, LLC, a jointly owned subsidiary of Hudson Energy Enterprises LLC (Hudson, a subsidiary of Hudson Energy Development, LLC), and Amber Flint Mine Solar Holdco Limited, a subsidiary of the Amber Infrastructure Group (Amber, and collectively the Developers), 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 "Flint Mine 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 Flint Mine Solar Project was filed on February 9, 2018. This PSS for the Flint Mine 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.

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

Stakeholders and members of the public have the opportunity at this early stage to ask questions or submit comments on the proposed scope and methodology of Flint Mine's studies, through their PSS comments. These comments will help to ensure that local issues of concern are identified and addressed in the Application, and will allow Flint Mine the opportunity to adjust its approach to certain studies and/or information-gathering efforts before the Application is filed. Flint Mine will then gather the PSS comments and provide responses to those comments, usually within a few weeks of receiving them. This comment-and-response process will also help to narrow the number of issues that parties

might potentially disagree about during later phases of the proceeding, which can help to reduce the cost and burden for stakeholders participating in the Article 10 process. This issue-narrowing can occur through a formal Stipulations process, which can commence once it is authorized by the Presiding Examiner in this Article 10 case—usually about 60 days after the PSS is filed, once a Pre-Application Conference is held. Flint Mine Solar will post notices if and when it intends to proceed to a Stipulations phase for this Project. Before any Stipulations could be formally signed, they would be posted for public review and comment; notices to that effect would be circulated at that time as well.

Once the Article 10 Application is submitted, certain State agencies have 60 days to review the Application and identify any deficiencies that the Applicant would need to address. Once the agencies determine the Application is complete, the Siting Board will have one year to make a decision on the Application. During that one-year period, the Siting Board will hold Public Statement Hearings to take public comment; discovery and evidentiary hearings would likely be held, through a formal litigation phase; and a Recommended Decision would be issued by the Presiding Examiners to the Siting Board, for its review and consideration. The Siting Board would then decide whether to grant, grant with conditions, or deny the requested Certificate of Environmental Compatibility and Public Need ("CECPN") that is required of all electric generation facilities over 25 MW in size under Article 10 of the Public Service Law.

Given the complexity and timelines involved in the process, it is important to Flint Mine Solar that stakeholders come forward as soon as possible to identify potential issues, impacts, or concerns which should be addressed in the Application. By law, the Towns of Athens and Coxsackie will be parties to this proceeding at all stages, as will numerous State agencies. Other local parties who meet the eligibility requirements set forth in the law will also be permitted to participate formally. Comments and questions will be accepted from all stakeholders and members of the public throughout all stages of the proceeding on the Siting Board's website, under Case 18-F-0087. Shortly after the filing of this PSS, an Open House will be held on November 8, 2018 regarding the project. Flint Mine Solar will update its Project Website, and will continue its outreach efforts with local, regional, state and federal stakeholders, to ensure that its Application provides a complete picture of the benefits, potential impacts, and details of the proposed Flint Mine Solar Project.

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

1.1 FACILITY DESCRIPTION

Flint Mine Solar is a proposed photovoltaic ("PV") solar energy generating facility located within the Towns of Coxsackie and Athens, Greene County, New York (the "Facility")(see Figure 1). The Facility will generate up to 100 megawatts

alternating current ("MW-AC") of renewable electricity and will represent one of the largest utility-scale solar power plants in New York State. The lands being evaluated to host the Facility (the "Facility Site") comprise approximately 1,700 acres of mostly abandoned agricultural fields, shrubland, and forestland, which would ultimately be purchased (or leased) by the Applicant prior to constructing the Facility. Within the Facility Site, up to approximately 600 acres of land would be developed with photovoltaic (PV) modules and other Facility components, while the remaining approximately 1,100 acres of land would remain undeveloped by Flint Mine Solar, including undisturbed forestland, wetlands, cultural resources areas, and open space/grassland habitat (which would be preserved as grassland habitat for sensitive wildlife and flora species). The Facility is being designed to avoid or minimize impacts to wetlands, sensitive wildlife habitat, archaeological resources, waterbodies, visibility and visual effects on adjacent areas, and other sensitive resources. The Applicant is in the process of determining the exact parcels and design of Facility components. The final design and locations of 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 the parcels that represent the Facility Site is depicted on Figure 2.

Throughout this PSS, references to "Facility" include the physical generation, collection and transmission components of the utility-scale solar facility, including temporary features installed during construction, while references to the "Project" are intended to refer to the construction and operation of the Facility components, as well as the designation of conservation areas, vegetative buffers and screening, mitigation measures, and other efforts which Flint Mine proposes related to its Facility. The Facility will consist of rows of PV modules in discrete sub-arrays dispersed throughout the Facility Site. These arrays will be enclosed by fences (for safety and security purposes). In addition, the Facility will include electrical direct current (DC) collection cables that connect the DC Combiner Boxes to inverters and storage devices, and medium voltage alternating current (AC) cables that run from the sub-arrays to a Point of Interconnection (POI) switchyard, as well as other Facility components. The Facility may also incorporate energy storage technologies. Design and engineering of the Facility is ongoing; however, a preliminary conceptual map of the Facility Site, showing the concept of dispersed PV clusters of modules within a larger landscape of undeveloped areas, is included as Figure 3.

The anticipated components of the Facility include:

- Multiple arrays of PV modules producing (DC) electricity mounted on fixed-tilt racking structures or single-axis tracking structures that will follow the sun throughout the day. The arrays of PV modules will be enclosed within secure, fenced areas, as further described below;

- DC Combiner Boxes (DCCBs) mounted vertically on the north side of racking structures and dispersed throughout each array to collect DC electricity from each string of modules and provide intermediate disconnect locations;
- Inverters and, potentially, storage devices placed near the center of each array to convert DC electricity to alternating current (AC) electricity;
- Step-up transformers located near the center of each array near the inverters to increase voltage from the inverter output to the 34.5kV-AC collection voltage;
- A network of medium voltage (34.5kV-AC) conductors and junction boxes that will aggregate the AC output from the transformer within each array;
- Medium voltage conductors, which the Applicant anticipates placing within the fenced PV arrays in cable trays or conduits on the ground or on ballast blocks, to avoid the need for excavation, minimize soil disturbance, and minimize potential impacts to archaeological resources. The Applicant is currently evaluating the feasibility, safety, compliance with applicable codes/standards, and expense of installing the medium voltage conductors between the fenced PV modules (i.e., outside the fenced arrays) in trenches (i.e., buried), in conduits on the ground surface, and/or as overhead lines mounted on pole structures. These design details will be presented in the Article 10 Application;
- A substation where the Facility's electrical output power will be combined and its voltage increased to the transmission line voltage of 115 kV via step-up transformers;
- Batteries (possibly), which may be located near each inverter as above, or within the Facility substation to provide energy storage capabilities;
- A switchyard to be built to the specifications of Niagara Mohawk Power Corporation (d/b/a National Grid) ("National Grid"),
- Loop-in/loop-out lines that will connect the Point of Interconnection ("POI") Switchyard to the existing National Grid 115kV transmission line, from which point the electricity will be injected into the existing bulk transmission system and delivered to homes and businesses;
- Internal infrastructure including access driveways, stormwater management controls, security fencing, safety signs; and
- Temporary construction features, including but not limited to laydown areas for equipment staging during construction, stabilized construction entrances, stabilized stockpiles, concrete washouts, and various erosion & sediment control measures.

In addition, if the Applicant determines that an on-site operations and maintenance (O&M) or component storage building is necessary for the Facility, then the Applicant will explore purchasing or leasing an existing structure in or near the Facility Site 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 either to the existing LaFarge to Pleasant Valley 115-kV transmission line, or to a combination of that line and the Feura Bush to North Catskill 115kV line. These 115-kV lines are both owned and operated by National Grid and are carried on the same pylons throughout the Facility Site These existing above ground transmission lines traverse the proposed Facility Site in a north-south orientation. The Facility's System Reliability Impact Study (SRIS), under development by the New York Independent Systems Operator (NYISO), will consider both of these potential interconnection options.

Flint Mine Solar will have a nameplate capacity of 100 MW-AC, and is expected to generate approximately 175,000 MWh of energy for year one of operation. This will be enough electricity to meet the average annual consumption of over 16,000 households, or all the homes in Greene County, based on average annual electric consumption of 10.77 MWh for New York State (EIA, 2017). The peak output from solar photovoltaic projects in southern NYS typically coincides with peak periods of utility demand, during temperature-sensitive peak periods of air-conditioning use. Because solar facilities use no fuel, they both offset additional air pollution from burning fossil fuels and, because they have zero, or close-to-zero marginal costs, put downward pressure on wholesale electric prices, especially during the hot summer months when prices trend highest. Solar modules have followed the same cost pattern as many other electrical devices falling significantly over the last 5 years and 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").

Flint Mine Solar will improve energy 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 reduce the demand for fossil 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 utility-scale solar projects, such as the Facility, to achieve targeted levels of new renewable generation. At an anticipated size of 100 MW-AC, Flint Mine Solar will contribute significantly to the State's clean energy goals and, as one of the State's first utility-scale solar facilities, also pave the way for future projects of its size.

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 Greene County and the regional labor market. The Applicant is strongly committed to local hiring, and has prioritized hiring of reginal or New York-based environmental, engineering, and legal professionals to assist with the development of the project. In addition, the Applicant intends to hold future job fairs as the project enters the construction phase to support that objective, and Open House events have provided opportunities for companies and professionals to sign up indicating their interest in potentially partnering with the Project. 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 on-going part-time and full time employment and contracting service opportunities for electricians, operations managers, laborers and fencing

[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].

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. 18-F-0087). The initial draft of the PIP was submitted to the Siting Board on February 9, 2018, comments on the PIP were received from the New York State Department of Public Service (DPS) on March 9, 2018, and the PIP was updated, finalized and filed by the Applicant on April 9, 2018. The PIP can be accessed, viewed and downloaded on the online case record maintained by the Siting Board on its Document Matter Management Website: (http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=55834) and on the Facility-specific website maintained by the Applicant: http://www.hudsonenergydev.com/flint-mine-solar.html

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.):

  Hudson Energy Development, LLC
  Attention: Flint Mine Solar
  2021 Western Avenue
  Suite 105A
  Albany, NY 12203
  518–646-0253
  1-866-218-0658
  Info@HudsonEnergyDev.com

- Project Representative
  Patrick Doyle
  1-866-218-0658
  pdoyle@hudsonenergydev.com

- Local Document Repositories:

Heermance Memorial Library 1 Ely Street, Coxsackie, NY 12051 Phone: (518) 731-8084 Fax: (518) 731-8264 Email: heermancelibrary@heermancelibrary.org	D.R. Evart Library 80 Second St., Athens, NY 12015 Phone: (518) 945 1417 Fax: (518) 945-1725 director@drevartlibrary.org
Town of Coxsackie 16 Reed St. #1 Coxsackie, NY 12051 Phone: (518) 731-2727	Town of Athens First St., Athens, NY 12015 Phone (518) 945-1052

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 May 30, 2018, and an updated meeting log has been concurrently 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 require mining or hydrofracking and transportation of the input fuels. During combustion they create atmospheric emissions which pollute the air and contribute to climate change, creating negative consequences for public health (Confalonieri, et al. 2007) Nuclear power has potential safety concerns, lack of long term waste disposal options, thermal inputs to the Hudson River & ecology issues. Flint Mine Solar will not generate any pollutants or run-off that would harm nearby waterbodies, nor

will it require the transport, consumption, or disposal of any fuels or other hazardous substances, which are serious concerns for other types of energy generation projects in the Hudson Valley. The Facility will help reduce NYS' reliance on fossil fuels and will contribute to a more sustainable and forward-thinking electric generating system.

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 Coxsackie and Athens, the local school districts, local fire departments, and Greene County. When fully operational, Flint Mine Solar will provide approximately 175,000 MW hrs 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 benefits will be detailed in the Article 10 Application by, among other things, a socioeconomic study analyzing the 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 800 MW of solar capacity has been developed in New York State (NYSUN, 2018). 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, or areas, for the collection and distribution of energy. The Applicant has sited the Facility on mainly open, level land in an effort to minimize the need for land clearing and typical construction processes such as surface grading, and soil compaction. The Applicant is also planning to use the least intrusive PV module mounting systems available to minimize soil disturbance, minimize impacts to archaeological resources, and to ensure that land could be restored to agricultural use or other comparable uses following the decommissioning of the Facility. Section 11 (g) of this PSS will outline the associated design details.

Construction of solar energy projects does not typically require significant soil disturbance. Solar modules will be installed on a low-profile racking system, which typically consists of foundation posts driven or screwed into the ground, without the need for excavation, concrete, or other foundations. Limited grading may be necessary in a small subset of the Facility Site; however, the Applicant will seek to minimize the need for grading wherever possible, especially in fields where buried cultural resources may be present. In those limited areas where soil disturbance is necessary, topsoil will be stripped and stockpiled for restoration purposes. Following construction, most disturbed areas will be restored with topsoil, and a cover of grass species will be established underneath and around the solar modules. Other

areas of disturbance will include limited areas set aside for access driveways and small pads for the DC/AC inverters, approximately fifty of which will be needed for a 100MW solar facility. Storage equipment would be installed in containers sitting on pads next to the inverters. The 34.5/115 kV substation and the POI adjacent POIN switchyard will have the largest footprints within the Facility, with approximately 2-3 acres of gravel and concrete pads under the step-up transformer, breakers, control buildings and related equipment pads. In addition, during operation of the Facility, Flint Mine Solar will avoid treating the soils within the Facility Site with fertilizers, herbicides or pesticides as routine practice to the extent practical. However, treatments may be required from time to time based on changing conditions, such as spraying wasps nests that develop near electrical panels.

The Applicant has initiated and is conducting extensive studies of wetlands, wildlife habitat, and other ecological resources with the Facility Site. Facility components have been sited to minimize impacts to habitat most valuable to sensitive species such as the short-eared owl (*Asio flammeus*) and northern harrier (*Circus hudsonius*). In addition, the Facility will minimize impacts to undisturbed habitat by avoiding or minimizing the need for tree-clearing to the extent practicable while still meeting the 100MW-AC capacity. Construction-related impacts to vegetation may include cutting, clearing, removal of stumps and root systems, and increased exposure or disturbance of soil. These impacts can sometimes result in a loss of wildlife food and cover, a disruption of normal nutrient cycling, and the introduction or spread of invasive plant species. These potential impacts are being 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).

Construction of the Facility will include necessary best management practices, stormwater management, and sediment and erosion controls (described per regulations in the Article 10 Application) to ensure there is no runoff or sedimentation impacts to adjacent properties and waterbodies. The Applicant has already conducted formal wetland delineations within the preliminary Facility Site 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 fully in the Article 10 Application, as detailed in Sections 2.22 and 2.23 of this PSS. The installation of above-ground or buried electrical lines may temporarily disturb streams and wetlands during construction as a result of clearing (brushhogging, or similar clearing method). In addition, some 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 also occur. Design of stormwater management practices and erosion and sediment control shall be in accordance with the NYSDEC State Pollution Discharge Elimination System General Permit for Stormwater Discharges from Construction Activity GP-0-15-002 and in accordance with the NYS Standards and Specifications for Erosion and Sediment Control.

Solar energy projects do not result in the significant visual impacts typical of other large-scale energy projects that require tall towers or smokestacks, or generate condensate plumes or air pollution. Photovoltaic modules have a low-profile (i.e., typically lower than 12-15 feet in height), which limits their visibility and potential visual effect in terms of the distance from which the modules 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, though these modules are designed to absorb as much of the solar spectrum as possible to maximize energy conversion efficiency. Thus the likelihood of reflection or glare from a given PV system is typically much lower than the glare and reflectance generated by common reflective surfaces in the natural environments surrounding the given PV system, such as water bodies. There is an inverse correlation between light absorption and reflection. Consequently, virtually all PV modules 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 modules do not typically produce glare.

Similarly, solar modules are the only major energy technology that does not rely on a rotating wound generator as the prime mover, and consequently the modules themselves do not produce any noise. The DC/AC inverters, along with the main step-up transformer at the substation, can produce a modest humming noise during the day when the solar arrays are generating electricity. However, this noise is generally inaudible at distances greater than 150 feet from the inverters, (Guldberg, 2012) which are typically sited within the interior of each array. This 100 MW-AC solar facility is expected to have approximately 50 such inverters, installed near the center of each array.) Similarly, installing the substation and switchyard away from residential receptors should ensure that the main transformer, which will be similar to the transformers found in other commonplace 34.5/115 kV substations, does not result in significant noise impacts. In addition, some noise will be generated during project construction, and to a much lesser extent, during 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, water 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, as the Application will demonstrate, 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; the Application will include additional detail on possible avoidance, minimization and mitigation options for this Facility. The studies conducted in furtherance of the Article 10 Application (the scope and methodologies of which are detailed in this PSS), will identify measures to be taken by the Applicant to avoid potential impacts as well as minimization and mitigation measures that will reduce impacts to the extent practicable.

Because construction of the Project will require minimal soil disturbance, the land will remain available to revert to agricultural use, recreational use, or other similar land uses following decommissioning of the Project.

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 some 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 mostly in open post-agricultural and successional lands minimizes the potential need for tree clearing and associated visual impacts in those areas. Preserving much of the network of existing woodlots and hedgerows around those fields will serve to minimize project visibility from nearby areas. In addition, co-locating electrical facilities (such as the substation and switchyard) with existing electrical infrastructure minimizes visual impacts. The Facility sub-arrays have been sited mostly in relatively flat, open, areas screened by woods, hedge-rows and glacial north-south ridges. It is anticipated that the land within the Facility Site that will host the equipment will require relatively little work to prepare it for construction. The arrays will be typically be installed so as to follow the existing topography of the land within the Facility Site, and will be constructed on existing grades to the maximum extent practicable. Specific methods to be used to remove trees and vegetation where necessary and perform minimal grading have not been determined, but will be those standard for the commercial construction industry. Any areas where soils disturbance occurs will be planted with a native, pollinator friendly grass mix.

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:

- Co-locating conductors and/or access driveways in order to minimize the number of stream and wetland crossings.
- Siting PV modules (where feasible) in open field areas to minimize forest clearing and impacts to habitat. Locating inverters and transformers near the center of arrays in order to minimize noise impacts to surrounding neighbors
- Installing "wildlife friendly" fences to allow for passage of small animals, such as rabbits and turtles, between arrays while still preventing the injury larger animals, such as deer or bears.
- Providing adequate space between rows of modules to allow for traditional vegetation management (mowing) and reduce the need for application of herbicides
- Consolidating arrays to the extent feasible to maximize contiguous habitat areas elsewhere
- Consulting with environmental groups to prioritize the most rare or sensitive habitats in order to avoid those areas
- Selecting module racking systems compatible with existing slopes in order to minimize site grading activities
- Where available, utilizing existing infrastructure, such as driveways and farm roads or storage buildings, to minimize the need to increase the area of impervious surfaces
- Minimizing the linear distance of overhead electrical lines or locating them near the center of the project, and designing any such lines in accordance with Avian Power Line Interaction Committee ("APLIC") guidelines to minimize impacts on birds. In some cases, use of overhead electrical lines may be preferred in order to minimize the impacts of wetlands and streams crossings and impacts on cultural resources.
- Minimizing the use of underground trenching within arrays in order to reduce disturbance to soils and any archaeological resources. This has included consideration of alternate technologies, such as installing

medium voltage conductors within conduits on the ground surface in order to avoid trenching or excavation associated with collection lines, so as to minimize impacts to any buried archaeological resources.

- Following 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. The proposed Facility will incorporate appropriate visual mitigation measures in accordance with the descriptions below, and input from local stakeholders. The combination of visual mitigation measures ultimately chosen for the Facility will be detailed in the Article 10 Application.

For any 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 transmission line or railroad ROWs 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, however since fencing is required for safety and security purposes it may be necessary to selectively install vegetative screening to block the view from sensitive receptors.. Visual screening can include use of planting of vegetation intended to block or soften views of the project. Common approaches to visual screening include:

- *Evergreen Hedges*: Use of vegetation for mitigation can include installing a screening hedge made up of evergreen trees and shrubs along roadways and/or selected portions of the exterior fence line of the project. This approach is effective and commonly implemented in 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. The use of excessively tall plantings should be avoided, though, in order to reduce shading effects and maximize the clean energy output from the facility.

- *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.

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.
- Implementing a Stormwater Pollution Prevention Plan.
- Developing and implementing a comprehensive Complaint Resolution Plan to address local 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, fire and school districts.
- Developing a preliminary Operations and Maintenance (O&M) 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.

1.6 ORGANIZATION OF THE PSS

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

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

In addition to complying with the various service and notice requirements set forth in 16 NYCRR § 1000.6 for filing and service of an Application, Flint Mine Solar will provide GIS Shapefiles of the Facility Site and related resource information, to the New York State Departments of Public Service, Health, and Environmental Conservation, and to other parties upon request, at the time of Application submission.

2.0 CONTENT OF APPLICATION

2.1 GENERAL REQUIREMENTS

(a) Applicant Information

Flint Mine Solar, LLC is a jointly owned subsidiary of Hudson Energy Enterprises LLC (Hudson, a subsidiary of Hudson Energy Development, LLC), and Amber Flint Mine Solar Holdco Limited, a subsidiary of the Amber Infrastructure Group (Amber, and collectively the Developers). Hudson is a New York-based energy development company recently founded by several of the most experienced and successful energy industry professionals now active in the region's renewable energy market. With headquarters in Albany, New York, Hudson's principals have decades of experience in renewable energy, including solar and wind facilities. Hudson's principals led the development of ~830MW of operating New York renewable energy projects, as well as in initiating another 300MW of NY wind projects at various stages of development; and also led the development of the first 75MW solar facility now operating in South Carolina, along with a portfolio of more than 1,000MW of other early- and mid-stage solar projects also in SC.

With years of expertise in renewable energy, Hudson and Amber strongly believe that the best approach begins with thoughtful site selection based on proximity to major electric load centers, especially if major generating facilities in the region are scheduled for mothballing or retirement, limited visibility/anticipated community acceptance, avoiding productive and/or prime agricultural land, environmental appropriateness, along with the ability to appropriately address any issues that may arise.

Amber Infrastructure Group is a leading international sponsor, developer and manager of infrastructure investments. Amber is a long-term owner and manager of the projects in which it invests and works in partnership with project stakeholders who include central governments, municipal authorities, specialist user groups and private sector bodies to deliver best-in-class infrastructure facilities. Amber has a long-standing international reputation in the origination, development and management of specialist infrastructure projects including extensive experience in renewable energy and energy efficiency projects. Amber currently manages a number of specialist funds which target projects that generate demonstrable social and environmental benefits through which they have invested in solar, energy efficiency, district heating, combined heat and power, battery energy storage and urban regeneration projects.

Amber has exceptionally strong in-house financial, analytical, commercial, strategic and project management skills, and has distinguished itself in the sponsorship of "greenfield" energy-related projects. Amber's integrated

model allows them to commit substantial amounts of capital on behalf of their investment funds, and so have a strong track record of sponsoring projects that can be expected to achieve financial viability throughout the project term.

(b) Project Website

The Facility website can be found at http://www.hudsonenergydev.com/flint-mine-solar.html

(c) Public Contact

Project Representative
Patrick Doyle
1-866-218-0658
pdoyle@hudsonenergydev.com

(d) Principal Officer

Flint Mine Solar LLC does not have a Principal Officer.

(e) 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.

(f) Type of Business

Flint Mine Solar LLC is a wholly-owned subsidiary of Hudson Energy Development, LLC and Amber Flint Mine Solar Holdco Limited. The certification of formation for Flint Mine Solar LLC is included as Appendix C to this PSS.

(g) Documents of Formation

The Facility will be owned by Flint Mine Solar LLC, a wholly-owned subsidiary of Hudson Energy Development, LLC and Amber Flint Mine Solar Energy Holdco Limited. The certification of formation for Flint Mine Solar LLC is included as Appendix C to this PSS.

2.2 OVERVIEW AND PUBLIC INVOLVEMENT

2.2.1 Discussion

The Article 10 Application must include a brief overview of the proposed Facility in Exhibit 2. As this Exhibit will describe, the Facility is a utility-scale solar project located in Greene County, New York. The proposed Facility's components will be located in the Towns of Coxsackie and Athens. The regional Facility location and preliminary Facility Site is depicted on Figures 1 and 2, respectively. The Facility will be located on private land that is rural in nature, with a footprint that will encompass approximately 600 acres within the Facility Site. Since the actual ground-level footprint of the Facility will be considerably smaller—with the PV support systems resting on rows of posts and spacing between rows –the actual impact on the existing topsoil in the Facility site will be minor, especially since grading will be avoided wherever possible. As a result, farming operations or other current land uses will again be possible following the Facility's decommissioning.

The initial draft of the PIP was submitted to the Siting Board on February 9, 2018; comments on the PIP were received from the DPS on March 9, 2018; and the PIP was updated, finalized and filed by the Applicant on April 9, 2018. Before the PIP was filed, Flint Mine Solar representatives had commenced meetings and discussions with local officials to discuss the proposed project (see Appendix B for meeting details).

Flint Mine Solar values its relationships with local stakeholders. Before undertaking necessary approval processes for development of the Facility, public outreach to educate interested parties has been, and will continue to be conducted. Through such public outreach activities, Flint Mine Solar has introduced the Facility 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 D of this PSS. During its first Open House in May 2018, the Applicant collected names and email addresses from individuals interested in hearing more information about the project; those individuals were emailed a notice of the PSS filing as well as a notice of the November 8, 2018 Open House event. The Applicant has initiated other consultations, such as with State agencies and local groups, and the results and summary of these meetings/consultations are in the Meeting Log, which is presented in Appendix B of this PSS. The Meeting Log will continue to be updated and filed on the DPS website through the entire PSS and Article 10 Application process.

The Applicant's May 30, 2018 Open House at the Pegasus Restaurant, 10885 Route 9W in Coxsackie, NY, involved two sessions – one in the afternoon and one in the evening. Notice of the public meeting was mailed to approximately 2,700 stakeholders and residents and published in two local newspapers. The sessions were well attended, with approximately 65 individuals in attendance for the afternoon session and approximately 46 for the evening session, not including the Flint Mine Solar Project Team. Participants were able to view posters with information on topics of interest, such as environmental impact assessments; to watch a video simulation showing potential visibility of the Facility from major thoroughfares in the community; to make written or oral comments at the session, or to receive instructions on filling comments on the Siting Board's online Document and Matter Management System ("DMM") in the future; and to provide their contact information for future outreach efforts. Materials displayed and distributed at these Open Houses were compiled and bound, and are available at local document repositories for review by members of the public, and on DMM as document number 10.

Since the Open House was held, the Applicant has scheduled a number of follow-up discussions with stakeholders who attended the event, and/or who have submitted questions or concerns regarding the proposed Facility. Those meetings and discussions will be documented in the Flint Mine Solar PIP Tracking Logs, and filed on the DMM as the project moves through the Article 10 Process. In many cases, those discussions resulted in questions or suggestions which are addressed in this PSS, and often are called out accordingly in the document and/or the PIP Tracking Log. A second open house is planned to be held in the Town of Coxsackie on November 8, 2018 shortly after the submission of this PSS. That Open House will have three sessions – a morning, afternoon, and evening session – and 4,000 postcards about the event were mailed to residents and businesses in local zip codes in late October.

In addition to the open house meetings, the Applicant has a Facility specific website (http://www.hudsonenergydev.com/flint-mine-solar.html) as well as a toll-free number (1-866-218-0658) 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:

Heermance Memorial Library 1 Ely Street, Coxsackie, NY 12051 Phone: (518) 731-8084 Fax: (518) 731-8264 Email: heermancelibrary@heermancelibrary.org	D.R. Evart Library 80 Second St., Athens, NY 12015 Phone: (518) 945 1417 Fax: (518) 945-1725 director@drevartlibrary.org
Town of Coxsackie 16 Reed St. #1 Coxsackie, NY 12051	Town of Athens First St., Athens, NY 12015 Phone (518) 945-1052

Phone: (518) 731-2727	

Hudson Energy's local office is located approximately 33 miles from the Facility Site. The Applicant is available to meet with stakeholders at their office in Albany or can travel to the Facility Site and vicinity for such meetings. Given the proximity of this office to the Facility Site, a local office isn't planned at this time.

The Applicant conducted a mailing all stakeholders just prior to the submission of this PSS to provide an update on the Facility and invite comments and remind the stakeholders of the comment period timeframe. The full PSS legal notice was published in local newspapers and mailed to the Master Stakeholder List, including to host and adjacent landowners. This notice was also emailed to those who provided their email address at the May 2018 Open House, members of the Siting Board's Party List, and those identified on the Master Stakeholder List for whom an email address was available. Proof of those mailings will be submitted separately to the Secretary. The Applicant will continue to attend municipal meetings and will attempt to identify additional community events in which it would participate. All outreach efforts will be tracked in the meeting logs.

During the time before the submission of the Article 10 Application, the Applicant intends to continue stakeholder outreach. There are numerous resource-specific consultations which will need to occur with stakeholders, such as visual stakeholder outreach on viewpoint locations for the Visual Impact Assessment, and private well surveys. Those consultations will be tracked and listed in the PIP Tracking Logs and/or the Application at Exhibit 2.

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

2.2.2 Proposed Content of the Application

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

(a) Brief Description of the Proposed Facility

1001.2(a) shall contain a brief description of the major components of the Facility, including all proposed PV modules locations and the footprint of all other Facility components. The Applicant agrees that the major components of the Facility, are to be described as follows:

- **Facility**: Proposed components will include: photovoltaic (PV) solar modules and their rack/support systems; direct current (DC) and communications cables connecting the modules to inverters; the inverters, with their support platforms, control electronics, and step-up transformers; energy storage devices; buried and/or overhead alternating current (AC) medium voltage collector circuits; fencing and gates around each array of modules; access driveways and driveways; temporary laydown/construction support areas; medium voltage-to-transmission voltage substation with associated equipment and fenced areas; a short length of transmission voltage line connecting the substation to a switchyard containing switching gear, the POI switchyard, associated equipment, and fenced area; a short length of 115kV line, with possible support poles to connect to the existing National Grid 115kVtransmission line; and a possible operations and maintenance (O&M) building with fenced and parking/storage areas as well as any other improvements subject to the Siting Board's jurisdiction.
- **Project**: Collectively refers to construction and operation of the Facility, as well as proposed environmental and cultural preservation areas, and other efforts proposed by the Applicant.
- **Facility Site**: The portions of parcels proposed to host the Facility components that contain such components. A preliminary Facility Site is identified in this PSS, and the final Facility Site will be identified in the Application.

(b) Brief Summary of the Application Contents

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

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

1001.2(c) of The Article 10 Application will contain a brief description of the public involvement program (PIP) plan conducted by the Applicant prior to submission of the Application and an identification of significant issues raised by the public and affected agencies during such program and the response of the Applicant to those issues including a summary of changes made to the proposal (if any) as a result of the public involvement program. Specific components of the PIP conducted as of the date of Application filing will be described, including:

- Opportunities for public involvement;
- Development and use of stakeholder list, including host and adjacent landowners;
- Consultation with affected agencies and stakeholders;
- Reference to existing website and toll-free phone number established for the Facility;
- Local project office location and established office hours;
- Timeline for responding to public comments received through these communication portals; and
- When public document repositories will be updated
- Applicant's efforts relating to language access
- Identification of any environmental justice areas
- Use of document repositories
- Factsheets on the Article 10 process and intervenor funding and other outreach materials
- Use of meeting logs tracking PIP activities, significant questions and/or issues raised by the public and the applicant's response or follow-up action
- The PIP and all other submissions under Article 10 to remain available at the designated repositories and online (website) throughout the application review processes

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

The Applicant will continue to engage stakeholders following submission of the Article 10 Application. A summary of post-application PIP activities will be provided in 1001.2(d) of the Article 10 Application, and will include:

- An updated stakeholder list that will be appended to the Application, including host and adjacent landowners and stakeholders identified during implementation of the public involvement program.
- A discussion of how stakeholders have been identified and subsequently added to the list during the scoping, stipulation, and public involvement processes, and a description of how the list will be used for distribution and notification regarding Project milestones, including submittal of the Application
- In addition to notifications required under 16 NYCRR 1000.6 and 1000.7, the Applicant will mail notice of the Application submittal to a project mailing list comprised of the updated stakeholders list, including host and adjacent landowners, and additional addresses received through public outreach. The notice will include information on the project generally and the Article 10 Application specifically. A copy of the mailing list and documentation indicating the dates and mailings that were made will be provided to the Secretary.

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

(e) Brief Overall Analysis

1001.2(e) 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

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

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

- That the Facility is a beneficial addition or substitution for electric generation capacity of the State,
- The construction and operation of the Facility will serve the public interest,
- That the adverse environmental effects of the construction and operation of the Facility will be minimized or avoided to the maximum extent practicable,
- If the Facility results in or contributes to a significant and adverse disproportionate environmental impact in the community in which the Facility would be located, that the Applicant will avoid, offset or minimize impacts caused by the Facility upon the local community for the duration of certificate to the maximum extent practicable using verifiable measures;
- That the Facility is designed to operate in compliance with applicable state and local laws and regulations, or in the alternative that such laws and regulations as applied to the Facility are unreasonably burdensome and therefore not applicable. Ultimately, this information will provide a basis for the Siting Board to make the required Findings on the proposed Facility and support a decision to grant the Certificate in accordance with PSL Section 168.

2.3 LOCATION OF FACILITIES

2.3.1 Discussion

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

2.3.2 Proposed Content of the Application

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

(a) Topographic Maps

1001.3(a) shall include mapping showing the location of the components of the major electric generation and interconnection facilities associated with the proposed Flint Mine Solar Project. 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, 2018). 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, 2017). The "USGS Topo" map service is designed to provide a seamless view of the data in a geographic information system ("GIS") accessible format, and depicts information consistent with the USGS 7.5-minute (1:24,000) quadrangle topographic maps at large scales (USGS, 2017). Shapefiles will also be provided to DPS and DEC Staff.

(1) Proposed Major Electric Generating Facility Locations

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

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

(2) Interconnection Location

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

(3) Location of Ancillary Features

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

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

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

(5) Study Area

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

(b) Municipal Boundary Maps

1001.3(b) will contain mapping/figures depicting the location of the proposed Facility with respect to village, town, county, fire and school district boundaries.

(c) Description of Proposed Facility Locations

1001.3(c) will contain a description of 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 driveways, 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 module locations, access driveways, inverter, energy storage and transformer equipment pad locations, medium voltage collection lines, collection substation, POI switchyard, and construction staging areas.

2.4 LAND USE

2.4.1 Discussion

The Application will evaluate the Facility's impact on land uses both within the Facility Site and in the broader Study Area. As described in the PIP for Flint Mine Solar, due to the nature of the technology and the setting specific to this proposed Facility, the Applicant is utilizing a 2-mile radius Study Area from (and including) all Facility components, which includes the host Towns of Coxsackie and Athens. Potential impacts to land use resulting from Facility construction and operation will be evaluated within this 2-mile Study Area.

The Facility is located on a flat land terrace in eastern Greene County approximately 2 miles to the west of the Hudson River. Immediately to the west of the Facility, the land rises quickly as it transitions into the foothills of the Appalachian Plateau and Catskill Mountains. Agriculture was historically the dominant land use within the flat lands of eastern Greene County. However, the total acreage of farmed land in Greene County decreased from 71,280 acres to 42,986 acres (40%) between 1974 and 2012 (National Agricultural Statistics Service, 2014). In addition, recent decades have seen an increase in development pressure in the area, and multiple industrial distribution and manufacturing facilities have been established, as well as some residential developments (Greene County Land Trust, 2014).

Land Use within the Facility Site consists largely of abandoned agricultural land, although a minority of the land planned for PV modules has been farmed in recent years. Approximately 16% (274 acres) of the land within the Facility Site is actively farmed for hay or other crops, while approximately 35% (604 acres) consists of abandoned agricultural fields. Abandoned fields within the Facility Site range in age from 5 to 40 years. U.S. Route 9W, County Route 49, Fountain Flats Road, Flats Road, and Flint Mine Road all pass through the Facility Site and multiple residences and current and abandoned farmsteads occur along these routes. In addition, two large utility line Rights-of-Way transect the Facility Site from north to south. A portion of a CSX rail transportation corridor also passes through the eastern portion of the Facility Site.

Land use within the 2-mile Study Area includes a more diverse mix of agricultural, residential, recreational, commercial, and industrial uses. This includes portions of the Villages of Coxsackie and Athens. The New York State Thruway I-87 corridor, the Coxsackie and Greene Correctional Facilities, and lands protected by the Greene County Land Trust also occur within the Study Area. West of the Thruway, land within the Study Area is largely forested as it transitions into the foothills of the Appalachian Plateau and Catskill Mountains.

The Application will provide more detail on current land uses within the Facility Site, and evaluate how the Facility may impact such uses. In addition, the Application will describe other proposed land use and/or development within the Study Area. This will include a discussion of the proposed Hecate Energy Greene County Solar Facility, which is a 50 MW solar project proposed to be sited on lands to the east and north of the Flint Mine Solar Facility in the Town of Coxsackie, and any other Facilities proposed within 2 miles of the Flint Mine Solar Facility for which plans have been made public.

With respect to agriculture, the Application will include a discussion of current trends (over the last 20 years) in land use changes, with specific focus on factors contributing to the conversion of farmland within a 2-mile radius of the Facility, and potential cumulative impacts of such conversion, as well as the types of land uses driving those conversions (e.g., renewable energy, suburban housing developments, commercial development, etc.). The Applicant will discuss the Facility's potential effect on agricultural viability of lands within this study area, including the availability of farmland for existing farm operations, the potential increase in rental rates of farmland, and the potential increase in the price of farmland. The Applicant intends to conduct interviews with landowners/farm operators within the Facility Site and review readily available historical data on trends in farmland use and acreage in Greene County. The Application will also describe measures during both construction and operation of the Facility that will be implemented to avoid and minimize impacts to on-site soils and adjacent agricultural uses.

The Application will include an analysis of the proposed Project's consistency with state, regional, and local land use planning tools, such as Town comprehensive plans, Greene County's Grassland Habitat Management Plan, Agricultural Development and Farmland Protection Plan, and Hazard Mitigation Plan, as well as Statewide and regional plans relating to historic resources, state-owned lands, resource conservation efforts, and recreational resources. Specialized planning tools and uses, such as the Hudson River Greenway, designated Scenic Areas of Statewide Significance, the New York State Open Space Plan and the Historic Preservation Plan will also be discussed. Relatedly, Exhibit 10 of the Application will specifically address the Project's consistency with energy plans and policies, including the 2015 State Energy 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 modules to be utilized for the Facility do not require excavation, or concrete foundations, as discussed in more detail below in sections on construction (2.12) and elsewhere. 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 current or former agricultural areas, fallow fields, and scrublands. Siting the Facility in current or abandoned agricultural fields curbs the need for major earthmoving processes or extensive tree clearing, in turn reducing environmental impacts. Following construction, those limited areas which must be disturbed will be restored with topsoil, and a cover of native grasses and/or pollinator-friendly species will be established underneath and around the solar modules. During operation of the Facility, the soils within the Facility 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 Facility.

2.4.2 Proposed Content of the Application

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

(a) Map of Existing Land Uses

1001.4(a) shall include:

i. A map of existing land use within a 2-mile radius of the Facility. Land use will be depicted using the three-digit classification codes of the New York Office of Real Property Services (NYSORPS), which are included in parcel data obtained from Greene County. To the extent the Facility Site includes "vacant land" classifications, the Applicant will provide additional information on the existing use of such land based on consultations with the respective landowners or municipal officials.

ii. A separate map of land enrolled in NYS Agricultural Districts, conservation programs, NYS 480-a forest management programs, or similar long-term program enrollments within or adjoining the Facility site will be included in the Application. For parcels enrolled in these programs, the Application will discuss the status of those enrollments and any upcoming renewals or recertifications, as well as the implications of Facility construction/operation on that status.

(b) Transmission Facilities Map

1001.4(b) shall include:

i. A map of existing overhead and underground major transmission facilities for electric, gas or telecommunications within a 2-mile radius of all Facility components, based on coordination with local utilities, private firms that maintain databases with this information, and data on natural gas and oil wells obtained from the NYSDEC and NYDPS, and to the extent that such information is made available to the Applicant. The map shall identify all crossings of existing utility lines by the proposed electric facilities. Additionally, any gas lines or wells within the Facility Site shall be identified on this map, and an associated legend shall be included listing all known owners of existing utilities.

(c) Tax Parcel Map

1001.4(c) shall include:

ii. A map of all properties containing proposed electric generating facilities and other facilities, components or related facilities, and all properties adjoining such properties. Parcels and land use data will be obtained from Greene County of the host Towns. This map(s) will show:

- Property lines;
- Land use;
- Tax parcel number;
- Owner of record of each property; and
- Any publicly known proposed land use for any of these parcels.

(d) Zoning District Map

1001.4(d) shall include:

i. Mapping depicting existing and proposed zoning districts in the Facility Area, and within a 2–mile radius of the Facility, based on data obtained from local governments.

ii. A review of zoning regulations for each of the towns where Facility components would be located, as well as the 2-mile study area; a description of permitted and prohibited uses within each zone; and citations to zoning and other land use regulations, requirements, designations and classifications related to land use regulations.

(e) Comprehensive Plan

1001.4(e) shall include a review of the following Comprehensive Plans that have been adopted by the host municipalities:

Greene County

- Greene County Comprehensive Economic Development Plan (July, 2007);

- Greene County Tourism Marketing Blueprint of Recommendations (October, 2010);
- Greene County Tourism Economic Impact Analysis and Strategic Goals (October, 2010);
- Greene County Draft Telecommunications Plan (July, 2010);
- Greene County Open Space and Recreation Plan (December, 2002);
- Greene County Agricultural Development and Farmland Protection Plan (August, 2002);
- Greene County Hudson River Corridor Study (2008); and
- Greene County Water Dependent Use Inventory & Assessment (July, 2008).
- Greene County Hazard Mitigation and Resilience Plan (January, 2016)

Town of Coxsackie

Town and Village of Coxsackie Community Plan (June 2008)

Town of Athens

Town and Village of Athens Comprehensive Plan (July 2007)

(f) Map of Proposed Land Uses

1001.4(f) shall include information about proposed land uses from discussions with local planning officials, open houses, the PIP implementation/PSS development process, and other sources. This will include the proposed Hecate Energy Greene County Solar Facility. Any information gathered will be described and/or mapped in the Article 10 Application.

(g) Map of Specially Designated Areas

1001.4(g) shall including maps showing any designated coastal areas, inland waterways, special flood hazard areas, Local Waterfront Revitalization Program ("LWRP") communities, and critical environmental areas within a 2–mile radius of the Facility. Table 1 summarizes the sources of data to be used to prepare these maps.

Table 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

1001.4(h) shall include:

i. Maps showing recreation areas and other sensitive land uses known to the Application within a 2-mile radius of the Facility, including the Columbia/Greene North Scenic Area of Statewide Significance. Table 2 summarizes the sources of data to be used to prepare these maps.

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

Mapping 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

Mapping Requirement	Source
Major communication and utility uses and infrastructure	TBD
Institutional, community and municipal uses and facilities	ESRI; TIGER/line files; NYS GIS Clearinghouse

ii. A summary of the nature of potential environmental impacts of Facility construction and operation on such land uses, including how such land impacts have been avoided or, if unavoidable, minimized or mitigated.

iii. The Facility's Visual Impact Assessment (as will be presented in Exhibit 24) will also identify visually sensitive resources, including recreational and other sensitive land uses that may be affected by potential visibility of the Facility. This will include visually sensitive resources of potential statewide significance within 5 miles of the proposed Facility, and potentially significant local resources within a 2-mile visual study area.

iv. The 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

1001.4(i) shall include:

i. An assessment of the compatibility of the Facility with existing, proposed and allowed land uses, and local and regional land use plans. In addition to the plans listed in 1001.4(e) (above), this assessment will include relevant State and County planning documents such as:

- The 2016 New York Open Space Plan (OSP);
- The New York State Historic Preservation Plan 2015-2020;
- The Statewide Comprehensive Outdoor Recreation Plan 2014-2019;
- The New York State Office of Parks, Recreation and Historic Preservation Sustainability Plan (April 22, 2009);
- The Green County Grassland Habitat Management Plan (2014); and
- Conserving Greene County Grassland Habitat: A Landowner's Guide (2010).

ii. The Application will include a review of each of the above plans, and will provide electronic versions/links to such plans (limited to those portions of the plans obtained by/provided to the Applicant). The Application will also discuss whether the proposed Facility is consistent with these Plans. In addition, the Facility Site is traversed by major electric, communication and gas transmission facilities. To the extent known by the

Applicant, the Article 10 Application will include consideration of operational requirements and future development proposals (including the Champlain-Hudson Power Express Line) for these transmission facilities.

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

1001.4(j) shall include an assessment of compatibility of any above-ground collection lines with existing and proposed land uses within 300 feet of the interconnect lines will be presented in the Application. To the extent land use impact is quantified in other exhibits (e.g., agricultural land, wetlands, forest) such information will be summarized in this subpart.

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

1001.4(k) shall include an assessment of the compatibility of any underground interconnections and temporary disturbances associated with construction. 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.

(l) Conformance with the Coastal Zone Management Act

1001.4(l) shall include an evaluation of the Facility's conformance with Coastal Zone Management Act, where applicable and appropriate.

(m) Aerial Photographs

1001.4(m) shall include aerial photographs within a 1-mile radius of the Facility. 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. The aerial photograph mapping will be depicted on multiple 8.5x11inch or 11x17inch sheets at a scale that will allow the identification and discrimination of natural and cultural features.

(n) Aerial Photograph Overlays

1001.4(n) shall include a map of Facility components overlaid on aerial photographs, at a readable scale. These maps will be created using ArcGIS software. Line symbols will be used to depict the centerlines of proposed access driveways and electrical collection lines; point symbols to depict PV module 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 driveways). 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

1001.4(o) shall include the source information for the aerial photographs provided in 1001.4(m) and 1001.4(n). It is anticipated that mapping associated with (m) and (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

1001.4(p) shall contain:

i. A description of community character in the vicinity of the proposed Facility. Sources of information used to describe community character will include local municipal master plans and the county master plans listed in 1001.4(e) (above), among other sources. The description of community character will define features and interactions of the natural, built, and social environment, and take into account local land use and zoning.
ii. A discussion of current use and agricultural productivity within the range of Facility Site.
iii. An assessment of 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

2.5.1 Discussion

The Application will evaluate the effects of the Facility's interconnection on the reliability of the electric system. The Applicant proposes to electrically interconnect the Facility to the New York State Bulk Power System via a new Point of Interconnection Switchyard ("POI Switchyard") on National Grid's 115 kilovolt (kV) system ("115 kV System"). In early 2016, the Applicant commissioned a Full Contingency incremental Transfer Capability (FCITC) analysis of the capacity of the electric grid in the region. The study evaluated several alternative options, estimating the maximum injection capability during various contingencies prior to the thermal limits of transmission lines and transformers in the area being exceeded. The results of the FCITC analysis, suggested that interconnection a 100 megawatt alternating current (MW-AC) solar project to the 115 kV System would be the most feasible alternative.

In June 2017, the Applicant filed an interconnection request with the New York Independent System Operator ("NYSIO"), operator of New York's transmission system, for interconnection of 100 MW-AC to the National Grid 115 kV transmission system. With National Grid's support, the NYISO's process to conduct a Feasibility Study, a System Reliability Impact Study (SRIS) and a Facility Study is underway. The NYISO conducts its Facility as part of its Class Year process which clusters projects that have reached certain milestones and are ready to move forward into a single study group. The Applicant is working towards entering into the NYISO 2019 Class Year for Facilities Studies, although entering the 2019 Class Year is dependent on the schedule for completion and approval of the SRIS and OSRIS (see below) by the NYISO and the submission of the Article 10 Application and it being deemed complete.

Flint Mine Solar has requested the NYISO to study two interconnection options. The SRIS is being completed assuming interconnection only to the LaFarge-Pleasant Valley 115kV line. An Optional SRIS (OSRIS) is also being completed assuming interconnection to both that line and the 115kV Feura Bush – North Catskill line. Based on NYISO scope, the SRIS and OSRIS are being performed for Summer Peak, Winter Peak and Light Load system conditions. The study system includes the Capital Zone (Zone F) and Hudson Valley (Zone G) in the NY ISO system. The Applicant has also contracted with the NYISO to perform two optional, preliminary non-binding Deliverability Studies. The Article 10 Application will describe the impact of the proposed Facility and interconnection on transmission system reliability in the State in more detail.

As described in more detail in Section 2.11, 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. Additionally, the Application will include descriptions of procedures and controls for facility inspection, testing, and commissioning. The substation will be inspected, tested and commissioned in accordance with various ANSI, IEEE, NFPA, IETA, ASTM, etc. requirements, as necessary. All tests shall be performed with the equipment de-energized, except where specifically required for it to be energized for functional testing. Some typical inspection, testing, and commissioning activities are described below for the various Facility components.

- PV modules shall be inspected upon delivery to ensure the correct models are being used, and to check for visible signs of damage. Once installed and energized, aerial infrared imagery may be collected to identify hot spots, which can develop where modules are damaged and imbalance of diodes occurs. Prior to attempting to energize inverters, it is important to check open circuit voltage and polarity and short circuit current of each source circuit. During installation of racking, it may be necessary to perform periodic pull tests to confirm racking foundations have adequate embedment to resist wind loads.

- DC Combiner Boxes (DCCBs), weather stations, data acquisition systems, and all electrical terminations will require UL inspections by 3rd parties. Commissioning activities also include ensuring that data collection is working properly, warning lights for surge protectors or other internal devices are indicating proper operations, and following all manufacturer commissioning and testing instructions.
- Inverters, transformers, and, potentially, batteries with associated charge controllers, should also be inspected for visible damage and then energized following manufacturer's recommendations. Prior to energizing, it is important to ensure that the inverter is properly grounded per manufacturer instructions, to check polarity of DC wire connections, and also to confirm AC conductors are connected in the proper phase sequence. Commissioning activities will also include programming settings into the inverters and charge controllers to ensure proper coordination with utility protective relay settings. Inverters are expected to operate in voltage control mode in order to react to voltage fluctuations on the grid and to generate/consume reactive power as needed. Inverters will also require specific software controls to be installed and tested in order to limit the output of the entire site to no more than 100MW-AC. Finally, witness tests with the utility are generally required to ensure that utility-active inverters automatically disconnect in the event of a fault from the utility.
- A network of array (1.5-2.0kV-DC) and medium voltage (34.5kV-AC) conductors will be present throughout the Facility. Megger testing of conductors will be required to ensure insulation has not been compromised during delivery and installation (megger testing of PV modules is not recommended so that internal diodes are not compromised).
- Where required by the NYS Uniform Code, some special inspections may be required prior to commissioning. Special inspections could include inspection of fabricated or welded structural/load bearing assemblies, concrete foundations, and possibly more.
- The Facility Substation requires significant testing, in collaboration with National Grid, to ensure that protective relay settings are properly coordinated with grid requirements. Commissioning may also involve testing of meters and other diagnostic equipment to ensure accurate readings are being transmitted to Flint Mine Solar and the Utility, as appropriate.
- Commissioning generally also involves safety training of Flint Mine Solar operations staff and local first responders. Personnel will be provided with diagrams and maps describing the facility, and briefed on the location of disconnects and significance of various warning signs throughout the Facility.

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

Design and construction of the POI switchyard will be done by the Applicant in accordance with National Grid specification and under the supervision of National Grid. The description of the design will not be known until the Facilities Study is complete. In addition, as the transmission owner, National Grid will define and perform the operational and maintenance responsibilities for the POI switchyard, at Flint Mine Solar's expense. The Applicant will be responsible for the operation, inspection, and maintenance requirements of all Facility components, except for the POI Switchyard. These activities can generally be classified as scheduled inspection/maintenance, unscheduled maintenance/repairs, or electrical system inspection/maintenance.

The 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. The O&M Plan will also identify vegetation management practices for the NG POI Switchyard and Project Substation.

2.5.2 Proposed Content of the Application

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

(a) System Reliability Impact Study

The Application will include a SRIS performed in accordance with the unrestricted access transmission tariff of the NYISO approved by the Federal Emergency Regulatory Commission that shows expected flows on the system under normal, peak, and emergency conditions and effects on stability of the interconnected system, including the necessary technical analyses (Thermal, Voltage, Short Circuit, and Stability) to evaluate the impact of the interconnection. The study will include the new electric interconnection between the facility and the POI, as well as any other system upgrades required. This section will also discuss when the Applicant anticipates entering the NYISO class year study.

(b) Potential Reliability Impacts

An analysis and/or statement of the impact of the proposed Facility on reliability in the State of New York as evaluated in the SRIS.

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

A discussion of the benefits and detriments of the Facility on ancillary services and the electric transmission system as evaluated in the SRIS, including impacts associated with reinforcements and new construction necessary as a result of the Facility.

(d) Reasonable Alternatives to Mitigate Adverse Reliability Impacts

A summary of reasonable alternatives that would mitigate adverse reliability impacts (if such impacts are found to be possible) as evaluated in the SRIS.

(e) Estimated Change in Total Transfer Capacity

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

(f) Criteria, Plans, and Protocols

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

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

(g) Heat Balance Diagrams

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

(h) POI Switchyard Transfer Information

Since a the new POI Switchyard to be built will be transferred to the transmission owner (National Grid), the Application will include:

(1) A description of POI Switchyard facilities to be transferred and the contemplated future transaction, including a timetable for transfer

(2) A description of how the POI Switchyard design will meet the transmission owner's requirements

(3) A description of the operational and maintenance responsibilities for the POI Switchyard and how they will meet the transmission owner's standards.

(i) Facility Maintenance and Management Plans

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

(1) Electric transmission gathering and interconnect line inspections, maintenance, and repairs, including

(i) Vegetation clearance requirements
(ii) Vegetation management plans and procedures
(iii) Inspection and maintenance schedules
(iv) Notifications and public relations for work in public rights-of-way
(v) Minimization of interference with distribution systems

(j) Vegetation Management Practices for Substation and POI Switchyard

Vegetation management practices for the POI Switchyard and Substation, and for danger trees (trees that due to location and condition are a particular threat to fall on and damage electrical equipment) around the Substation and POI Switchyard, specifications for clearances, inspection and treatment schedules, and environmental controls to avoid off-site effects.

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

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

(l) Availability and Expected Delivery Dates for Major Components

A status report on equipment availability and expected delivery dates for major components including heat recover steam generators, towers, turbines, transformers and related major equipment.

(m) Blackstart Capabilities

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

(n) Identification and Demonstration of the Degree of Compliance

After consultation with DPS, NYISO, the transmission owner and affiliated system owners (Central Hudson, LaFarge) to identify applicable requirements, an identification and demonstration of the degree of compliance with all relevant applicable reliability criteria of the Northeast Power Coordinating Council Inc., New York State Reliability Council, and the local interconnecting transmission utility and affiliated system owners, will be provided through the SRIS, the development of which included consultation with NYISO, transmission owner, and affiliated system owners.

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

2.8.1 Discussion

The Article 10 Application will include the results of electrical system production modeling, and will identify the experts conducting that modeling, and provide their resumes in the Application. The Applicant will consult with NYSDEC and NYSDPS 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 will include Critical Energy Infrastructure Information (CEII), which will be filed under a protective agreement, as required by law.

The Application will include electrical system production modeling conducted for the 2022 year. An 8,760 hourly generation profile will be developed using PVsyst Photovoltaic Software. Using the PVsyst generation profile, energy production will be forecasted, based on certain user inputs, utilizing the computer simulation program PROMOD.. The gross average energy yield for each month will be determined from the generation profile with each monthly dataset adjusted to the monthly long-term. 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.

Monthly energy yield averages will be determined from the observed solar production profile data in each specific month and long-term adjustments will be made to the monthly data set and included in the Application. Based on the long-term adjusted average energy yield for each month, a gross monthly energy distribution for the year can be determined. Monthly specific loss assumptions for availability and environmental factors will be taken from the gross monthly production distribution to yield the 12 estimated monthly productions in MWh. An annual production output will be determined from the sum of all monthly net energy yields in MWh.

In addition, a Generation Dispatch Forecasting Analysis will be prepared. To conduct the analysis, the NYISO 2022 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 simulator software 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 2022 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 redispatching to reliably serve the grid and avoid curtailment.

2.8.2 Proposed Content of the Application

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

(a) Computer-based Modeling Tool

Analyses, as described below, that will be developed using GEMAPS, PROMOD, or a similar computer based modeling tool. The Applicant will conduct the required consultation with NYSDPS and NYSDEC regarding appropriate inputs, assumptions and parameters used in the preparation of this Exhibit and related modeling. The Application will identify the experts retained to conduct the modeling, and will provide their resumes.

(1) Estimated Statewide Levels of Greenhouse Gas Emissions

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

(2) Estimated Prices Representative of all NYISO Zones

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

(3) Estimated Capacity Factor

An estimated capacity factor for the Facility.

(4) Estimated Annual and Monthly Output Capability Factors

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

(5) Estimated Annual and Monthly Production Output

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

(6) Estimated Production Curve Over an Average Year

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

(7) Estimated Production Duration Curve Over an Average Year

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

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

The estimated effects of the proposed Facility on the energy dispatch of existing must-run resources (which includes existing wind, hydroelectric, and nuclear facilities, as well as co-generation facilities to the extent they are obligated to output their available energy because of their steam hosts).

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

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

2.9 ALTERNATIVES

2.9.1 Discussion

By nature, the process of selecting a viable location for a utility-scale solar generation facility requires a careful balancing of a wide variety of factors at the early stages, in order to identify a location with sufficient space and favorable topography, larger tracts of available land, proximity to transmission lines which have sufficient capacity for interconnection to the electric grid, and the ability to obtain necessary permits to construct and operate. A viable location needs to offer limited visibility from outside the Facility Site, but must also be capable of avoiding significant negative impacts to areas of scenic, cultural, or environmental significance. Environmental regulators will prefer that wetlands, forested areas and grasslands are avoided, while other stakeholders disfavor the conversion of agricultural land, particularly areas of prime farmland, from crop production to solar generation. Given the State's transmission constraints, a Facility must be located sufficiently close to load centers or available transmission capacity that the energy generated can reach the markets where it is needed, but land must be affordable enough that the proposed Facility is financially viable. Unlike the more compact fossil fuel generation facilities of old, renewable development such as wind and solar generation are more spread out, which significantly limits the number of appropriately positioned alternatives that might be available for such facilities.

New York has committed itself to ambitious clean energy goals, and meeting those goals will demand a careful, thoughtful balancing of the many interests and concerns involved. It is certainly true that any type of land development involves some level of environmental impact, and those impacts must be carefully considered. However, climate change presents a unique and urgent challenge to conventional thinking in the area of environmental impact

assessment, primarily because the "no action" alternative to building significant new utility-scale renewable generation capacity will itself have significant and profound negative impacts on the environment, human health and safety, our communities and society. The consequences of doing nothing when considering the impacts of a new commercial strip mall or housing development would be maintaining the status quo—an option which may be preferable in many cases. However, New York State has acknowledged for decades the dramatic and devastating impacts which will result from doing nothing about climate change, and established State policies such as the Clean Energy Standard stress the urgent need for the transition from fossil fuel generation to renewable energy. Maintaining the status quo in this instance would have dangerous and far-reaching consequences, from the destruction facing communities plagued by flooding, as identified in the most recent Greene County Hazard Mitigation Plan, to the mass extinction of an estimated 314 species of birds, according to a recent federally-commissioned study completed by the Audubon Society (Audubon, 2018). It is in this context that alternatives to the proposed Flint Mine Solar Facility must be considered.

As will be discussed in Exhibit 9 of the Application, there are a number of critical factors taken into consideration when siting a large-scale solar project. One important factor which must be considered early in the site selection process is reasonable proximity to a transmission line with existing capacity so the power from the project may be injected into the electric system without incurring prohibitive cost and the risk—to say nothing of general public disfavor of permitting a lengthy electric transmission line. With that in mind, the proposed Flint Mine Solar Facility offers the opportunity to connect to either the LaFarge to Pleasant Valley National Grid 115-kV transmission line, or to a combination of that line and the Feura Bush to North Catskill 115kV line that is carried through the same transmission corridors already spanning the Towns. Although the costs to interconnect to the New York grid are relatively high, especially for the five breaker ring configuration that would be required for the option which connects to both lines and the associated upgrades at the North Catskill substation, not having to construct or permit a high voltage line of any distance is a plus for the Facility. Based on the Feasibility and System Reliability Impact Studies that will be prepared on behalf of the Facility by the New York Independent System Operators (NYISO), the interconnection to either one or both 115-kV transmission lines is anticipated to be able to accommodate the Applicant's proposed 100 MW-AC of electric power generation. These two interconnection alternatives will be discussed further in the Application.

Another major factor in siting is finding sufficient amount of under-utilized or unutilized land. Here, the Facility will be located on sub-prime, mostly post-agricultural land that is not currently used by the landowners for profitable production of agricultural products. Of the approximately 260 acres of land that might be considered still to be actively farmed, 100 acres of former crop land was not planted in 2017 or harvested in 2018; 100 acres of hayfield wasn't reseeded or fertilized in 2017 and only a small percentage was cut in 2018 (two years of bales remain unsold in the field) and the wet weather in 2018 severely curtailed the production of hay in another 40 acres (whose owner says costs as much to

maintain as it produces). The remaining 20 acres produced hay for the landowner's domestic consumption and for mulch, as the market for hay has been poor over recent years.

Other important siting factors considered by Flint Mine Solar include:

- Contiguous areas of available land with clear and unobstructed southern exposure;
- Compatible land uses and available natural vegetative screening and topographical buffering;
- Landowners willing to participate in the project at an acceptable cost and under reasonable terms;
- The ability to avoid significant natural resources and habitats

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. For private applicants such as Flint Mine, Article 10 limits the scope of the required alternatives analysis to the identification and description of siting alternatives to sites owned by, or under option to, the applicant or its affiliates. Therefore, the identification and description of reasonable and available siting alternatives to be addressed in the Article 10 Application will be limited to lands owned by or under contract/option to Flint Mine Solar or its affiliates, or to neighboring contiguous parcels that may be suitable for solar and whose owners would be open to leasing or selling to the Applicant, but who may not yet have entered into agreements with the Applicant. Ultimately, the Application will demonstrate that the proposed Facility Site is suitable for utility-scale solar energy generation, and why the selected location best serves the public interest and the environment.

Advantages and Disadvantages of Proposed and Alternative Locations

The Siting Board's regulations (16 NYCRR 1001.9) recognize that it is not practicable to simultaneously procure land contracts, perform environmental and engineering due diligence studies, enter and progress through multiple interconnection permit processes, and conduct community outreach for locations which are only being considered for purposes of assessing alternatives. 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. These criteria are described in more detail below.

(a) Environmental Setting

The Facility Site is located in the Towns of Coxsackie and Athens, Greene County, and is identified on Figure 2 as the "Facility Site." In the PIP, Flint Mine 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 600 acres of privately-owned land within the Facility Area, although the actual footprint at ground level will be significantly smaller, since the solar module racking systems will rest on support posts that are typically installed sixty feet apart, with fifteen to twenty-foot separation between rows. The Application will discuss the parcels considered within the Facility Area and will explain why placement of Facility components on those parcels was ultimately ruled out by the Applicant.

The proposed Facility is located in a historically rural portion of Greene County. However, residential and industrial development to the north and east of the proposed Facility Site have increased in recent decades, even as farms within the Facility Site have been abandoned or significantly downsized. The Facility Site is currently characterized by a mix of abandoned agriculture, hay fields, and forested land. U.S. Route 9W, County Route 49, Fountain Flats Road, Flats Road, and Flint Mine Road all pass through the Facility Site and multiple residences and farmsteads occur along these routes (Figure 6). In addition, two large utility line Right-of-Ways transect the Facility Site from north to south. A portion of a CSX rail transportation corridor also passes through the eastern portion of the Facility Site, and Interstate 87 passes along the western boundary of the Facility Site.

While both temporary and longer-term impacts to land use will occur, these changes will affect only a small percentage of the land within the overall Facility perimeter, and the Facility will not interfere at all with land uses that dominate the surrounding areas. Aside from the very limited ground impact resulting from the posts that support the solar module racking systems, the inverter/battery pads and the associated road and electrical infrastructure , 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 immediately outside the areas on which infrastructure is placed. The Article 10 Application will contain a more detailed description of the environmental setting, and why the proposal is the preferred alternative in light of that setting.

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

Current recreational opportunities in the immediate vicinity of the Facility are limited. Neighbors have stated they are permitted to walk horses and hunt on some of the properties under consideration, and many of the current landowners hunt on their own property.

The Application will identify any trails (i.e., hiking, snowmobile, biking, etc.), state and local parks, and state forests within the vicinity of the Facility Site. 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), the Towns and local stakeholders, 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.

(c) Engineering Feasibility

A Preliminary Geotechnical Evaluation will be prepared to specifically address the suitability of the subsurface conditions onsite to support PV module 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.

(d) Reliability and Electric System Effects

A System Reliability Impact Study (SRIS) and an Optional SRIS (OSRIS) to evaluate the impact of the two different interconnection configurations under consideration for 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 were initiated in the summer of 2018 are expected to be completed by late 2018/early 2019. The SRIS and OSRIS, which are discussed in more detail in Exhibit 5, are evaluating a number of power flow base cases, as determined by the NYISO, including 2022 summer peak, winter peak, and light load. The SRIS and OSRIS also include stability analyses for the system summer peak and light load conditions, both with and without the Facility. The Applicant has also contracted with the NYISO to perform two optional, preliminary Deliverability Studies to assist the Applicant in choosing the most appropriate of the two alternative interconnection configurations.

Based on the results of the Feasibility Study, 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 and OSRIS. The alternatives analysis will include a discussion of these alternative interconnection options, and an explanation of the basis for the preferred alternative selected by the Applicant.

(e) Environmental Impacts

Despite the significant economic and environmental benefits that will be created by the operation of this clean, renewable energy 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 modules' visibility, impacts to wildlife habitat, impacts to cultural resources, and impacts to agricultural resources, and impacts to wetlands and streams. Where siting decisions were made during the development process, for example to avoid a sensitive environmental resource, the Application will discuss how potential environmental impacts influenced Facility design and decision-making.

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, the presence of natural screening from the north-south ridges, woods and thick rows of trees and the planting 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.

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., wildlife habitat, wetlands/streams, agricultural land) 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, and the types of measures taken to address visibility, including but not limited to elimination of certain areas from consideration for Facility components, or consideration of screening options.

Overall, the Facility is anticipated to have long-term beneficial effects on the environment as a consequence of reduced fossil fuel use. The operating Facility will generate approximately 175,000 MW hrs of electricity from a renewable resource without consuming cooling water, and without emitting pollutants or heat-trapping greenhouse gases. Electricity generated from zero-emission solar energy facilities will 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), carbon dioxide and methane (linked to global climate change), and particulates that are tied to respiratory distress.

(f) 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 acreage of unappropriated, affordable land and access to the existing transmission system are two of the most important economic 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. The Application will identify the kinds of economic considerations which influenced site selection and layout, such as the relatively high cost of crossing certain infrastructure features such as railroads.

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 and services from local sources, the spending of income earned by workers, annual labor revenues, and the income effect of taxes (including income taxes and sales tax and special district taxes). The Applicant proposes to negotiate a Payment in Lieu of Taxes (PILOT) agreement with the host municipalities and the Coxsackie-Athens School District or with the Greene County IDA.

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 will provide capital contributions or increased income compared to what was received before given that in general 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, fire districts, and other taxing districts that service the area where the proposed Facility is to be located. As a consequence of the Facility's relatively low marginal costs of production, in combination with the operation of other low-cost wind and

solar plants elsewhere in the NYISO, there will be downward pressure on the market-clearing price of electricity in the ISO's wholesale market, which will create substantial savings for New York's ratepayers (analysis done for NYSERDA suggests that this reduction in price could be as much as $2/MWh). Exhibit 27 of the Article 10 Application will provide detailed information on the socioeconomic effects of the proposed Facility.

(g) Environmental Justice

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

(h) 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. To the extent that factors of security, public safety and emergency planning were used in development of the Facility Site design, those considerations will be discussed in the alternatives analysis.

(i) 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.

(j) Vulnerability to Seismic Disturbances and Climate Change Impacts

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 6% and 10% of standard gravity. Records indicate that there have been no earthquakes in Greene County since 1973 (DHSES, 2014). 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 (USGS, 2018). Regardless, given that the maximum height of the Project facilities will be approximately 12 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. The Article 10 application will examine potential climate change events for New York and discuss their potential impact on the Facility. The Application will also discuss the contributions toward addressing the problem of climate change which can be made by developments such as the Flint Mine Solar Project.

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 100 MW-AC of electricity without consuming any cooling water or emitting any air or water pollutants.

(k) 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 into 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.

Alternative Layouts at the Proposed Facility 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.

(a) 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 modules, 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 continued since 2017, when an initial layout of the Project was developed based on the above-mentioned site constraints, and a desktop review of site features. Since then, multiple revisions to the Facility design have been made, taking into consideration possible reductions and increases in the number of modules, the overall footprint of the Facility, shifts in the Facility boundary 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.

(b) 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 Applicant is considering the use of energy storage devices within the Facility, to improve its ability to delivery energy precisely when required by consumers and in turn to enhance the economics of the Facility. The solar modules and other components proposed for the Facility will utilize the best combination of cost and performance in solar power generation technology to enhance project efficiency and output. Additional detail regarding PV module and energy storage technology will be provided in the Article 10 Application.

(c) 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, habitat and other impacts of the Facility, the project will not physically occupy the entirety of the Facility Site. In addition, the extent of the Facility Site is generally limited by the presence of State or County-owned land to the north, by industrial facilities to the south, by Interstate 87 and steep ridges to the west. The recently-expanded CSX railroad to the east also presents a constraint on construction and operations.

Flint Mine Solar is designing the Facility layout in a semi-dispersed way that minimizes impacts while still meeting the Project's 100 MW-AC output requirements. The Article 10 Application will address at a high level alternate scale and magnitude of the Facility in the context of the interconnection agreement (i.e., a 100 MW Facility) and the financial viability of a smaller project. This discussion will also identify those environmental and cultural preservation efforts which have been proposed by Flint Mine Solar which may not be economically feasible if a smaller project were pursued. 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.

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

In 2017, Flint Mine Solar filed an application with the NYISO for interconnection of 100 MW-AC into the LaFarge – Pleasant Valley 115-kV transmission line or into a combination of the LaFarge – Pleasant Valley and the Feura Bush – North Catskill 115-kV transmission lines. The System Reliability Impact Studies are anticipated to be completed in later 2018 or early 2019. Assuming nothing unexpected is found in these studies, approval by the NYISO Operating Committee would be expected to occur shortly thereafter.

Why the Proposed Location Best Promotes Public Health and Welfare

As the Application will discuss in greater detail, 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.

Why the Proposed Facility Best Promotes Public Health and Welfare

The benefits of the Facility are anticipated to include positive socioeconomic impacts (e.g., a substantial number of construction jobs, increased PILOT and special district tax revenues to local municipalities and land sale (or lease) revenues to participating landowners, and lower wholesale electric prices), 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.

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. It would also eliminate the benefits that the Facility would provide toward the State's fight against climate change and efforts to decarbonize the State's energy system, as well as the proposed environmental and cultural preservation efforts which Flint Mine is proposing in conjunction with this Facility. Further, as will be discussed in Exhibit 22 of the Application, the no action alternative would result in the loss of significant grassland habitat through natural successional processes. The Article 10 Application will further discuss why the no-action alternative to the Facility is not the preferred alternative.

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, and there is no energy supply source alternative to the sun. Therefore, the Article 10 Application will not evaluate alternative energy supply sources.

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

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

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.

2.9.2 Proposed Content of the Application

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

a) Description of Reasonable Alternative Location Sites

An identification and description of reasonable and available alternate location sites for the proposed Facility that will necessarily be limited to sites owned by or under option to Applicant or its affiliates, as authorized by 16 NYCRR § 1001.9(a). However, the Applicant does not own or have an option to acquire any other reasonable or available alternate sites that are suitable for development of a solar project comparable to the Facility.

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

As indicated in subdivision (a), alternative locations that include areas beyond those that are owned by or under option to the Applicant or its affiliates, and reasonable and compatible for solar development are unavailable. Further, it is not practicable to simultaneously procure land contracts, perform environmental and engineering studies, enter into and progress through multiple interconnection permit processes, and conduct community outreach for alternative Facility locations not reasonable for solar development. Therefore, the parties agree that the Application will not include a fully developed evaluation of comparative advantages and disadvantages of alternate locations. However, the general site selection process and relevant information/analyses associated with the Facility will be provided in relation to Exhibit 9(b)(1) through (11).

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

Other energy generation technologies such as fossil fuel and nuclear do not meet the State's energy goals. In addition, there is not suitable wind or water resource in the vicinity to support a wind or hydroelectric project. Accordingly, the parties agree that other power generation technologies are not reasonable alternatives and will not be considered in the Application. Rather, 1001.9(c) of the Application will provide information on the Facility design and technology including:

1) The general arrangement and design (detailed information regarding the arrangement and design of the Facility will be provided in Exhibit 3 as described above and required by 1001.3).
2) PV module and energy storage technology appropriate to utility-scale facilities.
3) Alternate scale, interconnection configuration and magnitude of the facilities in the context of the interconnection position (i.e., maximum generating capacity of 100 MW-AC) and information on the economic benefits to local communities related to Facility scale and magnitude.
4) The proposed Facility is not a wind power facility, and as such, the requirements of 1001.9(c)(4) are not applicable. Notwithstanding this, the Applicant agrees to provide in the Application a discussion of alternative arrangements of Facility components within the Facility Site, including alternative layouts for PV solar modules and their rack/support systems. This discussion will include a comparative assessment of the environmental impacts, including a discussion of vegetative clearing, a discussion and comparison of known, estimated, and expected impacts to wildlife and habitat at all alternative sites and layouts, and the associated impacts under each alternative analyzed. This assessment of alternative layouts will include a discussion of how alternative layouts for the Facility could help to avoid, minimize, or mitigate environmental impacts from

the Project.

5) The Applicant agrees to provide the information required by 1001.9(c)(5).

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

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

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

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

f) No Action Alternative

The Applicant agrees to provide the information required by 1001.9(f). The "no action/no build" alternative refers to not building the Facility.

g) Energy Supply Source Alternatives

The information required by 1001.9(g) is not applicable to the Facility.

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

Due to the nature of the Facility sponsor, a solar energy developer, the parties agree that source and demand-reducing alternatives will not be evaluated in the Application.

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

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

2.10 CONSISTENCY WITH ENERGY PLANNING OBJECTIVES

2.10.1 Discussion

In the Article 10 Application, Flint Mine Solar will be required to demonstrate that the proposed Facility is consistent with New York State's energy planning objectives, including the most recent New York State Energy Plan ("SEP"). The Application will provide a statement demonstrating the Facility's degree of consistency with the State Energy Plan and these other important State policies and initiatives. Further, the Application will highlight how the Facility supports the five "Guiding Principles" identified in the Plan and will comment on how the Facility supports the seven goals listed in the "Initiatives and Goals" section of the Plan. The Application will also comment on how the Facility supports the New York 2030 targets in the Plan. While these discussions will focus on the proposed Facility's consistency with the SEP, and with the subsequently adopted Clean Energy Standard ("CES"), the Applicant will also touch upon some of the

broader themes and challenges which motivated these State policies, and the ways in which the Applicant's unique proposal will advance broader societal goals such as sustainability, cooperative use and management of land and resources, reduction in harmful air pollution, and scientific research and advancement.

One of the core goals of the SEP and the Reforming the Energy Vision ("REV") initiative is to spur innovation and creative problem-solving in New York, allowing market participants to develop new strategies and solutions to the many challenges facing our State today. The Application will offer a discussion of the multifarious benefits offered by the proposed Flint Mine Solar Project, above and beyond the provision of renewable solar energy and, potentially, battery storage in NYISO Zone G, near the State's major electric load centers. Flint Mine Solar proposes not only a 100-MW-AC solar electric generating and battery storage Facility, but also a planned landscape that conserves and manages approximately 200 acres of grassland habitat and protects an important cultural resource, the Flint Mine, in perpetuity. Flint Mine Solar is committed to investigating innovative approaches to manage the Facility Site, such as seeding buffer areas with pollinator-friendly and visually appealing plants and flowers, and designating areas of the Facility that can be used to study the potential for symbiotic use of a solar facility by wildlife species, such as raptors and the small mammals they rely on for winter foraging opportunities.

What's more, the Flint Mine Facility's marriage of solar energy generation and energy storage, if economically feasible (give the State's policies and tariffs on storage are still emerging) would advance the State's broader climate and public health goals, particularly by helping to reduce the need for the State's dirtiest, most polluting fossil fuel-burning plants, and by continuing the fight to reduce harmful air emissions, from greenhouse gases driving climate change to the toxic compounds sickening millions of people. According to Dr. Tedros Adhanom Ghebreyesus, the Director General of the World Health Organization, 90% of the world's population regularly breathes highly polluted, toxic air which far exceeds the levels which the WHO considers safe, which contributes to an estimated 25 to 30 percent of deaths from heart attack, stroke, lung cancer and chronic respiratory disease, and causes the premature, preventable deaths of more than 7 million people every year (Burnett et al. 2018). Scores of those most impacted, including in the United States, are children, elderly, and the poor. In New York, the hardest hit are those living in poverty in urban centers, often people of color, who must breathe the pollution created by fossil fuel generating facilities located in their neighborhoods, and who are often most vulnerable to flooding and prolonged power outages from increasingly severe storms such as Superstorms Sandy and Irene. As the Flint Mine Application will discuss, the transition from fossil fuels to renewable energy here in New York will not only play a critical role in the State's efforts to combat climate change, it will aid efforts to reduce deadly air pollution, and advance principles of environmental justice by eliminating significant sources of pollution from the State's most vulnerable neighborhoods.

2.10.2 Proposed Content of the Application

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

(a) Consistency with State Energy Plan

New York has adopted strongly proactive policies to combat climate change, reduce harmful air pollution, and modernize the electric system to improve the efficiency, affordability, resiliency, and sustainability of the system, most notably reflected in the 2015 State Energy Plan ("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, and procurement of 50% of electricity generation from renewable energy sources by 2030.

The goals set forth in the SEP are ambitious and will require utility-scale solar projects, such as the Facility, to achieve targeted levels of new renewable generation. On August 1, 2016, the Public Service Commission adopted the SEP's goals that 50% of New York's electricity is to be generated by renewable sources by 2030 as part of a strategy to reduce statewide greenhouse gas emissions by 40% by 2030 and approved the Clean Energy Standard ("CES").

While the State has acknowledged that small-scale and community solar installations will play an important role in advancing the State's energy policies and meeting the SEP and CES goals, the State has also emphasized that small-scale facilities alone will not be enough. In acknowledging that small-scale and distributed renewable generation sources "are a major focus of the REV strategy," the SEP emphasizes that "central generation and transmission will continue to serve as the backbone of [the State's] power grid." (NYSEPB. 2015, p. 70). Accordingly, the SEP emphasizes the critical need for significant additional "large-scale renewables" (LSRs) in New York. (NYSEPB. 2015., pp. 70-72). Specifically, the total amount of energy needed for the State to meet the CES target of 50% renewable generation by 2030 is between 29,000 and 40,000 Gigawatt hours of additional LSR generation, approximately 50% of which would come from wind energy, while approximately 3,217 to 8,110 MW will need to come from utility-scale solar energy, primarily in Western and Central New York, the Hudson Valley and Long Island. Importantly, the State assumes that offshore wind energy will not be available prior to 2021, and that no new impoundment hydroelectric dams of significant size will be constructed in the State, leaving utility-scale on-shore wind and solar to make up the bulk of new renewable generation in the near term. Overall, the State anticipates that the CES-driven procurement of LSR generation between 2017 and 2021 will be more than twice the level of generation that was procured under the

RPS, which added approximately 2,137 MW in renewables (NYSERDA. 2016; CES Order. 2016, p. 16). At an anticipated size of 100 MW-AC, the Project will contribute significantly to the State's clean energy generation and GHG emissions reduction goals.

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

(b) Impact on Reliability

A System Reliability Impact Study (SRIS) and an Optional System Reliability Impact Study (OSRIS) are expected to be completed for the Facility on behalf of the New York Independent System Operator (NYISO) in late 2018 or early 2019, and the results will be presented in Exhibits 5 and 8 of the Article 10 Application, with certain issues such as reliability addressed in greater detail in Exhibit 10. The objectives of the SRIS and OSRIS 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 Facility on the reliability of the pre-existing power system, (3) evaluate alternatives (such as interconnecting to two 115kV lines as studied in the OSRIS, versus a single line as in the SRIS) to eliminate adverse reliability impacts, if any, resulting from the proposed interconnection, and (4) assess the impact of the proposed project on transmission transfer limits, considering thermal, voltage and stability limitations, and estimate the increase or decrease in the Transfer Capability of affected transmission interfaces. The scope and methodology of the SRIS is set by the NYISO, and is uniform across projects of this nature. A number of power flow base cases will be evaluated both with and without the proposed Facility in service, including 2018 summer peak, winter peak, and light load. Non-binding deliverability studies are also being conducted for both the single-line and double-line interconnection options.

The Article 10 Application will contain an analysis of the impact of the proposed Facility on electrical system reliability based on the results of the SRIS and subsequent studies/analyses conducted by/with the NYISO. The SRIS or OSRIS will be appended to Exhibit 5 of the Article 10 Application. In particular, the proposed inclusion of energy storage in the Flint Mine Solar Facility will be discussed in the context of reliability. A common concern raised about solar energy generation is that its output is variable, and generally does not provide electricity when the sun is not shining. However, pairing energy storage with solar will enable facilities like Flint Mine to capture and store solar energy when it is valued less by the NYISO's wholesale electricity market, to be dispatched into the system when it is most valuable. This is anticipated to aid in the reduction of demand for less efficient, marginal and polluting "peaker" plants, often very old oil-burning plants in poor urban areas, which do not operate during most of the year, but exist to preserve reliability on summer days with the highest electricity demand.

(c) Impact on Fuel Diversity

The proposed Facility will improve fuel diversity within the State by increasing the amount of electricity produced by non-fossil fuel dependent solar power. In 2008, the NYISO found that New York's electric utility system relies on supply from numerous fuel sources, including coal, water, wind, nuclear and natural gas, as well as interconnections with its neighbors and demand-response resources. According to the NYISO, "[m]aintaining and improving fuel diversity in New York will lead to less volatile electric prices, improved reliability, and positive environmental impacts."[2] However, State regulators have raised concerns in recent years that New York may suffer from an over-reliance on natural gas, which results in price volatility and market fluctuation. By 2013, the NYISO determined that "gas has effectively displaced both coal and oil,"[3] and, since 2000, approximately 2,000 megawatts of generation fueled by coal have retired or suspended operation, while Governor Andrew Cuomo has vowed to shutter all of New York's coal-fired electric generation by 2020,[4] and to close the 2,000-MW Indian Point nuclear facility.[5] Accordingly, the disappearance of coal and large nuclear power sources make the need for alternative, non-gas forms of electric generation such as solar increasingly important to maintain fuel diversity in New York. The Article 10 Application will include discussion of the current electric generation capacity by fuel type to demonstrate that the addition of the Facility will contribute to fuel diversity.

(d) Impact on Regional Requirements for Capacity

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

[2] 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.

[3] 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.

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

[5] The Indian Point Nuclear Plant in Buchanan, New York, is scheduled to close by 2021. See https://www.nytimes.com/2017/01/09/nyregion/cuomo-indian-point-nuclear-plant.html.

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

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

(f) Impact on Fuel Delivery Constraints

The proposed Facility will generate electricity without the use of fuel. Consequently, there will be no adverse impact on fuel delivery constraints. Rather, by generating electricity without the need for fuel delivery and 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 and emissions related to coal and gas exploration, mining, refining and transportation. The Article 10 Application will contain an analysis of the Facility's impact on fuel delivery constraints.

(g) Impact on Energy Policy

The need for additional renewable generation and a decreased reliance on fossil-fueled generation has been a mainstay of New York Energy policy for almost two decades. Notably, in 2004, the Public Service Commission implemented the Renewable Portfolio Standard ("RPS") program to facilitate investment in renewable generation. The RPS program initially envisioned an increase in renewable energy production in the State by 25% by the year 2013. In 2010, the PSC expanded the RPS target from 25% to 30% and extended the target date from 2013 to 2015. Renewable projects approved under the RPS are expected to reduce CO2 emissions by 50 million tons over the life of the projects. Recent policy initiatives also include a comprehensive Clean Energy Standard ("CES"), a critical part of New York State's Reforming the Energy Vision ("REV") initiative which is designed to support clean energy market development and innovation and to encourage the development of large-scale 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 REV and the CES. In fact, REV recognizes that large-scale renewables, which require more capital and take more planning than other facilities, will be critically important to meeting greenhouse gas emissions reduction goals.

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

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

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

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

The Facility will have a positive impact on public health and welfare by producing electricity with zero emissions. Electricity delivered to the grid from solar energy projects can reduce the growth of existing conventional power plants. The Flint Mine Solar Facility will reduce New York's dependency on the combustion of fossil fuels (coal, petroleum, and natural gas) which not only have negative consequences for public health but also the atmosphere (NYESEP, 2015). Natural gas is the most frequent marginal fuel unit in New York's power pool, or the one that is turned on or off as the load fluctuates (Patton et al., 2015). When the proposed Facility is generating power, electricity generation from natural gas would be reduced within the region, thereby eliminating the associated emissions.

2.11 PRELIMINARY DESIGN DRAWINGS

2.11.1 Discussion

Preliminary Design Drawings will be prepared in support of the Article 10 Application. The drawings will depict the location of all proposed Facility components (e.g., PV modules, access driveways, electric collection lines, approximate limits of disturbance, stormwater management features), delineated wetlands, and all anticipated construction staging/material laydown areas, which is where the contractor trailers/offices and parking areas will be located during construction.

The Article 10 Application will include a landscaping plan that 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. The Article 10 Application will also include a construction and operations plan, indicating all materials lay-down areas, construction preparation areas, major excavation and soil storage areas, and construction equipment and worker parking areas, and a lighting plan showing lighting specifications for the Facility.

2.11.2 Proposed Content of the Application

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

The Preliminary Design Drawings prepared in support of Exhibit 11 of the Article 10 Application will be prepared using computer software (e.g.., AutoCAD, MicroStation), will be labeled “preliminary” and/or “not for construction purposes,” and will be prepared under the direction of a professional engineer, landscape architect or architect who is licensed and registered in New York State. Four full size copies of the drawing set, utilizing a common engineering scale, will be provided to DPS Staff. A single, full size drawing set will also be provided to the NYSDEC Central Office and Region 4 Staff (total of two full sized sets provided to NYSDEC), and to NYS Department of Agriculture and Markets Staff (DAM). All other printed copies (included with the Application) will be at a legible and reduced size (i.e., 11 x 17), also utilizing a common engineering scale. Additionally, a CD-ROM containing electronic PDF files will be submitted to DPS, NYSDEC, and DAM Staff. Exhibit 11 shall contain:

(a) Site Plan

1001.11(a) shall include

i. Site plan drawings of all Facility components at a common engineering scale. The drawings will depict site boundaries and adjoining property, all delineated wetlands (including the 100-foot adjacent areas if NYSDEC jurisdictional), and streams. Specific to construction of a solar facility, the Site Plan drawings will include the following proposed features:

- PV module locations, and associated racking structures;
- Access driveways (temporary and permanent);
- Perimeter fencing;
- Turn-around areas to be used during construction;
- Grading showing proposed final contours;
- Electric collection lines – the required number of circuits for each collection line route will be indicated on site plans; also, overhead (if any) and underground cable routes will be differentiated with specific line-types;
- Transmission line;
- Approximate limits of disturbance for all Facility components (PV modules, inverters, access driveways, buildings, electric line, substation, etc.) based on impact assumptions;
- Indication of permanent Right-of-Way (ROW) for all electric cable installations;
- Locations that will utilize trenchless methods of electric cable installations (including layout of trenchless installation distances);
- Indication of property lines, existing utility lines and equipment, and utility easements;
- Applicant's proposed setbacks from occupied structures, property lines and easements, existing overhead electric lines, gas transmission pipelines and associated easements, and roads;
- Any back-up generators and fuel storage areas;
- Collection substation and POI switchyard outlines, including local setbacks, access driveway and fence line;
- Preliminary location of the O&M building, if needed, and associated setbacks, access driveway, parking area, equipment storage areas, and any associated septic or water systems.

(b) Construction Operations Plan

1001.11(b) shall include a construction operations plan indicating all materials lay-down areas, construction preparation areas, major excavation and soil storage areas, and construction equipment and worker parking areas.

(c) Grading and Erosion Control Plans

1001.11(c) shall include:

i. Soil type and depth to bedrock information based on publicly available data and test borings at representative locations within the Facility Site. Preliminary cut and fill calculations along with a general description of typical cut and fill scenarios. Exhibit 21 of the Application will provide this information as well as boring logs and maps indicating location of the pre-Application test borings.

ii. Existing and proposed contours and any permanent stormwater retention areas (if known at the time of Application submittal) shown on Preliminary Design Drawings.

(d) Landscaping Plan

1001.11(d) shall include:

i. A discussion on the need for landscaping the form of visual screening, and prepare conceptual screening plans if needed.

ii. To determine those areas where trees may be removed, the Facility footprint will be depicted on recent aerial imagery, and the acreage of tree removal will be discussed. However, on-site inventory and survey of individual trees to be removed will not be included.

iii. A range of contingency measures to be developed to address potential visual screening needs for mitigation of impacts at historic resources, community or cultural sites, visually sensitive resources, or public use areas, if such measures are proposed and outline in Exhibit 20 and/or Exhibit 24.

(e) Lighting Plan

1001.(e) shall include a Lighting Plan showing type, location, and height of installation of proposed exterior lighting fixtures for all Facility components, and an indication of the measures to be taken to prevent unnecessary light trespass beyond the Facility property line. Lighting specifications for lighting associated with the substation and O&M building (if needed) will also be provided. Manufacturer cut sheets of proposed lighting will be provided, if available.

(f) Architectural Drawings

1001.11(f) shall include architectural drawings for the O&M building, switchyard, and perimeter fencing (including the type(s) of site perimeter fencing to be installed around Facility sites), as applicable, will be provided in final or preliminary form, depending on availability. For the point of interconnection switchyard, a typical drawing of the improvements to the existing interconnection substation will be included.

(g) Typical Design Detail Drawings

1001.11(g) shall include typical details for Facility components (access driveways, buried and above-ground interconnect lines, PV modules and support structures, inverters, stormwater management features, laydown areas, other improvements) on the Preliminary Design Drawings. In addition, the drawings will include

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

(h) Interconnection Facility Drawings

1001.11(h) shall include a single line drawing of the POI switchyard in the System Reliability Impact Study ("SRIS"), and the general arrangement of the POI switchyard.

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

1001.11(i) shall include a list of engineering codes, standards, guidelines and practices that the Applicant intends to conform with when planning, designing, constructing, operating, and maintaining the Facility. A preliminary list of codes relevant and currently enforceable in NYS is listed below to identify those codes that will guide design through commissioning of this facility. Some voluntary standards and guidelines have been included as well; the Flint Mine Solar project intends to comply with these to the maximum extent practical. As with a typical construction project, it is assumed that the project will only be required to comply with codes and standards in effect at the beginning of design, and redesign will not be required if the State adopts new codes prior to the completion of this project. Significant design

efforts have commenced in order to complete the Article 10 application, and so Flint Mine Solar propose to establish those code years here in this PSS. A more thorough list of codes, standards, and guidelines will be included in the application.

- 2017 New York State Uniform Code Supplement and all internally referenced codes and standards
- 2016 New York State Energy Code Supplement and all internally referenced coes and standards
- 2017 National Electric Safety Code (NESC) and all internally referenced codes and standards
- New York State Department of Environmental Conservation State Pollution Discharge Elimination System General Permit for Stormwater Discharges From Construction Activity GP-0-15-002
- 2016 New York State Standards and Specifications for Erosion and Sediment Control (Blue Book)
- April 2018 New York State Department of Environmental Conservation (NYSDEC) Memorandum on Solar Panel construction Stormwater Permitting / SWPPP Guidance
- 2018 National Grid ESB 756: Requirements for Parallel Generation Connected to a National Grid Owned EPS
- 2015 US Department of Agriculture Rural Utilities Service (USDA RUS) Bulletin 1724E-200 Design Manual for High Voltage Transmission Lines
- 2018 IEEE 1547: Standard for Interconnecting Distributed Resources with Electric Power Systems
- 2017 NYS Department of Agriculture and Markets Guidelines for Mitigation for Solar Energy Projects
- 2017 Sleepy Hollow Lake Watershed Management Plan
- All current OSHA Regulations

It is further recommended that although New York State has not yet adopted the 2017 National Electric Code (NEC, NFPA-70), it is in the best interest of Flint Mine Solar and New York State to permit this project to be designed in accordance with the 2017 NEC and accordingly, the 2015 NFPA70E: Standard for Electrical Safety in the Workplace. The 2017 NEC introduces, for the first time, Article 691: Large-Scale Photovoltaic (PV) Electric Power Production Facility and contains expanded guidance for design of DC arrays and other topics specific to large-scale solar installations. Due to the rapidly evolving nature of the solar industry, it is recommended that the most current standards be used to design and build one of New York's largest solar facilities.

(j) Protective Measures

1001.11(j) shall include details and descriptions of any protective measures for Facility components within or adjacent to "Flood Hazard Areas." If this information is not available, a description of potential measures to be utilized will be included.

2.12 CONSTRUCTION

2.12.1 Discussion

The methods that will be used to construct the Facility will be generally similar to those used in the U.S. to construct utility-scale, ground-mounted PV solar facilities generating wholesale power. Construction of the Facility is expected to occur between the 2nd Quarter of 2020 & Winter of 2021/2022. Most construction is expected to occur between the hours of 7am and 7pm, though some late night activities may be required. Flint Mine Solar will consult with local groups to describe in the Application what construction activities, if any, should be restricted in order to minimize noise, light, and construction traffic impacts to the community. The Article 10 Application will also provide details on how the proposed construction methods are less invasive than construction methods associated with most conventional energy generating facilities.

In general, the PV projects typically require minimal impacts to the environment during construction. Flint Mine Solar is designing the Facility to result in less construction-related disturbance than traditional solar facilities. PV racking systems are generally designed to accommodate 15-30% slopes, depending on the type of foundation used. Flint Mine Solar is considering a variety of racking foundation options in order to accommodate the range of existing slopes within the Facility. In some places, minimal earth moving would be required to level access driveways, create stormwater swales or management ponds, level the earth under inverter/substation equipment pads, and dig vaults for step-up transformers. Additionally, tree removal may also involve soil disturbance, though the layout design is attempting to maximize use of cleared fields in order to minimize the need for tree removal. Flint Mine Solar is also planning to utilize wire management systems incorporated into racking structures, as well as above-ground collection line designs like cable trays or conduit on ballast blocks, to minimize the amount of trenching required, though a variety of methods are being considered (overhead poles, trenching, directional boring, etc.) depending on site specific constraints.

Temporary and permanent access driveways would typically use gravel surfacing, and would try to follow existing driveways and tractor paths to the maximum extent practical. For the most part, large equipment like inverters, step-up transformers, and potentially batteries, may require placement with 25-50ft cranes. Access driveways to inverter and substation locations would generally be designed to accommodate cranes and multi-axle delivery trailers. Equipment laydown areas would be sited near these driveways to minimize the need for an extensive access driveway network. Access to much of the arrays, such as each row of modules, is generally accomplished by driving on grass, though mats may be used in wet areas to minimize rutting.

The general steps for Facility construction will be the following, though many tasks may be completed in parallel with each other:

1. briefing construction staff on any buried utilities, sensitive plant or animal species and types of archaeologically sensitive artifacts to watch out for with training on how to appropriately handle an encounter;
2. safety training of construction staff and local first responders;
3. surveying, staking and then securing of the perimeter of each of the areas in which construction will occur;
4. establishing temporary on-site construction trailers, restrooms, waste disposal areas, and power sources (typically portable generators, though portable PV trailers may be employed);
5. installation of temporary storm-water and erosion management controls, including construction entrances;
6. clearing vegetation & performing minor grading followed by and temporary soil stabilization;
7. constructing temporary and permanent access driveways;
8. installation of post construction stormwater management features;
9. receiving and inspecting materials, then establishing temporary laydown areas for storage of materials;
10. surveying and staking of equipment locations;
11. digging of trenches and installation of underground utilities with subsequent temporary stabilization;
12. installation of PV module racking foundations using ground screws, pile drivers, or other equipment, and placement of PV modules on racking;
13. forming, installing reinforcement bars, and then pouring of concrete equipment pads;
14. installation of larger, heavier electric equipment, such as inverters, transformers, batteries, and switchgear, using cranes as needed;
15. installation of smaller electrical equipment, such as conductors, combiner boxes, weather stations, and data acquisition systems, with connection of electrical equipment performed by qualified electricians;
16. installation of plantings and any other landscaping to mitigate visual impacts;
17. final seeding, mulching;
18. removal of temporary erosion & sediment control features once final stabilization is achieved (typically, 80% grass cover, details to be prescribed in the SWPPP);
19. installation of appropriate safety warning signs on electric equipment and perimeter fencing;
20. inspection of substantial completion by project engineers and 3rd party inspectors, as needed, and creation of punchlists of items to be addressed prior to completion;
21. commissioning and performance testing of the facility;
22. safety training of operations staff, as well as local first responders.

It is anticipated that more than 5 acres of soil may be destabilized at some point during construction in order to minimize construction duration and impacts to the community. As such, the SWPPP will most likely include a written request to

disturb more than 5 acres under the SPDES General Permit. The Article 10 application will elaborate on any phasing of construction proposed as a part of the overall design.

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

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

The Applicant will require its contractors to conform to the requirements of the Public Service Commission's regulations regarding the protection of underground facilities (16 NYCRR Part 753) and that the Applicant will become a member of Dig Safely New York. Because the Facility area is rural in nature, rather than a more suburban or urban setting, there are fewer existing utility systems with which the Facility may interfere. The first step in avoidance of interference with existing utility systems is to identify those entities that have utilities within the Facility Site. Known utilities with assets will receive updates and notifications pertaining to the Facility. The Applicant will also talk 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.

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 Central Hudson Gas Transmission System and Iroquois Gas Pipeline which run through the Facility Site. Additionally, the approved Champlain Power Express Line is expected to be buried within CSX ROW and be in service by 2022; though it is not anticipated that the Facility would require any digging within the CSX ROW, construction efforts may need to be coordinated. Data 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. Post-construction the Applicant will register with one-call to ensure that its utilities and any underground collection lines are registered so that they are not impacted by future earth work.

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

2.12.2 Proposed Content of the Application

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

(a) Preliminary Quality Assurance and Control Plan

1001.12(a) shall include:

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

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

(b) Conformance with Public Service Commission Requirements

1001.12(b) shall include:

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

ii. A statement from a responsible company official that the Applicant will comply with pole numbering and marking requirements, as implemented by 16 NYCRR Part 217.

(c) Plans to Avoid Interference with Existing Utility Systems

1001.12(c) shall include:

i. Preliminary plans and descriptions indicating:
   - Design, location, and construction controls to avoid interference with existing utility transmission and distribution systems,
   - Locations and typical separations of proposed facilities from existing electric, gas, and telecommunications infrastructure, and
   - Measures to minimize interferences where avoidance cannot be reasonably achieved.

ii. A section regarding consultations with pipeline owners operating gas pipelines in the Facility Area. The following will be included in this section, incorporating and listing any requirements or recommendations from the pipeline owners operating gas pipelines in the Facility Area:
   - A description of design and proper layout of the proposed Facility to avoid effects on existing pipeline integrity and right-of-way.
   - An explanation of potential protection measures of pipelines, indicating agreement by specific pipeline owners; typical details of any potential protection measures showing proposed Facilities relative to existing pipeline locations (will also be included as part of the drawings in Exhibit 11).

iii. Final design of any layouts and protection measures regarding existing pipelines will be submitted to DPS as a compliance item upon completion of design.

(d) Procedures for Addressing Public Complaints and Disputes

1001.12(d) shall include a formal Complaint Resolution Plan, which includes specification for commitments for public notification of upcoming construction activities, addressing public complaints, and procedures for dispute resolution during Facility construction and operation. The complaint resolution plan will be easily accessed, tracked to time of resolution, include input from construction managers as appropriate, and will clearly define the responsibilities for issue resolution. The complaint resolution process will have assigned personnel to track the resolution of the complaint from the time of receipt, verification, resolution development, implementation and confirmation of resolution. In addition, the Complaint Resolution Plan will:

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

2.13 REAL PROPERTY

2.13.1 Discussion

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

The Article 10 Application will provide a description of parcels that owned or under option by the Applicant for the Facility, including ingress/egress access to public roads, easements for transmission and collection 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 Application will also include a discussion of any property rights or easements, such as conservation easements, which the Applicant proposes to acquire in connection to its proposed mitigation plans, such as grassland habitat, wetlands and/or cultural resources. 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, and for any proposed mitigation efforts which may require acquisition of land rights, and will include in the Application a demonstration that it has obtained or can obtain those interests necessary to construct the Facility and its interconnection(s).

2.13.2 Proposed Content of the Application

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

(a) Real Property Map of Generating Site

1001.13(a) shall include a tax parcel map of the Facility Site and adjacent parcels. The data for the map will be obtained from Greene County GIS (parcels) along with United States Census Bureau (TIGER/line files) and the NYSGIS Clearinghouse that will depict the following:

- The tax parcel IDs for land parcels that are part of, and adjacent to, the Facility Site;
- Current land use and zoning for the parcels that are part of, and adjacent to, the Facility Site;
- Necessary access and utility easements for the Facility;
- Proposed laydown area(s) and O&M building;
- Public roads planned for use as access to the Facility Site; and
- An identification of properties proposed to be acquired in fee ownership by the Applicant.

Ultimately, land surveys will be performed by a qualified land surveyor, in accordance with industry-standard surveying methods.

(b) Real Property Map of Interconnection Facilities

1001.13(b) shall include maps showing all proposed interconnection facilities and associated access drives/laydown areas, including land owned by or under contract to the Applicant.

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

1001.13(c) shall include:

i. A demonstration that the Applicant has obtained title to or a leasehold interest in the Facility Site, including ingress and egress access to a public street, or is under binding contract or option to obtain such title or leasehold interest, or can obtain such title or leasehold interest.

ii. An identification of crossing and easement rights for public roads, if applicable.

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

1001.13(d) shall include a statement that the Applicant has or will obtain the necessary property rights (deeds, easements, leases licenses, or other real property rights or privileges) for the Facility interconnect(s).

(e) Improvement District Extensions

1001.13(e) shall include an identification of any improvement district extensions necessary for the Facility and a demonstration that the Applicant has obtained or can obtain such extensions. At this time, it is not anticipated that improvement districts would need to be extended in connection with the Facility.

2.14 COST OF FACILITIES

2.14.1 Discussion

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

2.14.2 Proposed Content of the Application

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

(a) Total Capital Costs

1001.14(a) shall contain an estimate of the total capital costs of the Project and will include development costs, construction design and planning, equipment costs, and construction costs, and will be broken down by:

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

(b) Source of Cost Estimates

1001.14(b) shall include a cost estimate based on the Applicant's historical experience, historical and current price quotes, and solar industry standards.

(c) Work Papers

1001.14(c) shall include an internal work paper that describes the assumptions in estimating the total capital costs as described above in (a).

2.15 PUBLIC HEALTH AND SAFETY

2.15.1 Discussion

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

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, as has been well-established in scientific research and literature, air pollution and climate change have significant impacts on human health and the environment.

New York State's 2015 State Energy Plan involves reducing Greenhouse Gas (GHG) emissions from the energy sector, highlighting those efforts as critical to protecting the health and welfare of New Yorkers. Clean air is essential to New Yorkers' health and quality of life. New York's energy system is the source of many benefits for New Yorkers; however, it is also the cause of significant impacts on the State's natural resources and public health, principally because of

emissions of a variety of substances, some of which find their way into water and other resources. Air pollutants emitted when carbon-based fuels are burned are associated with serious health conditions and contribute to climate change that threatens New York's residents and natural resources. Combustion of fossil fuels is the dominant source of energy-related emissions. The kinds of health risks associated with the combustion of carbon-based fuels are not associated with solar, wind 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.

As mentioned above, one of the advantages of producing electricity from photovoltaic modules is that it does not produce any emissions during operation. In addition, solar facilities produce a minimal amount of liquid and solid wastes during construction. The Application will include a discussion of disposal methods for the limited waste generated by construction or operation of the Facility, along with the end-of-life disposal of the modules, and how this disposal will be handled in accordance with all applicable laws and regulations pertaining to such wastes.

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), Greene County, the Towns of Coxsackie and Athens for the planning and review of the Facility, and other stakeholders. 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. 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 driveways, collection lines, collection substation and the point of interconnect facility). Additional detail regarding the commitment of resources for the construction and operation of the Facility will be included in the Article 10 Application.

In the Applicant's experience, when a project, such as the Facility, is properly sited and designed, significant impacts to public health and safety typically do not occur. The Article 10 Application will include a detailed evaluation on potential impacts to public health and safety. 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. However, the Applicant will present mitigation measures in the Application, such as a Complaint Resolution Plan, that are proposed to offset any potential impacts.

The Article 10 regulations require the assessment of potential risks associated with the construction and operation of the Facility. In addition, stakeholders identified concerns that the Facility had the potential to generate heat which would radiate onto nearby properties. The Application will discuss the available research and information related to this concern, including whether it has been observed at other solar facilities and whether it is anticipated to occur. Public health issues associated with the construction of the Facility are comprised of typical risks associated with commercial construction projects. The Applicant will demonstrate that the aforementioned risks have been identified and evaluated.

2.15.2 Proposed Content of the Application

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

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

With respect to construction, the generation of waste is primarily limited to byproducts and wastes from standard construction procedures and 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. The materials would be collected and separated for recycling, wherever possible. Any defective or broken solar modules would be returned to the manufacturer for proper disposal in accordance with federal and state law. If the Facility will have on-site wastewater treatment, the Applicant will consult NYSDOH regarding any potential approvals required for any on-site treatment of wastewater or sanitary waters, and that information will be included.

O&M activities would consist of routine maintenance and emergency work at the Facility. These activities would generate minimal solid waste. With respect to operations, the generation of waste is primarily limited to cardboard packaging and vegetation from maintenance.

One of the advantages of producing electricity from solar is that it does not produce gaseous wastes during operation, and a minimal amount of liquid and solid wastes during construction

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

This is not applicable to solar facilities.

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

This is not applicable to solar facilities.

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

Procedures for Collection, Handling, Storage, Transport, and Disposal of construction of waste will be detailed in the Application.

(e) Wind Power Facility Impacts

This is not applicable to solar facilities during the 30-40 years of operation. However, at the end of their useful life the PV modules will need to be removed and disposed of and/or recycled in accordance with best practices. Wind Power Facility Impacts

(f) Public Health and Safety Maps

Maps of the study area and analysis showing relation of the proposed Facility Site to the following:

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

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

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

As indicated above in subsections (a) through (d), the Facility is not expected to result in any significant environmental, public health or safety concerns. Solar energy facilities are safer than conventional forms of energy production, since significant use and storage of combustible fuels are not required.

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

The Article 10 Application will address 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 Article 10 Application will address any irreversible and irretrievable commitment of resources that would be involved in the construction and operation of the Facility.

(j) Impact Minimization Measures

Additional detail regarding any measures proposed by the Applicant to minimize public health and safety impacts, if any.

(k) Mitigation Measures

Any measures proposed by the Applicant to mitigate or offset any impacts, to the extent impacts are anticipated. This will include reference to a Complaint Resolution Plan, which will outline communications protocols and contacts for construction and operation; procedures for registering a complaint; a process for gathering an analyzing information about complaints; tracking and follow up mechanisms.

(l) Proposed Monitoring

Any monitoring of impacts proposed by the Applicant. 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, Control and Countermeasures (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

2.17.1 Discussion

The Facility will produce electricity without generating any air emissions. Global climate change has been recognized as one of the most important environmental challenges of our time (NYSCAC, 2010; NYSDEC, 2009, 2010). There is scientific consensus that human activity is increasing the concentration of greenhouse gases ("GHG") in the atmosphere and that this, in turn, is 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 2030.6 In addition, on August 1, 2016, in accordance with the statutory obligation that agency actions must be reasonably consistent with the most recent SEP, the Public Service Commission adopted the SEP's goals that 50% of New York's electricity is to be generated by renewable sources by 2030 as part of a strategy to reduce statewide greenhouse gas emissions by 40% by 2030 and approved the Clean Energy Standard ("CES").

2.17.2 Proposed Content of the Application

(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 ("SO2") emissions from existing sources and nitrogen oxides ("NOx") emission controls on new sources in New York State. SO2 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 SO2 and NOx for environmental and public health benefits. These regulations are also not applicable to the Facility because it will generate electricity without releasing SO2 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

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

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 (O3), CO, and SO2, while the Albany Station measures particulate matter (PM2.5).

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: CO2, NOx, SO2, 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

2.18.1 Discussion

Overall safety and security risks associated with the Facility are anticipated to be minimal. The Applicant has developed, based on its experience (including that of its consultants and contractors) 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 specifically regarding the Facility's Preliminary Emergency Action Plan (EAP), and generally during Facility development to ensure appropriate actions are taken in the event of an emergency.

The Applicant and/or any affiliated company that later takes ownership of the Facility will be responsible for site safety and security during construction and operation. To reduce safety and security concerns, public access to the Facility shall be limited. The Application will provide a Health and Safety Plan which will include preliminary provisions for security during construction and operation of the Facility. The Balance of Plant (BOP) contractor and all subcontractors will be required to provide a final site security plan for Facility construction, which will be developed by the BOP contractor prior to construction of the Facility will be provided to the Siting Board upon completion.

The PV modules, inverters, energy storage equipment, and POI substation/switchyard will be contained within perimeter fencing with locked gates. The general public will not be allowed on the construction site and vehicular access will be blocked by fencing and locked gates. Trespassing is generally not an issue during construction and operation of solar facilities. However, if problems arise, video cameras or other surveillance technology may be set up to monitor activity. Security lighting activities associated with Facility construction will include lighting of the POI substation/switchyard. 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. Although none are expected, the Article 10 Application will provide a detailed outline related associated with

setbacks and related to potential safety concerns and associated setbacks. The Article 10 Application will discuss site security measures in additional detail.

The Article 10 Application will provide a discussion on how the Applicant will comply with the North American Electric Corporations (NERC's) Critical Infrastructure Protection (CIP) standards. These mandatory Reliability Standards include CIP standards 001 through 009, which address the security of cyber assets essential to the reliable operation of the electric grid. To date, these standards (and those promulgated by the Nuclear Regulatory Commission) are the only mandatory cybersecurity standards in place across the critical 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 Application will also include a Preliminary Emergency Action Plan (EAP) which will outline the safety plans of the Facility throughout its lifecycle. The EAP will be made available to all employees of the BOP and all subcontractors or authorized visitors to the Facility Site and will outline the procedures to follow in the event of an emergency. The information contained in the EAP will be developed in conjunction with local emergency service providers. The plan will be consistent with the response strategies in the Greene County All-Hazard Emergency Operations Plan, though open-ended enough to grow and evolve as first responder organizations change. As requested by Greene County Emergency Service coordinators, the EAP will also include a 1-2 page "quick reference" for use during emergency response. In addition to identifying specific emergencies that could arise at the Facility, the EAP also provides awareness to the following:

- Describe fire containment systems for fires at the substation;
- 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.
- Provide contact details for the Flint Mine Solar personnel responsible for the Facility.

The EAP included in the Article 10 Application will also 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. The EAP will also specify protocols for notifying members of the public in the event of an emergency.

In consultations, Greene County Emergency Service coordinators and local first responders have emphasized the importance of training, particularly for volunteer fire departments. In Greene County, local fire departments are staffed by volunteers from the community, though dwindling numbers in past years have forced some communities to develop special agreements with municipal highway departments to allow for employee response during work hours. It has been recommended that Flint Mine Solar host annual training which is coordinated through the County so that it is available to all fire districts containing the project, as well as all bordering districts that may be called for mutual aid. The County Coordinators agreed that PV technology is relatively well known and mature technology, such that training will draw from curriculum available from the NYS Fire Academy. In the event of large-scale brush fire response, Flint Mine Solar has been in consultation with Cal Fire and plans to base much of the training curriculum off their guideline "Fire Operations for Photovoltaic Emergencies".

Consultation with the County Coordinators also revealed local concerns about the impacts of the CSX rail lines. Local experience suggests that access across the tracks can be blocked for up to 45 min when multiple long freight trains are passing. Based on their feedback, the Applicant will seek to maximize Facility infrastructure to the west side of CSX tracks. In addition to the impacts to access, CSX trains are known to cause sparks and brush fires in locations that are difficult to access, which will be considered as module access plans are designed. The Greene County Hazard Mitigation and Resilience Plan also indicates that in March 2016, development of a Hazardous Cargo Plan was made a priority in order to plan for potential spills along the CSX corridor. The Flint Mine Solar team plans to address the additional hazards of being adjacent to CSX rail lines and incorporate these planning efforts into the project's EAP.

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.

The Facility Site is not located within any part of a city that has a population over one million. Therefore, a review by the local office of emergency management is not required. Nevertheless, the Applicant will coordinate with the Greene County Emergency Services Department and provide to them a copy of the EAP. The EAP, as described above, will also be provided to the local emergency first responders that serve the Facility prior to Application submission. The

Article 10 Application will include details on consultations with relevant stakeholders and local communities, first responders, and emergency service providers regarding construction start and end dates and the safety plans (i.e., Emergency Action Plan, Site Security Plan). For purposes of developing emergency response plans and notification procedures, the Applicant will consult with relevant local, county, and State emergency responders and agencies.

2.18.2 Proposed Content of the Application

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

(a) Preliminary Plans for Site Security During Facility Construction

1001.18(a) shall include preliminary provisions for security during construction in the Health and Safety Plan, which will include site plans and descriptions of the following site security features:

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

(b) Preliminary Plans for Site Security During Facility Operation

1001.18(b) shall include a preliminary plan for site security of the proposed Facility during operation, including site plans and descriptions of the following site security features:

i. Access controls including fences, gates, bollards and structural limitations;
ii. Electronic security and surveillance facilities;
iii. Security lighting, including specifications for lighting and controls to address work-site safety requirements to avoid off-site light trespass;
iv. Lighting of facility components to ensure aircraft safety
v. Setback considerations for Facility components which may present hazards to public safety; and
vi. A description of cyber security program for the protection of digital computer and communication systems and networks that support the Facility demonstrating compliance with current standards issued by a standards setting body generally recognized in the information technology industry, including, but not limited to, the federal Department of Commerce's National Institute of Standards and Technology, the North American

Electric Reliability Corporation, or the International Organization for Standardization, and providing for periodic validation of compliance with the applicable standard by an independent auditor.

(c) Preliminary Safety Response Plan

1001.18(c) shall include a Preliminary Emergency Action Plan (EAP) to ensure the safety and security of the local community. This plan will include:

i. Identification of Contingencies that Would Constitute an Emergency
ii. Emergency Response Measures by Contingency
iii. Evacuation Control Measures by Contingency
iv. Community Notification Procedures by Contingency

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

1001.18(d) shall include a 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

1001.18(e) shall include a statement that the Applicant has provided a copy of the plans required in Sections (a), (b), and (c) above to, and requested review of such plans and comment by the local office of emergency management, if the Facility is to be located within any part of a city with a population over one million.

(f) On-site Equipment to Respond to Fire Emergencies or Hazardous Substance Incidences

1001.18(f) shall include a detailed list of all equipment available for preventing or responding to fire emergencies or hazardous substance incidences.

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

1001.18(g) shall include a description of all contingency plans to be implemented in response to the occurrence of a fire emergency or a hazardous substation incident.

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

1001.18(h) shall include a statement that the Applicant has provided a copy of the plans required in Section (c) above, and requested review of such plans and comment by, local emergency first responders serving the area of the Facility Site, and a review of any responses received.

2.19 NOISE AND VIBRATION

2.19.1 Discussion

As will be described in this Section of the Article 10 Application, 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 installed within the interior of the various PV module arrays and some short-lived activities during construction.

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

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

The power generated by the Facility will be collected and routed to a step-up transformer in a new substation associated with the Facility. This substation will be similar in design and operation to other like-sized 34.5/115 kV substations, a typical size for the power industry. The potential noise impact from any substation is essentially a matter of how prominent and audible the tonal sound emissions from the transformer(s) are at the nearest residences, of which there

are few close by. Tones at harmonics of 60 hertz (Hz) are generated by all transformers and are always noticeable as a hum, or buzz close to the unit; however, the prominence of these tonal peaks diminish quickly with distance and disappear into the background as that distance increases. The projected sound levels from the substation will be modeled and included in the Article 10 Application.

Apart from the substation transformer, the only other sound sources of any possible significance are the electrical inverters used to convert locally generated direct current (DC) power into alternating current (AC) power that is then routed to the substation through underground collector cables, as well as to energy storage devices. Typically, the inverter and storage electrical cabinets are situated within and near the center of each solar field, or independent group of solar modules, so they are usually a considerable distance from the perimeter fence and potential neighbors beyond.

A field study of inverter sound emissions at several existing large-scale solar facilities was carried out for the Massachusetts Clean Energy Center, an agency of the State government, in 2007 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 (Guldberg, 2012). Consequently, any conventional solar field layout will likely result in a situation where the inverters are more than 150 feet from any neighbors. Nonetheless, the impact projected sound levels from the inverters will be evaluated. The Application will discuss studies such as this one, and will indicate any significant distinctions between what studies have encountered elsewhere and what is anticipated or proposed for the Facility.

Background sound monitoring surveys during both winter/leaf-off and summer/leaf-on conditions has been or will be carried out to measure the existing sound levels at positions representative of the nearest potentially sensitive receptors to the project substation as the first step in a modified Composite Noise Rating (CNR) analysis to establish the baseline background conditions. In addition, the Article 10 Application will include a noise impact assessment to evaluate the projected sound emissions from the proposed substation and inverters. The sensitive receptors nearest to the substation and inverters will be identified as design points for both ambient sound monitoring and modeling purposes.

If required, the model will be used to determine what noise abatement measures, if any, might need to be incorporated into the Facility design to meet the far field design targets. The analysis will include an assessment of possible tonal noise from the Facility and what steps might need to be implemented to prevent any kind of adverse community impact from these sounds.

2.19.2 Proposed Content of the Application

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

(a) Substation Sound Emissions

A noise impact assessment, as outlined in the following subsections, to evaluate the projected sound emissions from the proposed substation.

(1) Sensitive Sound Receptor Map

A map showing the project's substation and step up transformer in relation to the nearest potentially sensitive sound receptors (residences, schools, hospitals, etc.).

(2) Ambient Pre-Construction Baseline Noise Conditions

Background sound monitoring surveys during both winter/leaf-off and summer/leaf-on conditions to measure the existing sound levels at positions representative of the nearest potentially sensitive receptors to the project substation as the first step in a modified Composite Noise Rating (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 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 of ISO 1996-2:2017(E) Acoustics – Description, measurement of environmental noise, 2017. This method defines prominent discrete tones in terms of the prominence of the 1/3 octave band containing the suspected tone above the average of the neighboring 1/3 octave bands. Prominence/perceptibility is frequency dependent and the thresholds are generally taken as 15 dB for tones below 250 Hz, 8 dB for tones between 250 and 400 Hz, and 5 dB for all higher frequencies.

(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 nearest potentially sensitive receptors around the substation in order to obtain an initial CNR ranking for each location. An A-weighted sound level contour map out to 30 dBA will be provided with 1 dB resolution.

(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

The sound emissions from the proposed inverters will be quantitatively evaluated for any potential community noise impact by modeling the sound emissions to the extent feasible using preliminary site plans or other information on the probable number and locations of inverters. It should be noted that the exact location of every inverter is not typically known or defined early in the design process, but the sound analysis will make sure of the best available information at the time of the assessment and make a conservative analysis based on worst-case scenarios.

(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 in relation to the nearest potentially sensitive sound receptors will be prepared (residences, schools, hospitals, etc.).

(2) Ambient Pre-Construction Baseline Noise Conditions

A background sound monitoring survey, as described in 1001.(a)(2) 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 band spectra on a continuous 10 minute time resolution will be measured over at least a 7-day period. The survey will 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 nearest sensitive receptor to 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 and Vibration

The Article 10 Application will include a description of the planned construction process, such as whether the mounting posts will be driven into the ground or screwed, and an evaluation of the possibility of noise or vibration-related disturbance from any construction phase or activity.

2.20 CULTURAL RESOURCES

2.20.1 Discussion

The Facility Site and surrounding vicinity include numerous archaeological sites associated with Pre-Contact period (from approximately 13,000 years ago to approximately 500 years ago) Native American groups who exploited the abundant exposures of Mount Merino/Normanskill chert present in the local hills and ridges for stone tool production. These groups also made camps on the flats and lower hills and ridges throughout the area. Portions of the Facility Site are located within the Flint Mine Hill Archaeological District, which is listed in the National Register of Historic Places (or, NRHP).

The Applicant believes that the Facility can be installed with minimal impacts to archaeological resources by incorporating the site design and construction elements described herein that minimize the need for soil disturbance and conducting Phase 1B archaeological survey in areas where significant ground disturbance is proposed. In addition to the low-impact nature (relative to other types of energy generation) of utility-scale solar facilities, the Applicant is exploring construction methodologies which will minimize soil disturbance during the construction and maintenance of the Facility (such as use of an aboveground electrical collection system or restricting trench excavations to 1-foot-width, where feasible). Furthermore, the Applicant is currently evaluating the feasibility of purchasing the 62.5-acre portion of Flint Mine Hill currently owned by the Southold Indian Museum, to transfer the property into a permanent conservation easement (or similar). The permanent preservation of this significant and unique archaeological site would further mitigate potential impacts to archaeological resources that could result from construction of the proposed Facility.

The Applicant has initiated formal consultation with the NYSOPRHP via an in-person meeting held on February 9, 2017 at the offices of the NYSOPRHP, Division for Historic Preservation in Peebles Island, NY. A follow-up meeting occurred at the NYSOPRHP's Peebles Island Office on March 13, 2017. This meeting included representatives from the NYSOPRHP, the New York State Department of Environmental Conservation (NYSDEC), and the Stockbridge-Munsee Band of Mohican Indians (SMBMI). During these meetings, the Applicant described the intended location and scope of the Facility and acknowledged the archaeological sensitivity of the Facility Site and surrounding area. The Applicant discussed various ideas and options of minimizing impacts to archaeological resources, including consideration of design elements and construction methods (e.g., minimizing the need for trenching for collection lines) that would help to minimize potential soil disturbance. In addition, the Applicant suggested their interest in potentially acquiring or otherwise assisting with the transference of a portion of the nearby Flint Mine Hill archaeological site to create a permanent conservation easement, or similar, for the site.

On July 21, 2017 the Applicant, EDR, and representatives from the NYSOPRHP, SMBMI, NYSDEC, Southold Indian Museum, and the Archaeological Conservancy met at the Facility Site. During the site visit, attendees discussed the conceptual site layout and design, including roads, collection lines, the switchyard location, and other Facility components; as well as avoidance, minimization, and mitigation options. In addition, the Southold Indian Museum hosted a tour of the nearby Flint Mine Hill archaeological site, which they currently own. At the conclusion of the site visit, the Applicant discussed potential cultural resources mitigation projects with the Southold Indian Museum and the Archaeological Conservancy. This included consideration of potentially transferring ownership of the portion of the Flint Mine Hill site that is currently owned by the Southold Indian Museum to the ownership of the Archaeological Conservancy as a means to mitigate potential impacts to archaeological resources that could result from soil disturbance during construction of the Facility.

As described in Section 2.24 of this PSS, visibility of the Facility from surrounding areas is anticipated to be very limited. Therefore, the Facility is not anticipated to result in significant effects on the visual setting associated with historic properties in the surrounding area.

2.20.2 Proposed Content of the Application

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

(a) Archaeological Resources

The Article 10 Application will contain an analysis of the potential impacts of the construction and operation of the Facility on archaeological resources.

(1) Summary of Impacts and Avoidance Measures

The Applicant will seek to avoid impacts to archaeological sites identified within the Facility Site. Due to the low-impact nature of utility-scale solar facilities, the NYSOPRHP has developed Phase 1B archaeological survey recommendations specific to these types of projects. These recommendations include archaeological testing of areas proposed for significant ground disturbance, i.e., access driveways, facilities, retention ponds, staging areas, utility trenches over a foot wide, drainages over a foot wide, and areas of grubbing and grading. If no grubbing or grading occurs, the NYSOPRHP does not recommend archaeological testing of PV module arrays, perimeter fencing, or utility poles, if the associated posts are driven into the ground. Due to the archaeologically sensitive nature of the Facility Site, the Applicant is committed to minimizing soil disturbance associated with the proposed Facility to minimize impacts to archaeological resources. This includes pursuing the possibility of installing an aboveground electrical collection system via conduits on the ground surface or on ballast blocks. The Applicant is currently evaluating the feasibility, safety, compliance with applicable codes/standards, and expense of installing the medium voltage conductors between the fenced PV arrays (i.e., outside the fenced arrays) in trenches (i.e., buried), in conduits on the ground surface, and/or as overhead lines mounted on pole structures. Solar modules will be installed on a low-profile racking system, which typically consists of foundation posts driven or screwed into the ground, without the need for excavation, concrete, or other foundations. Limited grading may be necessary in a small subset of the Facility Site; however, the Applicant will seek to minimize the need for grading wherever possible, especially in fields where buried cultural resources may be present.

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

(2) Phase 1A Cultural Resources Study

The Applicant prepared a *Phase 1A Archaeological Sensitivity Assessment* (Appendix E), which will be submitted through the NYSOPRHP's Cultural Resource Information System (CRIS) in the immediate future. The purpose of the Phase 1A archaeological sensitivity assessment 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; and, 3) propose a methodology to identify 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. 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 NYSOPRHP's *Phase I Archaeological Report Format Requirements* (NYSOPRHP, 2005).

(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's *Phase I Archaeological Report Format Requirements* (NYSOPRHP, 2005) and the New York Archaeological Council's (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.

Due to the low-impact (relative to other industrial-scale energy facilities) nature of industrial-scale solar facilities, the NYSOPRHP has developed Phase 1B archaeological survey recommendations specific to solar energy projects. These recommendations are as follows:

> "Phase IB archaeological testing is recommended for the locations of proposed roads, facilities, retention ponds, staging areas, utility trenches over a foot wide, drainages over foot wide, and areas of grubbing and grading.
>
> Phase IB archaeological testing is NOT recommended for PV module arrays, perimeter fencing and utility poles if their associated posts are driven into the ground and no grubbing or grading is involved. However, if the installation of the PV module array supports, fencing or utility poles requires excavation or grubbing and grading then Phase IB archaeological testing is recommended."[8]

The Applicant is committed to reducing impacts to archaeological resources wherever possible by utilizing construction/installation methods designed to minimize ground disturbance, including pursuing the possibility of installing an aboveground electrical collection system. In addition, conducting a Phase 1B survey consistent with

[8] Standard language included in NYSOPRHP review letters recommending Phase 1B archaeological surveys for solar energy projects in New York state.

NYSOPRHP's standard recommendations for solar projects would provide an adequate basis for identifying archaeological resources which may be impacted by the Facility. Per NYSOPRHP's recommendations, the Facility's substation, access driveways, electrical inverters, and temporary laydown areas would undergo archaeological survey, while the PV module arrays would only undergo archaeological survey in areas where grubbing or grading was necessary for their installation. Survey for the electrical collection system would occur if its installation is below ground. Survey methods would consist of the excavation of shovel tests along a 50-foot (15-meter) grid and a pedestrian survey, where applicable, in accordance with *the NYAC Standards* (NYAC, 1994).

(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 2 archaeological site investigation (in consultation with NYSOPRHP) will be conducted. 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. 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, 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 landowner, 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 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), suitable for accessioning to the New York State Museum (in 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 is committed to completing a Historic Resources Survey and associated report. No survey work has been conducted at this time. The purpose of the historic 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.

<u>Area of Potential Effect Relative to Historic Architectural Resources</u>

The Facility is not anticipated to have any 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 module 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 module 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") for many utility-scale energy projects (such as wind projects) is typically 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). However, as described in Section 2.24 of this report, visibility of the Facility is anticipated to be very limited to areas immediately adjacent to the Facility Site. It is anticipated that the historic resources survey for the Facility will be limited to those areas with potential visibility of the Facility, as determined by GIS-based viewshed analysis.

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 Applicant will conduct a historic resources survey of the Facility's APE for Indirect Effects. 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.

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 are identified that appear to satisfy S/NRHP-eligibility criteria, the existing conditions of the property will be documented by an architectural historian. This will include 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,[9] 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 database. 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.

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

Construction of the Facility is not anticipated to 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 module arrays or a substation) in the visual setting associated with a given historic resource.

Following NYSOPRHP's review of the historic resources survey results 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. 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 and will include visual simulations where appropriate. The visual effects analysis will also include

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

recommendations regarding potential cultural resources mitigation projects, as appropriate. The historic resources effects analysis will be provided to NYSOPRHP via the CRIS database and provide the basis for the evaluation of potential visual effects on historic resources included in Exhibit 24 (Visual Impacts) of the Article 10 Application. The completed historic architectural resources effects analysis will be submitted as part of the Article 10 Application.

2.21 GEOLOGY, SEISMOLOGY, AND SOILS

2.21.1 Discussion

The Exhibit will include a study of the geology, seismology, and soils conditions on the Facility Site, and potential impacts of the Facility construction and operation on said conditions, if any are anticipated. The Exhibit will consist 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. Preliminary areas for Facility development have been identified (see Figure 3 of this PSS) and Facility design and layout is currently ongoing.

The Facility Site is located within the Hudson-Mohawk Lowlands physiographic province of New York State. Greene County's elevation ranges from 10 feet along the banks of the Hudson River to approximately 4,000 feet in the southern portion of the county. The Hudson-Mohawk Lowlands province in Greene County is characterized by low hills and low relief caused by glacial deposits. The County contains mountains in the southwestern part of the county and rounded hills and evidence of glacial till, and outwash deposits in the remainder of the county. The majority of the county lies on consolidated bedrock of sedimentary origin with unconsolidated surficial deposits of alluvial or glacial origin (USDA, 1993).

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 6% and 10% of standard gravity. Records indicate that there have been no earthquakes in Greene County since 1973 (DHSES, 2014). 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 (USGS, 2018).

The Soil Survey of Greene County, New York (USDA, 1978) indicates that the Facility Site predominantly consists of two General Soil Associations. These are the Arnot-Lordstown, Kingsbury-Rhinebeck, and associations. From these associations, there are six individual soil map units within the Facility Site. The Arnot-Lordstown and Kingsbury-Rhinebeck associations comprise approximately 65% of the soils within the Facility Site. General descriptions of these associations are provided in Table 3 below.

Table 3. Soil Associations and their characteristics within the Facility Site.

Soil Series	Main Characteristics
Arnot-Lordstown	• Shallow and moderately deep • Somewhat excessively drained to moderately well drained • Nearly level to very steep slopes
Kinsbury-Rhinebeck	• Very deep • Nearly level to very steep • Moderately well drained and somewhat poorly drained • Fine texture

Source: Soil Survey of Greene County (USDA, 1993)

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 condition data. The majority of excavation activities will be associated with POI substation/switchyard construction, while additional excavations will likely be associated with other aspects of Facility construction in specific locations. For example, it is anticipated any 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. Stormwater facilities and conveyance will require excavation and grading to accommodate the drainage of surfaces at or near specific locations as needed using small scale excavators and backhoe equipment.

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

segregated and maintained. Stockpiled soils along the construction corridors will be used in site restoration, and all such materials will be re-graded to smooth out or otherwise mimic pre-construction contours. The impacts of the construction and operation of the Facility on regional geology will be evaluated in the Article 10 Application.

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.

The Applicant will include a Preliminary Geotechnical Investigation, which will include the following:

- Test borings at a sub-set of PV racking locations and the substation/switchyard locations. In addition, deep tests will be conducted at proposed locations for stormwater management facilities.
- Literature review and obtaining publicly available data regarding surface and subsurface soil, bedrock, and groundwater conditions
- Laboratory testing of soils for chemical properties
- 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 and test borings to be completed at a subset of PV mount and substation/switchyard locations. In addition, before construction commences, the Applicant will conduct a site survey 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.

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

2.21.2 Proposed Content of the Application

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

(a) Existing Slopes Map

1001.21(a) shall include a map delineating existing slopes (0-3%, 3-8%, 8-15%, 15-25%, 25-35%, 35% and over) on and within the drainage area potentially influenced by the Facility Site and interconnections 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. The map will include and label surface water features in and around the Facility Site (streams, rivers, lakes, reservoirs). A preliminary Stormwater Pollution Prevention Plan (SWPPP), as identified in 1001.23(c)(1), will describe how and where stormwater from the site discharges and will reference the associated tributaries and other waterbodies that appear on the mapping.

(b) Proposed Site Plan

1001.21(b) shall include a proposed site plan showing existing and proposed contours at 2-foot intervals.

(c) Cut and Fill

1001.21(c) shall include:

i. Preliminary cut and fill calculations based on 2-foot contours, separate calculations for topsoil, sub-soil, and rock will be roughly approximated based on publicly available data from the Greene County Soil Survey and the results of preliminary geotechnical investigations.

ii. A description of typical scenarios that would result in cut and fill necessary to construct the Facility, such as constructing an access driveway on a side slope, will be provided.

iii. Information regarding the identification and removal invasive species will be addressed in Exhibit 22(b) of the Application.

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

1001.21(d) shall include a preliminary calculation of the amount of required fill, gravel, etc. based on the typical Facility details, such as an access driveway cross-section. Calculation will be based on the anticipated amount of material needed. For example an access driveway typical detail will indicate typical width of road and depth of gravel, which will be multiplied by the linear distance of proposed access driveway.

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

1001.21(e) shall include a description and preliminary calculation of the proposed type and amount of cut material or spoil to be removed from the Facility Site and interconnection.

(f) Excavation Techniques to be employed

1001.21(f) shall include:

i. A detailed description of excavation techniques to be employed.

   a. Trenching using chain trenchers, small scale track excavators and backhoes

   b. General land and road grading using bulldozers

   c. Stormwater facility construction including ditching and small ponding areas using similar trenching equipment as above.

ii. If horizontal directional drilling (HDD) is proposed for Facility construction, an evaluation of the feasibility of HDD within the Facility Site will be included in the Application.

   a. An Inadvertent Return (Frac-out) Plan will be provided with the Application if HDD installation methodology is proposed. The Frac-out Plan will establish proposed setbacks of HDD operations from stream banks, drinking water wells, and other known potential sensitive receptors, and include

a description of frac-out mitigation and response measures. The plan will also include a scaled drawing showing typical HDD equipment staging layout and design.

(g) Temporary Cut and Fill Storage Areas

1001.21(g) shall include a delineation of temporary cut or fill storage areas to be employed.

(h) Suitability for Construction

1001.21(h) shall include a description of the characteristics and suitability for construction purposes of the material excavated for the Facility and of the deposits found at foundation level, including factors such as soil corrosivity, bedrock competence, and subsurface hydrologic characteristics.

The Application will also include results of a Preliminary Geotechnical Investigation including:

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

(i) Preliminary Blasting Plan

1001.21(i) shall include a statement that no blasting will be required, if appropriate based on the results and data obtained from the Preliminary Geotechnical Investigation. If blasting is anticipated, a preliminary plan describing all blasting operations will be provided, including:

- Location,
- Minimum blasting contractor qualifications,
- Hours of blasting operations,

- Estimates of amounts of rock to be blasted,
- Warning measures,
- Measures to ensure safe transportation,
- Storage and handling of explosives,
- Use of blasting mats,
- Conduct of a pre-blasting condition survey of nearby buildings and improvements to assess potential impacts, if any, from blasting operations,
- Coordination with local safety officials,
- Maps showing the locations of known and permitted quarries and natural gas wells (and associated infrastructure and existing access roads), and operating status of operating quarries and gas wells, to the extent that information is available to the Applicant,

(j) Potential Blasting Impacts

1001.21(j) shall include an assessment of potential impacts of blasting to environmental features, above-ground structures, and below-ground structures such as pipelines and wells, if blasting is anticipated. The Application will also include a discussion of:

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

(k) Mitigation Measures for Blasting Impacts

1001.21(k) shall include an identification and evaluation of reasonable mitigation measures regarding blasting impacts, including the use of alternative technologies and/or location of structures, and including a plan for securing compensation for damages that may occur due to blasting.

(l) Regional Geology, Tectonic Setting, and Seismology

1001.21(l) shall include a description of the regional geology (including any known or suspected areas of karst topography within the Facility Site), tectonic setting, and seismology of the Facility vicinity.

(m) Facility Impacts on Regional Geology

1001.21(m) shall include an analysis of the expected impacts of construction and operation of the Facility with respect to regional geology, if such can be determined.

(n) Impacts of Seismic Activity on Facility Operation

1001.21(n) shall include an analysis of the impacts of typical seismic activity experienced in the Facility Area based on current seismic hazards maps, on the location and operation of the Facility identifying potential receptors in the event of failure, and if the Facility is proposed to be located near a young fault or a fault that has had displacement in Holocene time, and demonstration of a suitable setback from such fault.

(o) Soil Types Map

1001.21(o) shall include:

i. A map delineating soil types at the Facility using data from USDA NRCS Web Soil Survey, indicating location of Prime Farmland, Prime Farmland if Drained, Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance. Specifically, Prime Farmland, Prime Farmland if Drained, and Farmland of Statewide Importance will be mapped based on data obtained from the Soil Survey Geographic Database (SSURGO), while Unique Farmland and Farmland of Local Importance will be mapped based on consultation with the local NRCS office (assuming the local NRCS office is able to identify the location of such soils). For areas classified as Prime Farmland if Drained, the Applicant will also note whether those areas have existing drainage improvements.

ii. A discussion of the current agricultural use and productivity of farmlands within the Facility Site as informed by local farmers and landowners, and the County Soil and Water District. The Application will identify those agricultural lands which are used for row crops, regularly or in rotation, as well as agricultural lands used for pasture, hay, or other purposes.

iii. The location of drainage tiles will be identified to the greatest extent possible based upon information from landowners and publicly available information, as well as a discussion of potential impacts to drainage tiles and other features.

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

1001.21(p) shall include:

i. A description of the characteristics and suitability for construction purposes of each soil type identified above, including a description of the soil structure, texture, percentage of organic matter, and recharge/infiltration capacity of each soil type and a discussion of any de-watering that may be necessary (although not anticipated) during construction and whether the Facility shall contain any facilities below grade that would require continuous de-watering.

ii. A preliminary geotechnical analysis that will, in general terms, address the suitability and limitations of existing soils and depth to bedrock for the proposed site development including excavation stability, erosion hazard, corrosion potential, and structural integrity. These discussions will be supported by published information of specific soil types and the findings of a limited drilling program (data including soil consistency, composition, density, presence of water/bedrock, etc.) Additionally, these items will also be addressed with discussions pertaining to BMP's that should be employed by the designer/contractor to help minimize potential risks/hazards. Any areas where dewatering is anticipated will be identified and typical dewatering methods will be described. If dewatering is addressed in a separate Exhibit (e.g., Exhibit 23), an appropriate reference to that information will be provided.

(q) Bedrock Analyses and Maps

1001.21(q) shall include maps, figures, and analyses on depth to bedrock, underlying bedrock types, and vertical profiles of soils, bedrock, water table, seasonal high groundwater (using USFWS Online Spatial Geology Data, and the USDA NRCS Web Soil Survey), and typical PV module support structure and inverter foundation depths (which typically require minimal excavation). The maps included in the stand-alone Preliminary Geotechnical Analysis will show all Facility components, including access driveways and interconnections. Vertical profiles will be associated with test boring locations only, and the locations of borings advanced during the preliminary geotechnical investigations will also be identified on maps included with the report. Areas designated for stockpiling of spoils and fill materials will be identified. If spoil materials will be temporarily stockpiled adjacent to access driveway, and trench locations, typical layouts will be provided.

(r) Suitability for Construction Evaluation

1001.21(r) shall include an evaluation to determine suitable building and equipment foundations. This will include the following:

(1) Preliminary Engineering Assessment

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

(2) Pile Driving Assessment

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

(3) Mitigation Measures for Pile Driving Impacts

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

(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

2.22.1 Discussion

The Application will evaluate the Facility's potential impact on ecological resources, including wildlife, grassland habitat, and wetland communities. This evaluation will be based on the results of multiple targeted studies of existing ecological conditions within the Facility Site including avian surveys, plant surveys, reptile and amphibian surveys, invasive species surveys, wetland delineations, and surveys targeting rare or protected species that could occur in the area.

Results from these studies will be supplemented by data gathered from existing databases, review of existing relevant conservation and planning documents, and consultation with local experts and conservation groups. A comprehensive list of all ecological studies and analyses to be conducted, as well as any other sources of information that will be used to complete Exhibit 22 of the Application is provided at the end of this Section.

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

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

Based on information gathered to date by the Applicant in support of this PSS, a summary description of ecological resources within the Facility Site (including land cover, plant communities, wildlife and wildlife habitat, and wetlands) is provided below.

Land Cover

The Facility Site encompasses approximately 1,700 acres of land, and is located in the Hudson River Valley Ecoregion of New York State (Bryce et al. 2010), on relatively flat lands approximately 2 miles west of the Hudson River, and to the east of the Kalkberg Ridge. Aside from the forested areas that occur along low ridges, hills, and adjacent to fields, much of land within the Facility Site has historically been used for agricultural purposes. However, consistent with trends seen across Greene County, many of the fields within the Facility Site have been abandoned or fallowed within the last 30-40 years. The fields that remain in agriculture are used to grow hay and some row crops. Based on a preliminary field evaluation conducted by EDR biologists and Hudsonia Ltd., major land cover types within the Facility Site include forestland, successional old fields, successional shrubland, active hay fields, active crop fields, disturbed/developed land, freshwater emergent wetland, and wooded wetland. These cover types are associated with a variety of plant communities, which in turn provide habitat for wildlife. Table 4 summarizes the land cover types identified by EDR within the Facility Site. These land over types are also mapped on Figure 6.

Table 4. Land Cover Classes Found within the Facility Site.

Land Cover Type	Acres	Percent Cover (%)*
Forest	669	39
Successional Old Field	374	22
Successional Shrubland	230	12
Active Hay Field	194	11
Active Crop Field	80	5
Disturbed/Developed Land	66	4
Freshwater Emergent Wetland	66	4
Woody Wetland	53	3
Total	1,732	100

* Values may not add to 100 due to rounding.

Plant Communities

Forestland represents the largest plant community by area within the Facility Site. Forested areas occur on low ridges, hills, along field edges, and within riparian corridors in this area. As stated above, much of the land in the Facility Site that was historically used for agriculture has been abandoned or fallowed within the last 30-40 years. Consequently, these lands have transitioned into successional grassland and shrubland communities of varying age. In addition, some of the fields that remain in agricultural use are used mostly for hay production, and represent grassland habitat prior to being mowed. The Facility Site also contains a few areas of active row crops, along with freshwater emergent wetland, woody wetland, and disturbed/developed areas around farm buildings and residences. Biologists from EDR and Hudsonia Ltd. conducted on-site evaluations of the vegetative communities and potential wildlife habitat within the Facility Site during the growing seasons of 2017 and 2018. Brief descriptions of the various plant communities within the Facility Site are provided below; additional details and mapping will be provided in the Application.

Upland Mixed Deciduous Forestland

Forestland covers approximately 669 acres (39%) of the Facility Site, and resembles 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 Site, on hilltops, hillsides, low ridges, and in woodlots interspersed among agricultural fields. Species observed during the Field Investigations included red oak, shagbark hickory, sugar maple, white pine, and ash species. Other overstory tree species typically found in the Applachian oak-hickory forest community include white oak, and/or black oak. Mixed with the oaks, usually at lower densities, are pignut hickory, and hop hornbeam (Edinger et. al., 2014). Understory species observed included bush honeysuckle, common buckthorn, eastern red cedar, and staghorn sumac.

Successional Old Field

Successional old fields constitute approximately 374 acres (22%) of the Facility Site. 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). Within the Facility Site, species observed in this community include but are not limited to, Canada goldenrod, reed canary grass, Queen Anne's lace, spotted knapweed, asters, dandelion, and cutleaf teasel. Observed shrub species include dogwoods, arrowwood, raspberries, and eastern red cedar.

Successional Shrubland

Successional shrubland covers approximately 230 acres (12%) of the Facility Site. This community type occurs on sites that have been previously cleared for farming, logging, development or otherwise disturbed (Edinger et. al., 2014). Within the Facility Site, virtually all successional shrubland occurs on former agricultural land that has been abandoned for more than 10 years. Many of these areas have succeeded into red cedar woodland, which is characterized by eastern red cedar trees with grassy meadow remnants between them. Species observed within this community type include dogwoods, wild grape, arrowwood, nannyberry, eastern red cedar, and bush honeysuckles. Invasive shrubs such as multiflora rose, and common buckthorn where also observed.

Active Hay Field

Active hay fields cover approximately 194 acres (11%) of the Facility Site, and are characterized by mixed grasses and broad-leafed herbaceous species, including timothy, orchard grass, alfalfa, clovers, plantains, and dandelion.

Active Crop Field

Active crop fields cover approximately 80 acres (5%) of the Facility Site, and are characterized by a cover of specialty crops for human consumption. Generally, there may be some weeds and low herbaceous vegetation associated with this land use, but overall plant diversity is low.

Disturbed/Developed

Disturbed/developed land constitutes approximately 66 acres (4%) of the Facility Site. Disturbed/developed land within the Facility Site 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, ragweed, burdock, common mullein, and various upland grasses.

Freshwater Emergent Wetland

Freshwater emergent wetland covers approximately 66 acres (4%) of the Facility Site. These areas are typically saturated or inundated, and contain open water in some areas. Vegetation is characterized by a community of hydrophytic vegetation such as narrow-leaf cattail, reed canary grass, sedges, soft rush, and purple loosestrife. Shrub species include willows, silky dogwood, and nannyberry. The Application will present the results of a formal wetland delineation, which may identify and describe additional wetland areas within the Facility Site.

Woody Wetlands

Woody wetland covers approximately 53 acres (3%) of the Facility Site. These wetlands are typically saturated or inundated, and may contain areas of swamp. Vegetation is characterized by trees such as red maple and green ash, with swamp white oak, American elm, gray birch, and eastern hemlock also present in the canopy. Understory vegetation typically included saplings of the above-mentioned species, or shrub species such as dogwood, willows and speckled alder. Herbaceous species observed in forested wetlands included sedges, sensitive fern, and field horsetail. The Application will present the results of a formal wetland delineation, which may identify and describe additional wetland areas within the Facility Site.

The Application will include additional information on plant communities that occur within the Facility Site. This will include detailed mapping of each plant community, as well as information on the approximate age and species composition of successional lands on a parcel-by-parcel basis. The results of an invasive species survey and rare plant assessment will also be included in the Application.

Wildlife and Wildlife Habitat

As described above, the plant communities that occur within the Facility Site include a mix of agricultural, grassland, successional old field, successional shrubland, and forest. Each of these communities represents potential habitat for a variety of wildlife species. The large quantity of successional grassland and shrubland in the Facility Site likely represents habitat for a diverse suite of avian species including sparrows, warblers, and flycatchers. In addition, these open successional areas are known to support raptor species that prey on the small mammal population. A Wildlife and Plant Species Inventory will be included in the Article 10 Application, which will be based on existing data, on-site surveys, and/or the availability of suitable habitat, and will identify species that may occur in the Facility Site at some time during the year.

The Applicant has begun to conduct surveys for the wildlife species that occur within the Facility Site, and the Application will present the results of multiple targeted studies of existing wildlife and wildlife habitat within the Facility Site including breeding bird surveys, wintering raptor surveys, reptile and amphibian surveys, and surveys targeting

rare or protected species that could occur in the area. Results from these studies will be supplemented by data gathered from existing databases, review of existing relevant conservation and planning documents, and consultation with local experts and conservation groups.

Threatened and Endangered Species

In order to assess the potential occurrence of federally-listed threatened and endangered species within the Facility Site, EDR consulted the U.S. Fish and Wildlife Service (USFWS) IPaC system, which aids developers in identifying potential project conflicts with federally-listed threatened and endangered species. According to the IPaC system, the federally-threatened northern long-eared bat (*Myotis septentrionalis* or NLEB) and the federally-endangered Indiana bat (*Myotis sodalis*) potentially occur within the Facility Site. (see results in Appendix F). Review of a separate database maintained by the USFWS indicates that the closest known NLEB winter hibernaculum location is approximately 4.3 miles to the south of the Facility Site. Both the NLEB and Indiana bat utilize forested areas for roosting habitat in summer, and may occur within the Facility Site. However, the majority of Facility components will be preferentially sited in open areas, and significant forest clearing is not anticipated. To the extent that forest clearing will occur, and if potential impacts to bat species are a concern, then such clearing could be conducted in accordance with seasonal restrictions (described below), to avoid potential impacts to both species. Further information on this matter will be included in the Application.

In addition to review of the IPaC system described above, a formal request for information regarding state- and federally-listed endangered and threatened species within the Facility Site was sent to the New York Natural Heritage Program (NYNHP) on October 25, 2017. The response received from the NYNHP on November 11, 2017, indicated that two bird species, the state-endangered short-eared owl (*Asio flammeus*) and the state-threatened northern harrier (*Circus cyaneus*) have been documented at various locations within the Facility Site. (see correspondence in Appendix F). In addition, the NYNHP response indicated that the state-threatened NLEB has been documented within 5 miles of the Facility Site, and the state-threatened stiff-leaf goldenrod (*Solidago rigida var. rigida*) has been identified adjacent to the Facility Site. A description of each species listed by both the USFWS IPaC and NYNHP response letter is provided below.

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

The NLEB is a primarily forest-dependent species that is both federally and state listed as threatened. This species utilizes a diversity of forest habitats for roosting, foraging, and raising young. NLEBs emerge at dusk to feed, primarily utilizing the forest understory (USFWS, 2015). These bats do not forage in intensively harvested stands or open agricultural areas, generally restricting movement to intact forests (Patriquin & Barclay, 2003). They are known to forage under the forest canopy at small ponds or streams, along paths and roads, or at the forest edge (Caire et al.,

1979). Females have been reported to move up to 6,500-feet and males up to 3,300-feet between roost sites (Broders et al., 2006).

The USFWS issued a final 4(d) rule for the NLEB (effective February 16, 2016), which indicates that incidental take is prohibited if it occurs within a hibernaculum site. The final 4(d) rule also prohibits incidental take of NLEB resulting from tree removal activities within a quarter-mile of a hibernaculum or from activities that cut down or destroy known occupied maternity roost trees, or any other trees within 150 feet of a known maternity roost tree between June 1 and July 31. In addition, the NYSDEC has issued its own set of NLEB protection measures, which if adhered to, negate the need for a take permit from the NYSDEC under 6 NYCRR Part 182. The NYSDEC measures place restrictions on tree clearing activities between April 1 and October 31 if the proposed activity is within 5 miles of an occupied winter hibernaculum or 1.5 miles of a documented summer occurrence.

As described above, a USFWS database indicates that the closest known NLEB winter hibernacula location is approximately 4.3 miles south of the Facility Site. While only approximately one third of the southern portion of the Facility Site is within 5 miles the nearest hibernacula, tree clearing conducted throughout the entire Facility Site could be planned to conform with the above mentioned NYSDEC protection measures.

Indiana Bat

The range of the Indiana Bat extends from the Midwest to northeastern and southeastern parts of the United States. The species typically hibernates in caves/mines in the winter and roosts under bark or in tree crevices in the spring, summer, and fall. Suitable potential summer roosting habitat is characterized by trees (dead, dying, or alive) or snags with exfoliating bark, containing cracks that could potentially be used as a roost. Indiana bats are known to forage in a wide variety of habitats, including wetlands, although they appear to stay fairly close to tree cover (USFWS, 2016). Due to the fact that tree clearing will occur during the winter months, impacts to the Indiana bat are not anticipated from construction and operation of the Facility.

Short-eared Owl

Short-eared owls are small to medium sized owls that prefer open areas such as grasslands, including hayfields, fallow farm lands, and pastures. Short-eared owls detect prey by coursing open areas while flying low over the ground but have also been observed hunting from a perch. Their diet consists of small rodents, primarily voles, but can also include other 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. A limiting factor for short-eared owls is their dependency on rodent populations (NYNHP, 2015a). The NYNHP response letter indicates that short-eared owls have been observed within the Facility Site. Additional information on consultation with the NYSDEC and studies for this species conducted by the Applicant is provided below.

Northern Harrier

The northern harrier is a slim, medium-sized hawk with long broad wings, long legs and tail. Their diet consists of rodents and small birds. Northern harriers use a wide range of habitats including open grasslands, shrubland, and salt and freshwater marshes. Nests are built of grasses and sticks on the ground in grassland or marshes, usually in dense cover. Northern harriers are confirmed breeders in the western Great Lakes plain, open habitats of the Adirondacks, western Finger Lakes, Long Island, and the Hudson, St. Lawrence, and Lake Champlain valleys. Their winter range is similar, depending on prey abundance and snow cover. Associated ecological communities include agricultural land, successional old field, marshes, and successional shrubland. (NYNHP, 2015b). The NYNHP response letter indicates that northern harriers have been observed within the Facility Site. Additional information on consultation with the NYSDEC and studies for this species conducted by the Applicant is provided below.

Stiff-leaf Goldenrod

Stiff-leaf goldenrod is a tall, stiffly erect goldenrod with a thick fuzzy stem that usually grows between 1 and 1.5 meters tall. This species is easily distinguished from other goldenrods due to its characteristic inflorescence and stiff leaves that are hairy and ovate to elliptical. Stiff-leaf goldenrod grows mostly in open areas such as successional fields, grassland habitats, and forest edges. The species prefers dry, alkaline soils, often with a large quantify of loose stone such as shale. In New York State, the stiff-lead goldenrod has a bimodal distribution, that includes the Niagara Escarpment and Calcareous or circumneutral areas within the Hudson Valley. The most significant threat to stiff-leaf goldenrod is habitat loss due to development, and succession of grasslands and old field habitats into habitats dominated by more woody species (NYNHP, 2015c). The Application will present the results of a rare plant survey conducted by qualified botanists, and will evaluate the potential for any impacts to this species, if it is present within the Facility Site.

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

- **Winter Raptor Concentration Area (WRCA)**: The WRCA largely occurs throughout the flat, open, lands between the Hudson River and New York State Interstate 87 in the Town of Coxsackie. This area has been identified as important winter foraging and roosting ground for multiple raptor species, including the short-eared owl and northern harrier. Some lands within the Facility Site occur within the WRCA.

- **Calcareous Talus Slope Woodland**: This community occurs along Hans Vosen Kill, which borders the southwestern portion of the Facility Site, and is characterized by high species diversity, few exotic species, and limited disturbance.
- **Calcareous Cliff Community**: This community also occurs along Hans Vosen Kill, and is characterized by moderately high cliffs that are in good condition and that support good habitat diversity.

With respect to the calcareous slope and cliff communities described above, construction and operation of the Facility is not anticipated to impact these areas. Both communities occur outside of the Facility Site Boundary, and Facility components will be preferentially sited in existing disturbed areas, and to avoid steep slopes. The Application will provide mapping of these communities relative to a detailed Facility layout.

With respect to the WRCA, and the associated short-eared owl and northern harrier identified by the NYNHP as occurring within the Facility Site, the Applicant has initiated consultation with the NYSDEC regarding potential impacts to these species, and the need for winter surveys within the Facility Site. These discussions occurred during meetings with staff at NYSDEC's Central Office on May 21, 2017 and January 24, 2018. At these meetings, NYSDEC staff indicated that the NYSDEC has and continues to conduct surveys for wintering raptors throughout the WRCA, and that short-eared owls and northern harriers have been observed within some parcels of the Facility Site.

In order to supplement the NYSDEC's surveys, and to assess areas of the Facility Site not previously surveyed by NYSDEC, the Applicant conducted winter raptor surveys targeting short-eared owls and northern harriers from early January to early April, 2018. The scope and methodology for these surveys was developed in coordination with NYSDEC staff. In addition, the Applicant has conducted a detailed analysis of potential habitat and habitat quality for these species within the Facility Site. The survey results will be combined and summarized into reports that will be provided and discussed within the Application. In addition, the Application will utilize winter raptor survey data collected by the NYSDEC over the last decade to contextualize the results of the Applicant's surveys, and to provide an analysis of potential impacts to the northern harrier and short-eared owl, including avoidance, minimization, and mitigation efforts undertaken by the Applicant.

As stated above, the Facility Site comprises approximately 1,700 acres of land. However, Facility components will ultimately be sited on approximately 600 acres, within which there will remain a large measure of open space in between rows of PV modules, and in the buffer areas around the perimeter. The remaining lands within the Facility Site will be undeveloped due to a combination of ecological resource avoidance, setbacks, and engineering constraints. In addition to avoiding wetlands, the Applicant intends to preserve and manage significant areas of grassland habitat within undeveloped areas of the Facility Site for the benefit of avian species including the northern harrier and short-eared owl. These areas will include habitat currently identified as valuable to both species, as well as lands succeeding

out of grassland that can be restored to high quality habitat. The Article 10 Application will include a comprehensive land management plan for the entire Facility Site, which will incorporate the findings and recommendations from all ecological studies and consultation conducted in support of the Application.

Table 5. List of Species Referenced in this PSS

Common Name	Scientific Name	Common Name	Scientific Name
Mammals		**Forbs and Grasses**	
Northern long-eared bat	*Myotis septentrionalis*	Canada goldenrod	*Solidago canadensis*
Indiana bat	*Myotis sodalis*	Queen Anne's lace	*Daucus carota*
Birds		Spotted knapweed	*Centaurea maculosa*
Short-eared owl	*Asio flammeus*	Aster spp.	*Symphotrichum spp.*
Northern harrier	*Circus hudsonius*	Dandelion	*Taraxacum officinale*
Trees		Cutleaf teasel	*Dipasacus laciniatus*
Red oak	*Quercus rubra*	Alfalfa	*Medicago sativa*
Black oak	*Quercus velutina*	Clover	*Trifolium repens*
White oak	*Quercus alba*	Plantains	*Plantago lanceolata*
Swamp white oak	*Quercus bicolor*	Thistle	*Cirsium spp.*
Shagbark hickory	*Carya ovata*	Ragweed	*Ambrosia spp.*
Pignut hickory	*Carya glabra*	Burdock	*Arctium spp.*
Sugar maple	*Acer saccharum*	Common mullein	*Verbascum thapsus*
Red Maple	*Acer rubrum*	Narrow-lead cattail	*Typha angustifolia*
White pine	*Pinus strobus*	Purple loosestrife	*Lythrum salicaria*
Eastern hemlock	*Tsuga canadensis*	Sensitive fern	*Onoclea sensibilis*
Eastern red cedar	*Juniperus virginiana*	Field horsetail	*Equisetum arvense*
Gray birch	*Betula populifolia*	Stiff-lead goldenrod	*Solidago rigida var. rigida*
Hop hornbeam	*Ostrya virginiana*	Meadowsweet	*Filipendula ulmaria*
American elm	*Ulmus americana*	Reed canary grass	*Phalaris arundinacea*
Ash spp.	*Fraxinus spp.*	Timothy	*Phleum pratense*
Green ash	*Fraxinus pennsylvanica*	Orchard grass	*Dactylis glomerata*
Shrubs		Sedges	*Carex spp.*
Bush honeysuckle	*Lonicera morrowii*	Soft Rush	*Juncus effusus*
Common buckthorn	*Rhamnus cathartica*		
Staghorn sumac	*Rhus typhina*		
Arrowood	*Viburnum dentatum*		
Nannyberry	*Viburnum lentago*		
Dogwood spp.	*Cornus spp.*		
Silky dogwood	*Cornus amomum*		
Speckled alder	*Anus incana*		
Willow spp.	*Salix spp.*		
Multiflora rose	*Rosa multiflora*		

Common Name	Scientific Name	Common Name	Scientific Name
Wild grape	*Vitus riparia*		
Raspberries	*Rubus spp.*		

Wetlands

As described above, the Facility Site includes areas of freshwater emergent wetland. Many of these wetlands occur in abandoned agricultural fields and active hay fields along drainage swales and in wet meadow communities. These wetlands are typically dominated by herbaceous vegetation, including reed canary grass, soft rush, sedge species, narrow-leaf cattail, purple loosestrife, 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.

Scrub-shrub wetlands have also been identified in their respective ecological communities. Scrub-shrub wetlands observed during the field investigations were characterized by dense stands of shrub species less than 20 feet tall, including silky dogwood, viburnums, green ash saplings, willow species, and meadowsweet. Herbaceous vegetation in these areas includes 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.

Forested wetlands have been observed in some areas of the Facility Site, and are often associated with riparian corridors. Forested wetland communities are dominated by trees that included red maple and green ash, with swamp white oak, American elm, gray birch, and eastern hemlock also present in the canopy. Understory vegetation typically included saplings of the above-mentioned species, or shrub species such as dogwood, willows and speckled alder. Herbaceous species observed in forested wetlands included sedges, sensitive fern, and field horsetail. 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.

Formal wetland delineations within the Facility Site have been conducted during the 2018 growing season. 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). The Application will include mapping of all delineated wetlands as well as a Wetland Delineation Report summarizing the results of delineations.

On-site wetland delineations will be supported by existing databases of state- and federally-mapped wetlands. Review of NYSDEC mapping indicates that portions three mapped freshwater wetlands occur within the Facility Site (see Figure 7). Table 6 provides a summary of State-regulated wetlands in the Facility Site.

Table 6. NYSDEC-Mapped Wetlands

Wetland	Class[1]	Total Size (Acres)	Size Within Facility Site (Acres)
HN-105	1	219	14
HN-108	1	121	30
HN-110	3	55	2

[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 45 wetland communities exist within the Facility Site, which cumulatively total 49 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 45 individual mapped wetlands located on-site. The NWI data indicate that freshwater emergent wetlands comprise the majority of wetland communities on-site, totaling approximately 13 acres. Other NWI-mapped wetland communities on-site include riverine wetlands (15 acres), freshwater forested/shrub wetlands (18 acres), and freshwater ponds (3 acres).

The 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 avoiding siting PV modules in wetlands where possible, and preferentially utilizing existing or narrow crossing locations. Additional measures may include special crossing techniques, equipment restrictions, herbicide use restrictions, and erosion and sedimentation control measures. Compensatory mitigation measures may be considered, depending on level of impacts anticipated.

As mentioned above, much of the Facility Site is comprised of post-agricultural land that has been abandoned over the last 30-40 years. Consequently, only approximately 5% of the Facility Site is currently used for agricultural production. A detailed analysis of agricultural usage (past and present) within the Facility Site will be provided in the Article 10 Application. A map of designated farmland soil classifications is included as Figure 4 with this PSS. All impacts to agricultural land will be based on calculations as described below 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).

2.22.2 Proposed Content of the Application

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

(a) Existing Plant Communities

1001.22(a) shall include maps, information on, and a description of the plant communities within the Facility Site, and adjacent properties, including plant community mapping using Geographic Information System (GIS) software. For the purposes of the entirety of Exhibit 22, "GIS", "GIS software" and "shapefiles" must be compatible with ESRI's ArcGIS suite of software (e.g. ArcMap). These maps and shapefiles will show approximate locations and extent of identified plant communities (see discussion in Stipulation 11(b)(2)(iii) below regarding invasive species mapping) overlaid with areas of proposed disturbance, and be based on the results of on-site Identification and description of plant communities including:

1) Information on plant communities of the Facility Site based on the results of reconnaissance-level field verification conducted during 2017 and 2018, roadside surveys from adjacent parcels, review of USGS NLCD land cover data, and recent aerial imagery. A plant species list, which will include all species identified during various field surveys and incidentally while in the Facility, and the month and the year observed (to the extent this can be established for those field surveys/incidental observations that occurred prior to development of stipulations, will be provided. Specific information on, and a detailed description of, all ecological communities identified within parcels that will host Facility components will be provided, as classified according to *Ecological Communities of New York State* (Edinger et al., 2014). For each community identified, the Applicant will also indicate if it is considered rare (e.g. provide its Heritage Program Element Rank). A map, based on aerial photography, showing approximate locations and extent of identified plant communities, will be included.
2) For project areas within 500 feet of disturbance areas provide maps at a scale of 1:2000 showing approximate locations and extent of identified plant communities as classified according to Ecological Communities of New York State (Edinger et al., 2014).

(b) Impacts to Plant Communities

1001.22(b) shall include a characterization of impacts on plant communities from construction and operation including:

1. Proposed temporary and permanent impacts to plant communities, including permanent conversion of one cover type to another, shall be calculated of each community type and discussed including:
   i. Discuss specific assumptions associated with approximate limit of vegetation clearing for each type of Facility component as identified in the Preliminary Design Drawings associated with Exhibit 11.
   ii. Provide a table of assumed area disturbance for each project component type. Associated with Exhibit 11 addressed in "i" above.
   iii. Calculate using GIS software, and present in a summary impact table, the number of acres impacted. Permanent impact calculations will include all tree clearing for construction and operation of the Facility.

iv. The plant community mapping referenced in 22(a) above will also depict vegetation cover types throughout the Facility Site in relation to proposed limits of vegetation disturbance at a scale of 1":1000', and associated GIS shapefiles showing all areas of clearing and disturbance will be provided to NYSDEC. A discussion and evaluation of fragmentation to grasslands and forested habitat that may occur as a result of the construction of the Facility will also be included.

2. Invasive Species Identification will include:

   i. A list of all non-native invasive species observed during site-specific field investigations, incidentally while on site for other purposes, and/or and known to occur within the Facility. Unless otherwise specifically noted in stipulations, "invasive species" is defined as all terrestrial and aquatic species listed at: http://www.dec.ny.gov/docs/lands_forests_pdf/islist.pdf. The list and shapefiles (as points or polygons, depending on the amount of area covered) of non-native invasive plant species in areas of proposed disturbance shall be based on a qualitative field survey. The results of the survey will be summarized in a baseline invasive species report to be included with the Application.
   ii. For each invasive species identify an area and concentration threshold that requires mapping and an individual treatment plan.
   iii. Maps at a scale of 1:2000 of any identified concentrations of non-native invasive plant species in areas of proposed disturbance will be included.
   iv. A list of invasive insect species, if any, limited to incidentally observed concentrations of insects during field observations in support of Exhibits 22 and 23.

3. An Invasive Species Prevention and Management Plan that addresses the plant species listed in 6 NYCRR Part 575 will be included in the Application. For the purposes of the entirety of Exhibit 22, unless otherwise specifically noted in stipulations, "invasive species" is defined as all terrestrial and aquatic species listed at: http://www.dec.ny.gov/docs/lands_forests_pdf/islist.pdf. Additional invasive species not included on this list (e.g. reed canary grass and wild parsnip) may also warrant specific management and control measures, depending on current populations of such species within the Facility Site. The Invasive Species Prevention and Management Plan will apply to all prohibited and regulated invasive species and include:

   i. A summary of the survey results (i.e. baseline survey), and a description of how these results will be verified prior to construction.
   ii. An action plan for pre-construction management of non-native invasive species, including threshold(s) for action. Specific methods the Applicant will use to ensure that packing material, imported fill and fill leaving the Facility site will be free of non-native invasive species material, seeds, and parts to the extent practicable;
   iii. A specification on how fill material brought to and placed in the Facility site will be free of non-native invasive species material, seeds, and parts, by source inspection or other method, or describe how fill brought to the Facility will not be used in areas free of invasive species;
   iv. A detailed description of the measures to be taken to prevent the introduction, proliferation and spread of all non-native invasive species due to implementation of the Facility's grading and erosion and sediment control plan;
   v. Details of procedures for preventing the spread of invasive invertebrates and diseases such as the

emerald ash borer and hemlock woolly adelgid, based on standard protocols and/or guidance provided by the DEC and DAM, and a discussion of how the Applicant will comply with the state quarantine and protective zones, where applicable;

vi. Plans for ensuring that appropriate measures are implemented to avoid equipment and personnel arrive at and depart from the Facility Site clean and free of all non-native invasive species material, seeds, and parts. The protocol for inspection of equipment arriving at the Facility Site will be provided in the Application.

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

viii. A detailed description of the Best Management Practices or procedures that will be implemented, and the education measures that will be used to educate workers;

ix. A detailed description of proposed post-construction monitoring, and corrective action plan (if needed), based on the results of the baseline survey, which includes a detailed description of monitoring goals with respect to invasive species abundance, and survey measures and procedures for revising the Invasive Species Prevention and Management Plan in the event that the established goals are not met within a specified timeframe;

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

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

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

1001.22(c) shall include a detailed description of the proposed measures that will be implemented to avoid, minimize, and mitigate for any temporary and permanent impacts to existing, non-invasive plant communities, particularly grasslands, wetlands, interior forests, shrublands and young successional forests, as a result of the construction, operation and maintenance of the Facility. In addition, appropriate post-construction vegetative restoration and management regimes, including reseeding disturbed areas with appropriate native seed mix or planting woody species, as necessary to recreate or enhance wildlife habitat, will be described.

(d) Existing Vegetation, Wildlife, and Wildlife Habitat

1001.22(d) shall include information on and a characterization of aquatic and terrestrial vegetation, wildlife, and wildlife habitats that occur within the Facility Site, encompassing all areas that may be disturbed for construction of modules, roads, electric collection, interconnection, and other facility components, including:

1. Identification and description of plant communities, plant and wildlife species, and wildlife habitat. Such descriptions will include field identification of aquatic habitats, plant communities, and wildlife habitat that could potentially support federally or state-listed threatened and endangered (T&E) species, state species of special concern (SSC), and state species of greatest conservation need (SGCN) as documented during on-site field investigations (*e.g.*, ecological cover type assessments, habitat assessments, and wetland delineations).

2. Ecological cover type assessments and habitat assessments identified in "l" above, will be classified according to *Ecological Communities of New York State* (Edinger et al., 2014).
3. Identification and depiction of any designated unusual habitats or significant natural communities that could support federally or state-listed T&E species, SSC, or SGCN.
4. Provide a table of state and federally listed species occurring or likely to occur within the project including the following columns:
    i. Species name.
    ii. Federal status.
    iii. NYS status.
    iv. SGCN listing,
    v. Habitat preference identified according to *Ecological Communities of New York State* (Edinger et al., 2014),
    vi. Identify maps from 1001.22(a)(3) that include habitat for each species.
    vii. Source of information indicating potential presence of species.
    viii. Indicate if species was observed onsite.
5. NHP database information will be used to identify the presence of any bat hibernacula. If hibernacula are identified within the Facility Site, or five miles from any Facility component or boundary (based on the consultations results with the USFWS and NHP), the location and distance to the nearest identified hibernacula will be provided separately and confidentially to NYSDEC and NYSDPS.
6. Information on amphibians and reptiles based the New York State Amphibians & Reptile Atlas Project (Herp Atlas), database records obtained from NHP, NYSDEC, and USFWS, assessments of suitable habitat in the Facility Area, and field surveys conducted on site.
7. Vernal pools will be inventoried at the time of wetland field delineations. The application will identify vernal pools located within 500 feet of the edge of disturbance of all Facility components, Including forested areas potentially impacted by Facility construction. Vernal pools will be identified in accordance with the *2012 Northeastern Regional Supplement to the Corps of Engineers Wetland Delineation Manual*. To the extent that vernal pools are identified, the Applicant shall submit to NYSDEC detailed location maps and ecological characterization data for all identified vernal pools. The application will include an assessment of potential impacts to vernal pools (including the surrounding upland habitat).
8. Information on bird species that may be present or utilize the Facility at some point during the year based the following sources: existing data from NHP, NYSDEC, and USFWS; assessments of suitable habitat within the Facility; field observations made on-site during avian studies of the Facility Site; New York Breeding Bird Atlas (BBA); US Geological Survey Breeding Bird Survey (BBS); Christmas Bird Count (CBC); Hawk Migration Association of North America (HMANA); eBird; The Nature Conservancy surveys/reports; The Kingbird publication; reaching out to local birding groups (e.g. Northern Catskills Audubon Society)(see Stipulation 22(d)(5)) for information on recent and historical occurrences; and any other publicly available sources that may provide relevant information regarding bird occurrences within or in the vicinity of the Facility and interconnection line.
9. Description of potential impacts to calcareous shoreline outcrops and karst features, if present within or adjacent to the Facility, and any species that may utilize these habitats if final site design indicates there could be impacts to these ecological communities.
10. Shapefiles suitable for use in Geographical Information System (GIS) software via ESRI's ArcGIS suite of software (e.g. ArcMap) containing project components will be provided in accordance with General Stipulation 6. In addition, shapefiles showing all wildlife and habitat survey locations as applicable and

labeled by year will be included. Shapefiles will be considered business confidential and not shared outside of the agency staff involved in reviewing this project. Draft reports of all bird, habitat, and wetland surveys will be submitted to NYSDEC concurrent with, or prior to (if available) filing of the Application. These reports will include maps and shapefiles provided confidentially to NYSDEC depicting the location(s), observation date(s), species, and behavior(s) of all T&E and SSC individuals observed during pre-construction surveys and incidentally in the Facility

(e) Wildlife Species List

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

(f) Analysis of Impacts from Construction and Operation

1001.22(f) shall contain:

1. A summary narrative and associated mapping to explain and illustrate:
    i. Potential and expected construction and operational impacts to vegetative cover types.
    ii. Wildlife habitats and the species that they support (including a discussion of impacts from habitat fragmentation).
    iii. Wildlife concentration areas including Winter Raptor Concentration Areas.
    iv. Travel corridors, if identified.
    v. Terrestrial organisms identified during pre-construction field studies in relation to the proposed limits of disturbance.
2. A discussion of any direct and indirect construction-related impacts that may occur to wildlife and wildlife habitat, including but not limited to:
    i. incidental injury and mortality due to construction activity vehicular movement.
    ii. habitat disturbance and loss associated with clearing and earth-moving activities.
    iii. the indirect impacts resulting from displacement of wildlife.
3. A discussion of potential direct and indirect operational and maintenance impacts including but not limited to:
    i. Loss of habitat
    ii. Forest and grassland fragmentation.
    iii. Wildlife displacement.
    iv. Avian collisions.

v. Bat collisions.
vi. To the extent any documented wildlife travel corridors or concentration areas are identified within or adjacent to the Facility Site, direct and indirect impacts to such corridors and concentration areas will be addressed.

4. A discussion of potential short- and long-term impacts to plants, animals, and habitats that may result from the application of biocides, if any, during site preparation, construction, maintenance, or operations.
5. A summary impact table quantifying anticipated temporary and permanent impacts associated with all Facility components in relation to wildlife habitats, identified concentration areas or travel corridors (to the extent data associated with such areas or corridors are readily available or provided to the Applicant by NYSDEC personnel), and vegetation cover types classified according to *Ecological Communities of New York State* (Edinger et al, 2014), such as grasslands, young successional forests and interior forests, if affected.
6. A wildlife and habitat impact analysis including an identification, evaluation, and assessment of direct and indirect Facility-related impacts to wildlife species, particularly: federally and state-listed T&E species and their habitats; wildlife concentration areas; migration corridors; and forest and grassland habitats. The NYSDEC Region 4 Wildlife Office will be contacted to obtain the most recent breeding, wintering, and habitat data for state-listed species. The USFWS Field Office in Cortland, New York will be contacted to obtain the most recent breeding, wintering and habitat data for federally listed and protected species.
7. Draft copies of all wildlife survey reports planned for the Facility or requested by state or federal agencies, based on work plans developed with the agencies, will be submitted concurrent with, or prior to (if available) filing of the Application, including any associated maps and shapefiles. The Applicant has completed winter raptor surveys, and will be conducting breeding bird surveys, reptile and amphibian surveys, and rare plant surveys in 2018.
8. To the extent that pre- and post-construction wildlife survey data are available for other utility-scale solar facilities in New York State, avian occupancy and usage of the Facility site will be compared with these data.
9. A cumulative impact analysis will be conducted to evaluate the expected impacts from the construction, operation and maintenance of the Facility as they relate to other proposed and operating solar energy projects nearby the Facility and in the state. This analysis will minimally include a discussion and calculations describing and showing:

    i. examination of data on currently installed or proposed utility-scale solar energy capacity in the state.
    ii. estimated take of federally listed or protected and state-listed species at the Facility, based on post-construction studies done in the state and northeast, data provided by state and federal agencies, and any other available relevant information
    iii. acres of each habitat type lost directly through installation of modules and other project components, clearing, and cover type conversion
    iv. acres of each habitat type lost indirectly due to functional loss/degradation of habitat (for purposes of forest fragmentation analyses, it is assumed that indirect effects will extend up to 300 feet beyond the limits of disturbance), and
    v. cumulative impacts of forest and grassland habitat fragmentation, particularly potential impacts on listed bird species.

10. A literature review and impact analysis evaluating how the construction, operation and maintenance of the Facility will affect wintering and breeding grassland bird species, including an assessment of the potential population-level effects of habitat loss is likely to have on grassland bird species at a regional scale, will also be included.
11. Information regarding the presence of federally and state-listed T&E species, SSC, rare species, and SGCN:

    i. A discussion of the Facility's potential to impact such species or their habitats based on database records obtained from the NHP, other known records documented by NYSDEC, USFWS, and on-site wildlife and habitat, ecological, and wetland surveys. A summary impact table containing information on all species within these categories will be compiled and included in the Application.
    ii. The presence of Facility components in occupied habitat of listed T&E species may constitute take, pursuant to 6 NYCRR Section 182.11 (Part 182), of individuals or the habitat they depend on, or both. If it is determined by the Applicant, or NYSDEC that construction or operation of the Facility is likely to result in a take of a listed species, including the adverse modification of habitat on which a listed species depends, the Applicant will submit an avoidance, minimization, and mitigation plan that demonstrates a net conservation benefit to the affected species pursuant to 6 NYCRR Section 182.11 (Part 182), along with the informational requirements of an Incidental Take Permit (ITP), as provided for in Part 182, including proposed actions to first avoid all impacts to listed species. If it is determined that adverse impacts are unavoidable and would result in a take under Part 182, the Application will demonstrate this and describe why complete avoidance of impacts to each affected species is not feasible, along with proposed actions to minimize impacts to the maximum extent practicable, and proposed mitigation and adaptive management actions. The minimization actions and mitigation measures to be implemented will: be developed in consultation with NYSDEC and USFWS (if federally-listed species may be impacted); result in a net conservation benefit to the target species; and require thorough post-construction monitoring that adequately measures the Facility's impact on the target species. If it is determined that adverse impacts are unavoidable and would result in a take under Part 182, the Application will describe the process of developing a post-construction monitoring plan on a site-specific basis through discussions between NYSDEC, the Applicant, and USFWS (if federally-listed species may be impacted), which would be finalized prior to the start of project operation, and at a minimum specify the following: the expected and allowed level of take of each target species; survey monitoring methods, effort, duration, data reporting and compliance documentation; construction parameters; proposed adaptive management responses, if applicable, and; mitigation measures sufficient to ensure the Applicant complies with the substantive requirements of Part 182. All information and material described in section 22(f), including all associated attachments and appendixes, will be provided to NYSDEC in full and un-redacted at the time the Application is submitted.

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

1001.22(g) shall include a description of the impact avoidance and minimization efforts used in developing the Facility, as they pertain to vegetation, wildlife, and wildlife habitat. The Facility design, construction controls, and operational measures that can be reasonably implemented to first avoid, then minimize and mitigate for impacts to wildlife and wildlife habitat as a result of the construction, operation and maintenance of the Facility Site will also be described. This will include a discussion of measures to first avoid and, if impacts are unavoidable, minimize direct impacts to individuals of federally and state-listed and protected species through appropriate project siting, and indirect impacts associated with habitat loss, fragmentation, and displacement. A commitment to mitigate, in an appropriate and timely manner, for any unavoidable impacts to listed species will also be discussed. Such mitigation must be determined only after avoidance and minimization measures are evaluated and agreed upon by all parties, and must result in a net conservation benefit to the target species. Measures to avoid, minimize and mitigate for impacts to vegetation will be addressed in Exhibit 22(c). All information and material described in section 22(g), including all associated attachments and appendixes, will be provided to NYSDEC in full and un-redacted at the time the Application is submitted. Measures to avoid or mitigate impacts to vegetation will be addressed in part (c) of Exhibit 22.

(h) Wind Powered Facilities

The requirements of 1001.22(h) are specifically intended for wind powered facilities. The Applicant is proposing a solar powered facility, therefore, the requirements set forth in 1001.22(h) do not apply.

(i) Wetland Delineation and Mapping

1001.22(i) shall include the following:

1. Maps at a scale of 1:100 and shapefiles showing delineated wetland boundaries for federally and state-regulated wetlands and adjacent areas within the entire Facility. Maps and shapefiles showing delineated wetland boundaries for federally and state-regulated wetlands and adjacent areas occurring within 500 feet of the edge of ground disturbance all proposed Facility components. Delineation as used in reference to wetland and stream delineation throughout this document refers to the placement in the field of sequentially numbered pink surveyor's flagging marked "wetland delineation" with the locations of Individual flagging points documented using Global Positioning System (GPS) technology with reported sub-meter accuracy. The use of Wetland Delineation Data Forms (or comparable forms) to fulfill Army Corps of Engineers requirements, and field verification by the Army Corps and the NYSDEC, shall not be required to obtain a finding by the Chair of the Siting Board that a developer's Article 10 Application complies with the statute. However, such information and verifications will be necessary to obtain Army Corp approval outside of the Article 10 process and to reach agreement with NYSDEC Staff in the Article 10 proceeding on the extent and nature of wetlands Impacts.
2. All wetland boundaries must be keyed to the submissions described in Exhibit 11 (Preliminary Design Drawings).
3. Information on the predicted presence and extent of wetlands on the remainder of site properties and adjacent properties within 500 feet of areas to be disturbed by construction, will also be included in the Application, as applicable. For adjacent properties without accessibility, initial surveys may be based on remote-sensing data, interpretation of published wetlands and soils mapping, roadside observations, and aerial photography.

4. The delineation report that will be provided to the District Office of the USACE and the Regional NYSDEC office (and included with the Article 10 Application) will include the results of the field delineation (i.e., describe the location, size, community type and likely jurisdictional status of all delineated streams and wetlands). Maps at a scale of 1":50' depicting all Facility components, , field-delineated wetlands and adjacent areas within 500 feet of all areas to be disturbed by construction will be included in the Application. All impacts to wetlands, and regulated adjacent areas will be clearly explained and presented/depicted on mapping in support of Exhibit 22.
5. Information will be provided indicating which delineated wetlands are likely state-regulated, including those that are part of wetland complexes that meet state-criteria for jurisdiction (e.g. 12.4 acres or larger, is of Unusual Local Importance, and/or support listed species) but are not currently mapped. All state-regulated wetlands will be identified by NYSDEC's alphanumeric code in addition to the code assigned by the Applicant during delineation. Investigation areas for wetland delineations may need to be extended to make these determinations. At a minimum, the desktop mapping approach described in Exhibit 22(i) will identify all wetlands that potentially meet state-criteria for jurisdiction.

(j) Descriptions of Delineated Wetlands

1001.22(j) shall contain a description of the characteristics and Cowardin classification of all federally, state, and locally regulated delineated wetland communities, a summary of the field data collected regarding vegetation, soils, and hydrology and copies of all Wetland Determination Data Forms will be compiled into a Wetland and Stream Delineation Report and appended to the Application.

(k) Wetland Functional Assessment

1001.22(k) shall contain a qualitative and descriptive wetland functional assessment, including seasonal variations, for all delineated wetlands. Qualitative scores that assess functions and values for each delineated wetland will be based on a methodology similar to *The Highway Methodology Workbook Supplement, Wetlands Functions and Values: A Descriptive Approach* published by the U.S. Army Corps of Engineers New England District in 1999. The functions/values evaluated using this method will include:

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

(l) Analysis of Offsite Wetlands

1001.22(l) shall include an offsite wetland evaluation will include:

1. As described above in 22(i), wetland boundaries and adjacent areas within 500 feet of all Facility components and all disturbed areas will be field delineated. This information will be used to inform an analysis and description of hydrological connections of all wetlands within the Facility to offsite wetlands, including those that are anticipated to fall under NYSDEC jurisdiction (under Article 24 of the ECL) and Corps jurisdiction (under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act). Assessments of potential state wetland jurisdiction will include both "mapped" and "unmapped wetlands" that meet NYSDEC's 12.4-acre size threshold (including any wetlands of any size separated by less than 50 meters which function as a unit in providing wetland benefits, pursuant to 6 NYCRR Part 664, or otherwise meet state criteria for jurisdiction (e.g. wetlands or vernal pools determined to be of Unusual Local Importance, pursuant to 6 NYCRR 664.7(c)). A summary will be provided of off-site wetlands adjacent to the Facility and any disturbed areas that may be hydrologically or ecologically influenced or impacted by development of the Facility, including Significant Coastal Fish and Wildlife Habitat Areas designated by NYS Department of State (NYSDOS), and public lands, to determine their general characteristics and relationship, if any, to the delineated wetlands within the Facility. All information from a site visit to be conducted during the 2018 growing season, including maps and shapefiles, will be provided to NYSDEC personnel as soon as delineations are completed and before the Application is submitted, to allow for NYSDEC to determine the full extent of wetland jurisdiction.

(m) Identification of Temporary and Permanent Impacts to Wetlands

1001.22(m) shall include an identification of temporary and permanent impacts to wetlands and their regulated adjacent areas including:

1) A quantification of temporary and permanent impacts to field delineated wetlands (and all state-regulated 100-foot adjacent areas) based on the proposed footprint of all Facility components and associated impact assumptions. This assessment will also include a description of applicable permanent wetland forest conversion, if any, which would occur as a result of the construction or maintenance of the Facility. Such impacts will be summarized and presented in a table that shall:
    i. Describe and calculates the following: the type of impact, including but not limited to permanent or temporary fill and forest conversion, to each wetland and adjacent area; associated crossing methodology for each wetland.
    ii. clearly discerns between federal and state wetlands and 100-foot adjacent area impacts; acreage of each type of impact to regulated wetlands and adjacent areas; associated
    iii. Includes wetland delineation and NYSDEC wetland identification code; and type.
    iv. For each resource explain if it could reasonably be avoided.
    v. Propose site specific actions to minimize impacts to resources that are not bypassed.
    vi. Propose site specific actions to mitigate impacts to resources that are not bypassed.
    vii. Identify the corresponding a reference to the respective sheet of the preliminary design drawings depicting the resource, and on the mapping required by subsequent item 2.

2) Impacts to wetlands will also be presented on a separate set of site plan drawings at 1":50 scale, showing wetland boundaries, permanent and temporary structures, stream crossings, roads, power interconnects, and the limits of disturbance.

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

1001.2(n) shall include a general discussion of all avoidance and minimization measures considered, and an indication of methods to be implemented to avoid wetland impacts, general discussion of measures considered, and description of methods to be implemented to avoid and mitigate wetland impacts. Where impacts are unavoidable, and have been minimized to the greatest extent possible, the anticipated mitigation measures to be implemented to offset impacts to wetlands and all state-regulated 100 foot adjacent areas will be discussed. Pursuant to 6 NYCRR 663.5(g), a conceptual mitigation plan for impacts to state-regulated wetlands and adjacent areas must be included in the Application and at a minimum must meet the following provisions:

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

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

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

1001.2(o) shall include an identification of New York State and Federally listed T&E species documented within or adjacent to the Facility area, along with a discussion of all potential direct and indirect impacts to these species, and the detailed contents of an Endangered Species Avoidance, Minimization and Mitigation Plan, if needed, will be provided in Exhibit 22(f). The results of pre-construction surveys and the associated impact analysis, as well as the estimated direct and indirect take of listed species and their habitats will provide a basis for ongoing consultation with NYSDEC, NYSDPS, and USFWS (if necessary) to determine an appropriate post-construction monitoring protocol.

(p) Invasive Species Prevention and Management Plan

1001.2(p) An Invasive Species Prevention and Management Plan will be provided as described in 1001.2(b)(3) (above).

(q) Evaluation of Impacts to Agricultural Resources

1001.2(q) shall contain an evaluation of impacts on agricultural resources including:

15) A quantification and analysis of temporary and permanent impacts to agricultural land based on the proposed footprint of all Facility components and associated limits of disturbance during construction. To minimize impacts to active agricultural land, the Applicant plans to coordinate with NYS Department of Agriculture and Markets (NYSDAM). A discussion of potential mitigation, following the most recent edition of guidance documents issued by NYSDAM. As described in Stipulation 4, the Applicant will also include a discussion of historical trends in land use (with a specific focus on conversion of farmland) over the last 20 years within a five-mile radius of the Facility. This will include a discussion of the Facility's potential effect on the availability of farmland within five miles.
16) A map of the Facility Site showing locations of prime farmland, prime farmland if drained, unique farmland, and farmland of state and local importance, will be provided in Exhibit 21.
17) Discussion of methods for identifying drainage tile lines prior to construction, along with restoration of tile lines impacted by Facility construction activities in areas where lands will be returned to agricultural use following decommissioning.
18) A discussion of current agricultural use and productivity within the Facility Site, including information gained from interaction with the NYSDAM and local farmers.
19) Description of appropriate measures that avoid or minimize permanent impacts to the agricultural viability of soils and lands within the Facility Site.

2.23 WATER RESOURCES AND AQUATIC ECOLOGY

2.23.1 Discussion

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

Groundwater

Based on preliminary evaluations conducted in support of this PSS, depth to groundwater ranges from the ground surface to greater than 200 centimeters throughout the Facility Site, with high water tables most common in low-lying areas in and adjacent to wetlands. Depth to bedrock ranges from ground surface to greater than 200 centimeters, with the majority of the Facility Site having bedrock depths of 30 centimeters or greater (Soil Survey Staff, 2018). 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 Clifton Park aquifer, 30 miles north of the Facility Site.

The Facility Area also overlays parts (in some cases very small parts) of one mid-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 north of the Facility Area (USEPA, 2016). 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.

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 and POI switchyard foundations, roadways, and any underground collection lines are expected to be relatively shallow, and are not anticipated to intercept groundwater within the surrounding aquifers. The Facility will add only small areas of impervious surface, which will be dispersed throughout the Facility Site, treated in various in stormwater management facilities, 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.

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

Surface Water

The Facility Area is located in the Middle Hudson Basin (USGS Hydrologic Unit 02020006), a sub basin of the Hudson River. The Middle Hudson Basin drains approximately 2,430 square miles of New York State, which is 17% of the Hudson River Basin. The Middle Hudson Basin drains Albany, Columbia, Dutchess, Greene, Rensselaer, Schenectady, Schoharie, and Ulster Counties, as well as a small portion of Berkshire County, Massachusetts.

Sleepy Hollow Lake is a large, multi-use, man-made lake in the Towns of Athens and Cocksackie, Greene County, New York (Figure 8). The lake is a source of recreation and drinking water for the surrounding community. The Facility is located approximately 1 mile northeast of the Lake. A portion of the Facility Site is located within the Sleepy Hollow Lake Watershed (1,110 acres; Figure 8). A watershed management plan was prepared for the Association of Property Owners of Sleepy Hollow Lake in April 2017 (Princeton Hydro, 2017). The watershed management plan was created

to diagnose non-point source problems within the watershed, and it includes a discussion of watershed characteristics, water quality, the aquatic plant community, a watershed investigation, recommendations for nutrient and sediment reductions, and implementation plans.

The watershed investigation performed for the management plan determined that major sources of annual sediment load to the lake were stream bank erosion (46%), crop land (43%), and hay/pasture (6%), and that major sources of annual total phosphorus load were crop land (40%), ground water (25%), and hay/pasture (15%); (Princeton Hydro, 2017). The construction and operation of the Facility are not anticipated to increase sediment or phosphorus load to Sleepy Hollow Lake, given the distance between the Facility and the lake and the best management practices that will be implemented to minimize stormwater runoff and erosion and sediment control during both construction and operation of the Facility. Additional details on measures taken by the Applicant to avoid impacts to surface water, and to consult with the Sleepy Hollow Lake community regarding potential impacts to this resource, will be included in the Application.

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 7). 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 on-site wetland and stream delineations.

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.

A FOIL request on the location of downstream surface drinking water intake sites was submitted to Greene County Department of Public Health in October 2018. 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. Additional correspondence with the New York State Department of Health will be sent following the PSS filing. 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.

Facility components will be sited to avoid or minimize both temporary and permanent impacts to surface waters to the extent practicable. Large built components of the Facility, including PV racking systems, inverters, energy storage components, and the substation/POI switchyard, 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 driveway 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 erosion and sedimentation caused by construction activities (e.g., removal of vegetation and soil disturbance).

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.

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 wetland and stream delineations conducted during 2018 (shown on Figure 3) 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 and disturbance along stream banks will be kept to a minimum.

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

- No Equipment Access Areas: Except where crossed by permitted access driveways or through non-jurisdictional use of temporary matting, streams will be designated "No Equipment Access," thus prohibiting the use of motorized equipment in these areas.
- Restricted Activities Area: A buffer zone of 100 feet, referred to as "Restricted Activities Area", will be established where Facility construction traverses streams, wetlands and other bodies of water. 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: An erosion and sedimentation control plan will be developed and implemented as part of the SPDES General Permit for the Facility. Measures such as silt fences, hay bales, and temporary siltation basins will be installed and maintained throughout Facility construction. Exposed soil will be stabilized with methods such as seeded and/or mulched to assure that erosion and siltation is kept to a minimum along wetland boundaries and stream 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.

Stormwater

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

Chemical and Petroleum Bulk Storage

The Article 10 Application will describe the Best Management Practices to be implemented during construction to prevent and contain spills. In addition, the Article 10 Application will contain a Preliminary Spill Prevention, Control and 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.

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

Aquatic and Invasive Species

The Article 10 Application will contain the results of the on-site wetland and stream delineation field effort, which will be used to 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. 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. The Application will include an identification and evaluation of reasonable avoidance measures and, where impacts are unavoidable, mitigation measures regarding impacts on such biological aquatic resources, including species and invasive species impacts (if any) and assure compliance with applicable water quality standards.

2.23.2 Proposed Content of the Application

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

(a) Groundwater

1001.23(a) shall include the following:

1) Maps showing depth to bedrock, depth to water table, and karst features throughout the Facility Site, based on the Soil Survey of Greene County, New York.
2) Information on groundwater aquifers and recharge areas including:
    i. Maps based on publicly available water well information based on the following sources: data requested from the New York State Department of Health Records Access Officer, the NYSDEC, USGS Office of Groundwater, U.S. Department of Agriculture (USDA) Soil Conservation Service, USDA Natural Resources Conservation Service (NRCS) Web Soil Survey, the Greene County District office, and other local municipalities, as well as data collected during subsurface investigations in the Facility Site.
    ii. A discussion on groundwater quality, the location, depth, depth, yield, and use of identified public and private ground water wells, and the location of well head and aquifer protection zones within one mile of the Facility Site.
    iii. The Applicant will conduct a private well survey within a 2,000 foot radius of the Facility Site. The Application will include a list of private wells, identified through the Applicant's survey, and available well design and production information (to the extent provided in response to well surveys). The survey will solicit well construction details, usage patterns, and water quality data, as well as include educational information describing the Project and the Article 10 process, ways to contact Facility personnel, a link to the Applicant's website, and methods by which survey recipients can obtain additional information regarding the Facility and be added to the stakeholder list.

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

(b) Surface Waters

1001.23(b) shall include the following:

1) A map, at a scale that supports legibility, identifying all surface waters, including intermittent and ephemeral streams, using data from NYSDEC, ESRI, USGS, National Wetlands Inventory, and stream data collected during the on-site surveys of water resources within 500 feet from the edge of disturbance from all proposed Facility components.
2) For each waterbody, a description of New York State listed Water Classification and Standards pursuant to 6 NYCRR Part 800-941 and including part numbers, Water Index Numbers (WIN), physical water quality parameters, flow rate, biological aquatic resource characteristics (including incidentally observed species of vertebrates and invertebrates [if any], habitat, and presence of invasive aquatic species), and other characteristics of such surface waters, including intermittent streams, in the Facility Site using publicly available data, and when necessary, supplemented by field data collected during wetland and stream delineations or information provided by NYSDEC. Aquatic invasive species as identified by NYSDEC (http://www.dec.ny.gov/docs/lands_forests_pdf/islist.pdf), which are observed while conducting delineations and field investigations, will be documented and included in the Application. Invasive species are further addressed in Exhibit 22 (Terrestrial Ecology and Wetlands).

3) An identification of all downstream surface water drinking intakes within 1 mile of the Facility and contained within the drainage basin in which the Facility is located, or if none are located within 1 mile, the nearest downstream surface water drinking supply intake. Location(s) of the intakes will be given by longitude and latitude. A discussion of potential impacts to drinking water supplies due to the Facility or onsite non-Article VII interconnections will include characterization of the type, nature, and extent of service provided from the identified source, will be included.

4) A narrative discussion will be provided that describes all potential impacts to surface water resources, including streams and lakes. Environmental impacts to be discussed and addressed will include thermal changes to waterbodies due to vegetative clearing, changes to in-stream structure, morphology and stability, potential impacts to or taking of State-listed threatened and endangered (T&E) species, state species of special concern (SSC), species of greatest conservation need (SGCN), and the effects of turbidity on nearby habitat. If any dredging/sediment removal is required, sediment sampling will be conducted prior to removing material in accordance with protocol established by NYSDEC. Impacts of (potentially contaminated) sediment resuspension/dispersion will be discussed. Where appropriate and practical, mitigation actions will be discussed. Where appropriate and practical, mitigation actions will be discussed to offset acute and chronic impacts to waterbodies. The Applicant will describe the nature of the Facility, if any, in relation to the sediment control plans. Potential source(s) of and collection systems for water for construction period uses, including for concrete batch plant, invasive species wash station(s), fire control, and other uses will be provided. For any HDD installations, a "frac-out" contingency plan shall be provided to address any inadvertent releases. The feasibility of using overhead crossings with poles more than 50 feet from the top of banks, or trenchless crossings, will be assessed and implemented for all streams proposed to be crossed. A table will be provided that identifies all resource impacts to surface waters. This will include:

    i. A calculation of the appropriate acreage and linear distance of surface waters that will be temporarily or permanently impacted based on the proposed Facility footprint and associated impact assumptions, and field delineated stream boundaries.

    ii. The construction impact type at each waterbody. As applicable, the crossing methodology impact (e.g., buried collection, access driveway) and construction technique used (e.g., HDD or access driveway utilizing temporary bridge).

    iii. Typical details of BMPs to be used. Detailed BMPs will be provided for each construction technique as appendixes to the Application.

    iv. All stream crossings for temporary and permanent roads, anticipated culvert specifications, and BMP considerations for culvert placement, including methodology for controlling water flow during construction. All stream crossing structures will include the bankfull width at the crossing location.

v. References to photographs depicting all perennial and intermittent stream crossings (including photos of upstream and downstream of the crossing site) identified for the project which will be included as an Appendix.

vi. All relevant information described above in 2.23(b)(2) will be referenced in this table.

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

5) The Application will identify and evaluate reasonable avoidance measures and Facility layout alternatives. This will include an evaluation of reasonable alternatives that may entirely avoid impacts to regulated waterbodies. Where impacts are unavoidable and have been minimized to the greatest extent possible, mitigation measures will be proposed for groundwater and surface water impacts. The Application will propose work prohibition dates associated with crossings of State-protected streams under ECL Article 15. The Application will also address conformance with NYSDEC stream crossing guidelines (http://www.dec.ny.gov/permits/49060.html).

(c) Stormwater

1001.23(c) shall include the following:

1) 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). This authorization is subject to review by NYSDEC, and is independent of the Article 10 process. However, the Article 10 Application will include a preliminary stormwater pollution prevention plan (SWPPP), which will be prepared consistent with the SPDES General permit and will describe in general terms the erosion and sediment control practices that will likely be implemented during construction activities, and the post-construction stormwater management practices that will be used to treat water quality and quantity and reduce pollutants in stormwater discharges after Facility construction has been completed, and include:

i. An introduction that will review the proposed project, and the purpose, need, and appropriate contents of the complete SWPPP;

ii. Anticipated stormwater management practices, including temporary and permanent erosion and sediment control measures (vegetative and structural), and post-construction practices;

iii. Anticipated construction activities, including a preliminary construction phasing schedule and definition of disturbance areas;
iv. Site waste management and spill control measures;
v. Proposed site inspection and maintenance measures, including construction site inspection, and construction site record keeping; and
vi. Conditions what will allow for the termination of permit coverage.

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

(d) Chemical and Petroleum Bulk Storage

1001.23(d) shall include the following:

1) A description of the preliminary Spill Prevention, Control and Counter Measures (SPCC) Plan. Spill containment requirements for electric transformers at the substation and PV module sites will be provided.
2) An identification whether the storage of ammonia, fuel oil, wastewater, other chemicals, petroleum, or hazardous substations, or disposal of solid wastes on site is subject to regulation under the State of New York's chemical and petroleum bulk storage programs, and if so, a demonstration of compliance with such regulations.
3) Should the Facility require petroleum or other hazardous chemicals be stored on-site, the Article 10 Application will identify such substances and discuss compliance with any applicable regulations. If construction, operational, or maintenance activities at the Facility require petroleum or other hazardous chemicals be stored on site, the Application will identify such substances and demonstrate compliance with all local laws, regulations, and guidelines.

(e) Aquatic Species and Invasive Species

1001.23(e) shall include the following:

1) A discussion and analysis of the impact the construction and operation of the Facility is likely to have on biological aquatic resources (and related critical and sensitive habitat), including species listed as endangered, threatened, or species of special concern in 6 NYCRR Part 182, as well as species of greatest conservation need, that are known of suspected of being present within the Facility. The analysis will include a discussion of the potential for introducing and/or spreading invasive species within those areas disturbed by construction. The presence of invasive species within the Facility Site will be documented during wetland and stream delineations and other on-site investigations, as described in Section 2.22 (Terrestrial Ecology and Wetlands). However, no species-specific surveys for invasive or aquatic species are planned. Maps and shapefiles of the locations of aquatic invasive species will be provided to NYSDEC when the Application is submitted.
2) An identification and evaluation of reasonable avoidance measures and, where impacts are unavoidable, mitigation measures regarding impacts on such biological aquatic resources, including species and invasive species impacts (if any) and assure compliance with applicable water quality standards (6 NYCRR Part 703). Construction activities and the presence of Facility components in occupied habitat of listed T&E species may constitute take of individuals or the habitat they depend on, or both. If it is determined by the Applicant, NYSDEC, or USFWS (if federally-listed species are identified and potentially subject to take) that the construction, operation or maintenance of the Facility is likely to result in a take of a listed species, including the modification of habitat on which a listed species depends, the Applicant will submit with the Application an avoidance, minimization and mitigation plan that demonstrates a net conservation benefit to the affected species as defined pursuant to 6 NYCRR Part 182.11 (Part 182), along with the informational requirements of an Incidental Take Permit (ITP), as provided for in Part 182, including proposed actions to avoid all impacts to listed species. If impacts are unavoidable, the Application will demonstrate this and contain thorough and clear justification of why complete avoidance of impacts is not feasible, how the proposed minimization actions will minimize impacts to the maximum extent practicable, and proposed mitigation actions. All information and material described in section 23(e), including all associated attachments and appendixes, will be provided to NYSDEC in full and un-redacted at the time the Application is submitted.

(f) Cooling Water

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

2.24 VISUAL IMPACTS

2.24.1 Discussion

The Facility has been intentionally sited on lands that are well screened by surrounding topography and vegetation that will obstruct views of the proposed solar project from adjacent areas as well as screen the project from longer distance views. Potential visibility of the Facility has been an important consideration in the siting of PV module arrays. Early in the design process, preliminary viewshed analyses were conducted on several PV module layout alternatives in effort to isolate which portions of the Facility were contributing to visibility that extended beyond the immediate Facility vicinity. Based on the results of that analysis, specific locations within the Facility Area were subsequently removed from consideration for PV module development due to their visibility. This exercise will be described further as part of the alternatives analysis discussion (Exhibit 9) of the Article 10 Application. The potential visibility of the project, based on the preliminary design of the Facility presented in this PSS, is depicted on Figure 9. As shown on that map, areas with potential views of the Facility are for the most part limited to roadways immediately adjacent to the proposed PV arrays. It is anticipated that longer distance views of the Facility will be screened by topography and vegetation from all but a few isolated locations.

At the first Flint Mine Open House held in May 2018, the Applicant provided the public with preliminary visual impact mapping, as well as a video simulation demonstrating what it would look like to travel along local roadways around the Facility, and where visibility was anticipated. The Applicant also discussed visual impacts in its formal presentation, and showed images of potential screening options, buffer area plantings, and fencing which would better blend with the surrounding community. Feedback from the attendees was generally positive, and many of those who attended expressed their satisfaction with having been provided detailed preliminary visual information at that early stage. Materials displayed at the Open House, including the preliminary visual impact mapping, were bound together and submitted to local document repositories for those interested individuals who were unable to attend the May 30 event; this document and its attachments are filed on the Siting Board website, as Item 10 in DMM.

The Application will continue to evaluate potential visual impacts that would result from introducing the Facility into the landscape. This evaluation will be presented in a Visual Impact Assessment (VIA) report, which will assess the extent and significance of Facility visibility. 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.

PV module visibility is anticipated to be relatively limited as the PV modules and inverter equipment are not expected to extend more than 15 feet above grade and the forested hills and ridges surrounding the Facility Site will serve to significantly restrict visibility. However, a 5-mile radius Visual Study Area will be evaluated in the VIA/Application adopted to ensure that potential visual effects on regional visually sensitive resources are adequately considered. Therefore, the 5-mile Visual Study Area will be used for identifying visually sensitive resources of regional and/or statewide significance and a more inclusive inventory of locally significant visually sensitive resources will be conducted within a 2-mile radius Study Area. Although the PV modules would be the most widespread Facility component, the tallest structures associated with the Facility would be the lightning masts and loop-in structures located within the proposed substation. Visibility of these features within 1 mile of the proposed substation will be addressed in the VIA as well.

The 5-mile Visual Study Area extends beyond Greene County into Columbia County, and includes an approximately 15-mile portion of the Hudson River. The Visual Study Area includes the City of Hudson; Villages of Coxsackie, Athens, and Catskill; sizable unincorporated places such as Leeds, Jefferson Heights, Lorenz Park, and Stottville; and several smaller hamlets. The potential visibility and visual impact of the Facility will be evaluated for all these areas; however, given the low-profile of Facility components and extent of screening provided by adjacent topography and vegetation, visual impacts within this wider area are anticipated to be negligible.

Preliminary research has identified visually sensitive resources of statewide significance that occur within 5 miles of the Facility, primarily located along the Hudson River in the eastern and southern portions of the Visual Study Area (see Figure 10). These resources include (but are not limited to):

- Scenic Areas of Statewide Significance (SASS)
    - Columbia-Greene North SASS
    - Catskill – Olana SASS
- State-designated scenic roads
    - County Route 61
    - NYS Route 23
    - NYS Route 385
    - NYS Route 9J; Stockport and Stuyvesant
    - Rip Van Winkle Bridge
- State Parks

    - Hudson River Islands State Park
    - Olana State Historic Site/National Historic Landmark
    - Athens, Coxsackie, and Hudson Boat Launches
- NYSDEC lands
    - Rogers island Wildlife Management Area (WMA)
    - Vosburgh Swamp WMA
    - Stockport Flats WMA and National Estuarine Research Reserve
    - New Baltimore Forest Preserve
    - Athens Forest Preserve
    - Nutten Hook Tidal Wetland
    - Brandow Point Unique Area
    - Middle Ground Flats Unique area
    - Athens and Hudson State Boat Launches
- Resources listed on the National Register of Historic Places (NRHP)
    - 7 NRHP-listed Historic Districts
    - 43 individually listed NRHP properties

Preliminary viewshed analysis and field review indicate that the Facility would not be visible from these visually sensitive resources because they are primarily located within the valley of the Hudson River, over 2 miles from the Facility Site, while Facility visibility is anticipated to be highly localized (see Figure 9). A more thorough inventory of visually sensitive resources, including any locations/resources proposed for inclusion by agencies and municipalities through ongoing outreach efforts, will be compiled in support of the VIA and will be evaluated for potential visual impacts therein. The Applicant expects that this topic will also be discussed at the upcoming November 8, 2018 Project Open House.

Although Facility design is being developed with restricted visibility in mind, preliminary viewshed analysis of the currently proposed layout indicates that the PV modules would be visible from open areas adjacent to or within the Facility and limited longer distance views could be available form discrete, localized areas (see Figure 9). While most of this area of potential visibility occurs within open agricultural fields, visibility is also indicated along several public roadways that pass through, or are adjacent to, the Facility Site, as well as some nearby residences. US Highway 9W is anticipated to experience the greatest amount of Facility visibility, with PV modules potentially visible from approximately 1.6 miles of roadway. As shown in Figure 9, longer-distance views are indicated as being possible from two discrete locations along Interstate 87 (approximately 1.8 miles north and 1.4 miles south of the Facility Site), however, preliminary field review indicates that visibility is highly unlikely from these areas, given the distance from the Facility, vegetative screening, and the very limited duration of potential views due to the speed of traffic on this roadway.

It should be noted that while the preliminary viewshed analysis depicted in Figure 9 focuses on the 2-mile Study Area, the viewshed analysis that will be prepared for the VIA and Article 10 Application will cover the full 5-mile Visual Study Area.

To illustrate anticipated visual change from areas where PV modules will be visible, photographic simulations of the completed Facility from representative viewpoints will be prepared and presented in the VIA. Review of these images alongside the original, unaltered photos will allow for comparison of the aesthetic character of each view with and without the proposed Facility in place. These "before" and "after" photographs, identical in every respect except for the Facility components shown in the simulated views, will be presented to a rating panel comprised of registered landscape architects who will be asked to rate and describe the effect of the proposed Facility in terms of its contrast with existing elements of the landscape. The rating results will be presented in the VIA along with an interpretive summary of their significance.

The VIA will also include a discussion of mitigation options for anticipated visual impacts. Approaches to visual mitigation for solar projects include selection of equipment/technology, siting/setbacks, row spacing, fencing, and screening. NYS Route 9W, County Road 49 (Greene Lake Road), Flats Road, and Flint Mine Road are more heavily traveled roads that pass through or around the Facility Area and would have open foreground views of the proposed PV modules in the absence of mitigative measures. However, it is anticipated that vegetation screening would be utilized to block or soften views of the Facility along select portions of each of these roadways. These and other mitigation measures will be considered for application in additional areas once final Facility design, viewshed analysis, and field review have been completed.

2.24.2 Proposed Content of the Application

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

a) A Visual Impact Assessment ("VIA") will be conducted in accordance with 1001.24 to determine and assess the significance of Facility visibility. The VIA procedures used for this study will be consistent with Exhibit 24 requirements and the general methodologies developed by various state and federal agencies, including the U.S. Department of the Interior, Bureau of Land Management (1980), U.S. Department of Agriculture, National Forest Service (1974), the NYSDEC (2000), and the National Park Service's "Guide To Evaluating Visual Impact Assessments for Renewable Energy Projects' published in 2014 (Natural Resource Report NPS/ARD/NRR-2014/836) . The components of the VIA shall include identification of visually sensitive resources (see (b)(4) below

for additional information), viewshed mapping, confirmatory visual assessment fieldwork, visual simulations (photographic overlays), and proposed visual impact mitigation. The VIA shall include:

1) A 5-mile Visual Study Area will be established for the purpose of identifying visually sensitive resources of regional and/or statewide significance. A more inclusive inventory of locally significant visually sensitive resources will be conducted for the area within two miles of the proposed Facility. Distinct Landscape Similarity Zones (LSZs) within the 5-mile-radius Visual Study Area will be identified and defined (including discussion and analysis of the existing landscape setting, land uses and visual characteristics of the study area) and the approximate location of these LSZs will be illustrated in the Application.
2) Topographic and Vegetation viewshed maps created to identify potential visibility of the PV arrays, and the methodology for these analyses is described in detail below in Stipulation 24(b)(2). Visual field review will be conducted in the study area. During these site visits, public roads and public vantage points will be visited to document locations from which Facility components would likely be visible, partially screened, or fully screened. This determination will be made based on the visibility of the distinctive Facility site ridges/landforms, as well as existing features (such as residences and hedgerows) on the Facility site, which will serve as locational and scale references. These site visits will result in photographs from many (anticipated up to 75) representative viewpoints within the study area. The viewpoints will document potential visibility of the Facility from the various LSZs, distance zones, directions, visually sensitive resources, and areas of high public use throughout the Visual Study Area. During the field review, photos will be taken using digital SLR cameras with a minimum resolution of 24 megapixels. All cameras will utilize a focal length between 28 and 35 mm (equivalent to between 45 and 55 mm on a standard 35 mm film camera). This focal length is the standard used in visual impact assessment because it most closely approximates normal human perception of spatial relationships and scale in the landscape. Viewpoint locations will be documented using hand-held global positioning system (GPS) units and high-resolution aerial photographs (digital ortho quarter quadrangles). The time and location of each photo will be documented on all electronic equipment (cameras, GPS units, etc.) and noted on field maps and data sheets. The results of the field review will be presented in detail with visual aids in the VIA.
3) Substation and switchyard, O&M building as applicable, lighting standards, PV modules, inverters, energy storage devices, fences, access driveways, and any other above-ground/visible Facility components will be included in all visual simulations in which they would be visible. This will include visual simulations that depict the proposed substation and switchyard. It is anticipated that the collection systems for the Facility will be mounted on the racking, installed in conduit on the ground within the fenced-in areas or buried underground, but there are locations where overhead lines may be necessary. If overhead collection lines are necessary, then these would also be also be depicted in visual simulations.

4) Photographic simulations will be developed by constructing a three-dimensional computer model of the proposed PV modules, inverters, energy storage and the remainder of the Facility layout based on specifications provided by the manufactures and/or the Applicant. The computer model will include the PV modules, any proposed vegetation clearing, the substation, the O&M facilities (including exterior color and finish), and the location and appearance of other visible components of the Facility, all of which will be incorporated into the photographic simulations.
5) 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, and potentially at an O&M building. The potential impact of proposed lighting that needs to be installed as part of the Facility, as well as mitigation measures, will be described in the Article 10 Application.
6) Photographic simulations developed by using Autodesk 3ds Max Design 2015® (or similar) to create a simulated perspective (camera view) to match the location, bearing, and focal length of each existing conditions photograph. Existing elements in the view (e.g., buildings, existing transmission structures, roads) will be modeled based on aerial photographs and DEM data in AutoCAD Civil 3D 2014® (or similar). A three dimensional ("3-D") topographic mesh of the landform (based on DEM data) will then be brought into the 3-D model space. At this point minor adjustments are made to camera and target location, focal length, and camera roll to align all modeled elements with the corresponding elements in the photograph.
7) The VIA will include a discussion of short-term visual impacts associated with the clearing of trees, construction of access driveways, installation of PV modules, and general construction activity.
8) An evaluation of impacts to visual resources from Facility visibility during operation by a panel of three registered landscape architects using a standardized rating form. The methodology utilized in this evaluation will be a simplified version of the U.S. Department of the Interior, Bureau of Land Management (BLM) contrast rating methodology, and the rating form instructions will also be included with the Application.
9) An evaluation of potential operational effects of the Facility. Regarding the potential for glare, PV modules 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 modules installed in recent years have at least one anti-reflective coating to minimize reflection and maximize absorption. However, at high incident angles above approximately 60°, reflectance increases in accordance with the Fresnel equations and can cause glare. Using basic geometry and seasonal sun paths, the potential for glare can be predicted at times when the sunlight will shine on the panels at high incident angles. A preliminary study will be provided in the Application to identify observer locations, if any, that may require further analysis. Operation of the Facility will not have any other visible effect such as generating plumes, off-site shading, shadow-flicker, etc. Therefore, this evaluation will focus on the visual appearance of the PV modules and other Facility components. An assessment of various visual impact mitigation strategies including screening (landscaping),

setbacks, architectural design, visual offsets, relocating or rearranging Facility components, reduction of Facility component profiles, alternative technologies, Facility color and design, and lighting options. Mitigation will also be assessed in relation to NYSDEC Program Policy DEP-00-2 (NYSDEC, 2000).

10) Identification and description of all visually sensitive resources (see [b][4] below for additional information) within the Visual Study Area (i.e., up to five miles from the perimeter PV arrays), and assessment of probable impacts of the Facility on these resources. Visually sensitive resources will also include any specific location identified by municipal planning representatives, DPS, DEC and OPRHP. This will include discussion of potential visual impacts on residences located within the Facility Area.

b) A viewshed analysis will be included in the VIA that identifies the locations within the Visual Study Area where it may be possible to view the proposed PV arrays and other proposed above ground facilities from ground-level vantage points. This analysis includes identifying potentially visible areas on viewshed maps. The viewshed analysis component of the VIA includes:

1) Maps showing the results of viewshed analyses based on: 1. the screening effect of topography alone, and, 2. the combined screening effect of topography, vegetation, and built structures within the environment. Viewshed analyses will be based on sample points representing PV module locations based on the Facility Layout presented in the Application; an assumed maximum PV module height of 15 feet; and, an assumed viewer height of six feet. To generate the viewshed analyses, sample points with an assigned height of 15 feet (representing the PV modules) will be placed 200 feet apart in a grid pattern throughout all proposed development areas within the Facility Site. These maps will be presented on the most recent edition USGS 1:24,000 scale topographic base map. Additionally, results of the viewshed analyses will also be shown on maps that depict visually sensitive sites, viewpoint locations, foreground, mid-ground, and background distance zones, and LSZs. The viewshed analyses will serve to document the line of sight profiles for resources of statewide concern.

2) Five-mile radius viewshed maps to determine the extent of potential Facility visibility based on existing topography, vegetation, and structures, and the location and height of the proposed PV modules. A topographic viewshed map for all Facility components will be prepared using a bare earth digital elevation model ("DEM") derived from Light Detection and Ranging ("lidar") data; sample points representing PV module locations based on the Facility Layout presented in the Application; an assumed maximum PV module height of 10 feet; an assumed viewer height of six feet; and ESRI ArcGIS® software with the Spatial Analyst extension. The resulting topographic viewshed map defines the maximum area from which any PV module sample point could potentially be seen within the study area (i.e., ignoring the screening effects of existing vegetation and built structures). A second-level analysis will be conducted to incorporate the

screening effect of structures and vegetation, as captured in lidar data. A digital surface model ("DSM") of the study area has been created from these lidar data, which includes the elevations of buildings, trees, and other objects large enough to be resolved by lidar technology.

3) Identification of visually sensitive resources using a variety of data sources including digital geospatial data (shapefiles) obtained primarily through the NYS GIS Clearinghouse or ESRI, national, state, county and local agency/program websites as well as websites specific to identified resources; USGS 7.5-minute topographical maps; and web mapping services such as Google Maps. Identified aesthetic resources of statewide or local significance, areas of intensive land use within five miles of the proposed Facility, and location of visually sensitive resources within the visual study will be included with the Application. Visually sensitive resources will also include any specific location identified by municipal planning representatives, DPS, DEC and OPRHP.
4) Identification of representative viewpoints to be used for visual simulations. Representative viewpoints will be selected based upon past and future consultation with, and feedback provided by members of the public, engaged stakeholders, municipal planning representatives, DPS, DEC and OPRHP; while also balanced by the criteria below to ensure that a variety of views are represented. The Applicant will continue to conduct outreach to agency staff and stakeholder groups to determine an appropriate set of viewpoints for the development of simulations. The Applicant will include a list of visual stakeholders and copies of viewpoint selection correspondence in the Application. In addition, the Applicant will include the visual representatives on the master stakeholder list for notification of project milestones and outreach activities. This outreach will s include: a) Applicant distribution of a request 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; b) Following the visual fieldwork and associated data processing, the Applicant's distribution of a memorandum related to recommendations for Visual Simulations to the visual stakeholders; and c) The Applicant hosted an on-line meeting to solicit comments from visual stakeholders on the viewpoints selected. The selected viewpoints should:

    i) Provide open views toward the Facility site from different directions throughout the Visual Study Area (as determined through field verification).
    ii) Illustrate the most open views available from potentially significant public resources within the Visual Study Area.
    iii) Illustrate open, representative views from the various "Landscape Similarity Zones" within the Visual Study Area, which are defined based on the similarity of features such as landform, vegetation, water, and land use patterns.

iv) Illustrate open views of the proposed Facility that may be available to representative viewer/user groups within the Visual Study Area (including local residents).

v) Illustrate typical views of different numbers of PV module 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.

5) Photo-realistic simulations of the completed Facility from each of the selected viewpoints. The photos selected for visual simulations will illustrate a range of typical/representative conditions, including leaf-on and leaf-off conditions.
6) 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) A composite contrast rating for each viewpoint, including viewer exposure and activity. All rating forms will be included in the Application along with a narrative description of the existing view and overall visual effect representing the nature and degree of visual change resulting from construction and operation of the Facility on scenic resources and viewers represented by each of the selected viewpoints using comments provided by the rating panel members.
8) Operation of the Facility will not result in any operational visual effects, such as glare, plumes, shadow-flicker, or off-site shading, other than visibility of the PV modules and other Facility components. Therefore, these types of effects will not be evaluated in the Application.

2.25 EFFECT ON TRANSPORTATION

2.25.1 Discussion

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

During Facility construction, all trucks carrying water, fuels, or chemicals will utilize the same haul routes used by other construction vehicles/component delivery haulers, as identified in the Route Evaluation Study. 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 the identified specified haul routes.

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 police and 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, including the Athens Emergency Med-Evac heliport, will be posted in the Facility's collector substation (and provided to the emergency service providers).

The Flint Mine Solar Article 10 PIP also identified 5 small airports and two heliports near the proposed Facility. In conversations with airport owners, there did not appear to be significant concern over impacts to air traffic. One owner asked whether height would be an issue, but was happy to hear that no tall towers would be built within the Facility. Some airport owners were unreachable, though. Outreach will continue in order to address any additional air traffic concerns within the Application.

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. Additional detail will be included in the Article 10 Application.

The Application will include an identification of the possible extent and duration of traffic interferences resulting from construction of the Facility and any interconnects. 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. As such, no new traffic control devices are anticipated to be necessary, and no damage to roads due to normal operation of the Facility are expected to occur.

For non-posted bridges along identified potential Facility transportation routes, information from the New York State Department of Transportation's (NYSDOT) 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.

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 Applicant's 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). The Application will also provide a description of all use and restoration agreements, including provisions for repair of roads damaged by heavy equipment or construction activities during construction or operation of the Facility.

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

2.25.2 Proposed Content of the Application

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

(a) Conceptual Site Plan

The Article 10 Application will include a conceptual site plan that will identify access driveway locations and widths, and other access driveways associated with staging yards, O&M site (if applicable), and substation/switchyard locations. The preliminary design drawings prepared in support of Exhibit 11 will serve as the conceptual site plan. In addition, a Route Evaluation Study will be prepared for the Facility and included in the Application, which will identify public road constraints (e.g., inadequate turning radii/intersections and road widths) and potential haul routes, as well as a general discussion of the types and sizes of vehicles necessary for construction of a solar facility of this size, and which construction activities would require use of oversize/overweight vehicles.

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

The Application will include a description of the pre-construction characteristics of roads in the area that will include the following:

(1) Traffic Volume and Accident Data

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

(2) School District Bus and Routes

The Article 10 Application will include a review of school district routes that serve the Facility Site. This will be accomplished by obtaining school bus routes, number of buses, and times from the Coxsackie-Athens Central School District.

(3) Emergency Service Providers

This section of the Article 10 Application will provide a review of locations of emergency service provider stations (police, fire, ambulance, and hospitals) that serve the Facility Site. The Application will include a map of service provider locations and routes. In addition, during Facility operation a map of all emergency service provider locations and routes will be posted in the Facility's O&M building (if one is built) and/or provided to operations/maintenance staff (and provided to the emergency service providers).

(4) Available Load Bearing and Structural Rating Information

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

(5) Traffic Volume Counts

The Facility is not within a congested urbanized area; therefore, 24-hour traffic counts are not applicable and will not be included in the Article 10 Application.

(c) Facility Trip Generation Characteristics

The Application will contain an estimate of Facility trip generation characteristics, including:

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

An estimate of the number, frequency and timing of vehicle trips (including an estimate of the number of vehicles assessing each staging/parking area) will be based on the haul routes, site plan and location of Facility components as presented in the Application, along with the number of phases, estimated quantities of earthwork and materials to construct the Facility. Exact scheduling of construction work and required vehicles will be determined by the Applicant's contractor. 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 per PV module array installation. The Application will tabulate construction vehicle volumes for the Facility broken down by Facility component/truck type.

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

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

(3) Cut and Fill Activity

The Article 10 Application will provide an estimate, based on site plan and location of Facility components, of anticipated quantities of earthwork and materials to construct facilities. An estimate based on typical volume of materials and number of vehicles per PV module installation will be provided.

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

Conceptual haul routes will be identified by an experienced transportation engineer, the details of which will be included in the Application. Approach and departure routes will be based on the anticipated type of delivery vehicle to be used, and such routes will be identified to and from the Facility Site (or parking areas) for construction workers and employees of the Facility.

(d) Traffic and Transportation Impacts

As described in the sections below, this section of the Application will include an analysis of traffic and transportation impacts of the Facility.

(1) Levels of Service along Linear Segments of Highway

A summary of levels of service for linear segments of highways used by construction and delivery vehicles using Synchro and HCS software, which will be compared to the existing levels of service. The anticipated extent and duration of traffic interferences/delays during construction will be described.

(2) Route Evaluation Study

A Route Evaluation Study that will include anticipated delivery routes and an analysis of the adequacy of these routes to accommodate construction and operation of the Facility will be included in the Application. This section of the Application will also include an identification of the possible extent and duration of traffic interferences resulting from construction of the Facility and any interconnects.

(3) Over-sized Deliveries

An assessment of over-size load deliveries and the adequacy of existing roads to accommodate such deliveries will be included in the Application. A turning template of anticipated delivery vehicles and a review of aerial photography and online street view maps in conjunction with driving all potentially impacted roads will be conducted to identify physical restrictions (widths, turning radius, overhead clearance). An identification of required temporary improvements and a location map will be provided and potential impacts at each temporary improvement location will be summarized.

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

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

(5) Road Use and Restoration Agreements

This section of the Article 10 Application will identify and tabulate all anticipated Town, County, and State permits 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. This section of the Application will also generally discuss use agreements with private landowners that may be required for construction and post-construction use of private property along public roads.

(e) Impact of the Facility on Mass Transit Systems

A description of airspace usage (including military operations) in the vicinity of the Facility using available aeronautical charts, airport approach plates, airport 5010 forms, and other available sources will be included in the Application. The Application will briefly discuss mass transit systems available in the Facility Area. However, no rail or bus mass transit systems will be impacted by this Facility.

(f) Federal Aviation Administration Review

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

The nearest public airport is located more than 6 miles away, on the opposite side of the Hudson River (Columbia County Airport [1B1] in Hudson, NY). Private[10] air strips nearby include the Wayne Delp Airport (33NY) in West Coxsackie/Hannacroix, approximately 4.5 miles away; and the Catskill Valley Airpark (2NY0) at 74 Garcia Lane in Leeds, NY.

The nearest heliport is located south of the Facility Area, on the opposite side of Schoharie Turnpike in Athens (57 NY, Athens Emergency Med-Evac, 880 CR 28, Athens, NY), and is owned by the West Athens Lime St. Fire District in Athens. The Applicant will consult with the Fire District to determine potential impacts, if any,

[10] The privately owned Deer Run Airport (NY 74) is listed as being located on Limestreet Road in Coxsackie, New York on several websites, at a latitude of 42-19-25.3060N and longitude of 073-52-23.4600W, and was thus identified in the Applicant's PIP as a potential stakeholder. However, Deer Run was not listed on the FAA's website results for active airports near the Facility, and aerial mapping suggests this airport may no longer be actively used at this location. The Applicant has sent a letter to the listed airport owner, Herman Sameisky, seeking additional information, and will include information on this airport in the Application if it does indeed still exist.

2.26 EFFECT ON COMMUNICATION

2.26.1 Discussion

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 will lack tall structures, 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 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 modules 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).

Effects on the Global Positioning System (GPS) are not anticipated and amateur radio users are not anticipated to be affected by the construction and operation of the Facility. However, the Application will identify the GPS ground facility located closest to the proposed Facility and all amateur radio licenses within a two-mile radius. 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. While the Facility is not anticipated to affect emergency communications systems, the Application will evaluate potential impacts on the local emergency communications systems.

The Application will also evaluate impacts to municipal/school district services, public utility services, and doppler/weather radar. The Application will include the location of all existing underground cable and fiber optic major transmission telecommunications lines within a two-mile radius of the Facility.

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.

2.26.2 Proposed Content of the Application

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

(a) Existing Broadcast Communication Sources

1001.26(a) shall identify all existing broadcasting communication sources within a two-mile radius of the Facility and the associated interconnection between the Facility and the POI including:

- AM radio;
- FM radio;
- Television;
- Telephone;
- Microwave transmission;
- Emergency services;
- Municipal/school district services;
- Public utility services;
- Doppler/weather radar (all affected sources, not limited to a two-mile radius);
- Air traffic control (all affected sources, not limited to a two-mile radius);

- Armed forces (all affected sources, not limited to a two-mile radius);
- GPS;
- LORAN (all affected sources, not limited to a two-mile radius); and
- Amateur radio licenses registered to users

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

1001.26(b) shall include the locations of underground fiber optic cable within two miles of the Facility Site and the electric interconnection between the Facility and the POI.

(c) Anticipated Effects on Communication Systems

1001.26(c) shall include a description of the communication systems within a two-mile radius of the Facility and describe any expected impacts to those systems. This section will include a discussion on the potential for:

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

(d) Evaluation of Design Configuration

1001.26(d) shall include an evaluation of the design configuration of the proposed Facility and electric interconnection between the Facility and the POI demonstrating that there will be no adverse effects of the communications systems identified in Sections (a) and (b) above.

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

1001.26(e) shall include a description of post-construction activities that shall be undertaken to identify and mitigate any adverse effects on the communications systems identified in Sections (a) and (b) above that occur despite the design configuration of the proposed Facility and the electrical interconnection between the Facility and the POI.

(f) Potential Interference with Radar

1001.26(f) is specific to wind power facilities. As the proposed Facility is a solar facility, this section is not applicable.

2.27 SOCIOECONOMIC EFFECTS

2.27.1 Discussion

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

Calculating the number of jobs and economic output associated with a proposed facility using the JEDI model is a two-step process. The first step requires facility-specific data inputs (such as year of construction, size of facility, nameplate capacity and location). The next step of analysis requires a detailed input of project cost values into the JEDI model, including project cost values, financial parameter values, default tax values, default lease payment values, and default local share of spending values. Based on these customized cost inputs, the JEDI model then calculates the economic impacts, typically through the use of county-specific and state-specific multipliers. These multipliers account for the change in jobs, earnings, and output likely to occur throughout the economy as a result of Facility-related expenditures. This model allows impacts to be estimated for both the construction and operation phases of the proposed development. 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. Household income may also be increased as a result of the downward pressure on wholesale electric prices in the NYISO resulting from the introduction of low marginal cost electric supplies, from the Facility and from other wind and solar generating facilities elsewhere in NY.

Each of these three levels 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.

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

2.27.2 Proposed Content of the Application

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

a) An estimate of the average construction workforce, by discipline, for each quarter, during the period of construction for the Facility, including the estimated peak construction employment level.
b) An estimate of the annual construction payroll and non-payroll expenditures associated with the Facility. This will include an estimate of the annual construction payroll by trade.
c) An estimate of the secondary employment and economic activity associated with Facility construction. Economic multiplier factors and other assumption(s) used to generate these estimates will be described. To the extent reasonably practicable, the analysis of secondary employment and economic activity will also reflect the economic

impacts associated with any changes in the retail price of electricity as well as the economic impacts associated with the cancellation or closure of any new or existing power plants made unnecessary by the added wind capacity of the facility. If such estimates cannot be reasonably made, the Applicant shall never the less acknowledge that such secondary employment and economic activity impacts will result from the project, even though no quantitative estimate has been made.

d) An estimate of the number of jobs, and on-site payroll by discipline for a typical year associated with Facility operation, as well as an estimate of other expenditures likely to be made in the vicinity of the Facility during operation.
e) An estimate of secondary employment and economic activity generated by Facility operation. The Application will also include additional information associated with payments to local landowners in association with the lease agreements executed to host Facility components.
f) A confirmation that construction and operation of the Facility is not expected to result in any incremental school district operating and infrastructure costs.
g) A confirmation that construction and operation of the Facility is not expected to result in any incremental costs to local municipalities, authorities, or utilities.
h) A list of jurisdictions that will collect taxes or benefits from construction and operation of the Facility
i) An estimate and details of annual taxes and payments to be paid by the Facility to the jurisdictions listed in 1001.27(h).
j) A comparison of incremental costs and incremental benefits to jurisdictions resulting from construction and operation of the Facility.
k) A discussion of any potential equipment or training deficiencies in the local emergency response capacity as it relates to the needs of the Facility.
l) A discussion of the Facility's consistency with the State Smart Growth Public Infrastructure criteria.

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, typically as a result of fossil fuel combustion and related emissions. The Applicant will discuss 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 is one Potential Environmental Justice Area within the Impact Study

Area. The Potential Environmental Justice area occurs to the north of the Facility Site and exclusively encompasses both the Coxsackie Correctional Facility and the Greene Correctional Facility. 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. 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

2.29.1 Proposed Content of the Application

(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 modules, 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 removed in accordance with 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, except where otherwise requested by a landowner.
- The Applicant will provide written notification to the Towns within a reasonable timeframe 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 Facility's 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, based on prices and values at the time the subsequent estimates are prepared.
- The time when the Applicant will post and maintain financial assurance in the amount of the net decommissioning costs will be indicated.
- A description of the process for removal of the Facility and accessing the financial assurance should the Applicant be unable to implement the Decommissioning Plan.
- The Decommissioning Plan will be binding upon the Applicant, or any of its successors, or assigns.
- Provisions allowing for access to the Facility Area for Towns or other designee(s), 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, some of which will be under lease agreement with the landowners; and each of these leases with private landowners will contain a provision on decommissioning. Although the specific terms of these lease agreements are confidential, decommissioning provisions in the leases outline a plan substantially similar to the one described above 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

2.31.1 Discussion

The Facility will be located in Greene County, New York, in the Towns of Coxsackie and Athens, New York. Throughout the pre-application process, the Applicant will consult with the host 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, among other local concerns, are addressed in the Article 10 Application.

The Applicant notes that the Town of Coxsackie has proposed amendments to its local laws related to solar development, and has enacted a moratorium on local solar applications. In addition the Applicant is in conversations with the Town of Athens regarding potential zoning changes in the Town that might accommodate the Facility. This PSS reflects the local laws as they existed at the time of the PSS submission, and is intended to identify the areas of local codes relevant to the proposed Facility. However, the Application will account for any amendments or additional local laws enacted in any host municipality between the submission of this PSS and the Application. The list provided below is intended to give a general overview of the types of local regulation which are potentially applicable to the Facility as proposed, and the areas of local law which will need to be discussed further in the Application.

2.31.2 Proposed Content of the Application

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

Below is a preliminary list of applicable local laws and ordinances of a procedural nature that might be applicable to the Facility in the absence of Article 10. This list will be updated when the Application is submitted. Generally, it is not known at this early stage whether the Facility will trigger certain of the identified regulations listed below; the list is meant to provide a broad overview based on an initial screen of Town laws. These provisions are included because

of their potential application to the Facility, but the Facility layout set forth in the Application may not include components or aspects which trigger some of the requirements identified below.

Town of Athens

Zoning Code, Chapter 180, Article III, General Standards (as amended by local law adopted July 5, 2017)

- Article III § 180-52, Solar Energy
  - (D), Large-Scale Solar Energy Systems
    - (D)(1), site plan review under § 180-55 by the Planning Board
    - (D)(2), Building Permit required
    - (D)(3), Site plan application requirements
    - (D)(4)(e) "as determined by the Planning Board" and last two sentences of paragraph
    - (D)(4)(f), Planning Board imposition of conditions and SEQRA review
  - (D)(5)(a) – (d), Decommissioning plan requirements
  - (D)(5)(d), performance guarantees
  - (D)(6), Modifications
  - (D)(7), Abandonment and Decommissioning [except as noted in PSS Section 2.31(d) below]
  - (D)(8), Safety requirements [except as noted in PSS Section 2.31(d) below]
  - (D)(9), Compliance with Law, Ordinances, & Regulations

Zoning Code, Chapter 180

- § 180-51(F), Wetlands
- § 180-55, Site Plan Review

Other Potentially Applicable Athens Requirements:

- Chapter 92, Building Construction and Fire Protection
- Chapter 94, Demolition Permits
- Chapter 101, Fill Permit[11]
- Chapter 105, Flood Damage Prevention
- Chapter 150, Streets and Sidewalks, permits and procedural requirements

Town of Coxsackie

Chapter 91, Electrical Standards and Inspections *[certain provisions]*

Chapter 96, Excavations

- (5), excavation permit requirement
- (11), waivers
- (13), permit application and requirements
- (14)-(15), application contents/requirements
- (16), performance bonds
- (17), permit standards

[11] While Flint Mine Solar does not anticipate removing or importing significant quantities of fill materials, as discussed elsewhere in this PSS, this provision was identified as potentially applicable, though not likely so. Issues such as earth disturbance and fill, to the extent required, are discussed elsewhere in the PSS, such as section 2.12 on Construction.

- (23)(F), inspection of restoration

Chapter 85, Driveways

- (1), permit required
- (2), applications
- (3)(A)-(B), permit requirements
- (3)(E) & (G), Town Superintendent approvals
- (H), permit application requirements
- (I), Town Superintendent determinations

Chapter 103, Uniform Fire Prevention & Building Code

- § 103-9, Application for Permit
- § 103-12, Electrical Installations

Chapter 108, Flood Damage Prevention[12]

- (11), floodplain development permit
- (12), permit application
- (13), permit application review, inspections, compliance

Chapter 113, Freshwater Wetlands

Chapter 167-5, Regulation & Approval Standards for Utility-Scale Solar Collector Systems

- (A)(1), site plan review required
- (C)(1), site plan requirements
- (C)(2), signage requirements during site plan review
- (C)(3)(b), visual requirements
- (C)(3)(c), landscaping requirements by Town
- (C)(4), lighting plan
- (C)(5), utilities requirements
- (C)(6), site plan review of access
- (C)(8), lease agreement requirements
- (C)(9), proof of insurance requirements
- (C)(10), security plan requirements
- (C)(11), site plan approval of noise impact minimization
- (C)(12), annual utility documentation requirements
- (C)(13)(a), sureties for construction
- (C)(13)(b), certificate of compliance conditions, surety, abandonment/removal process

Chapter 167-6, Fees

[12] While Flint Mine Solar does not anticipate constructing generation components within designated floodplain areas, connections such as collection lines may be installed near or beneath certain floodplain areas near large wetlands in the Facility Area. For that reason, the standards required for floodplain construction are included here and will be reviewed further in the Application, if applicable.

Chapter 170, Streets and Sidewalks,[13] certifications, notifications, inspections, road plans, bonding, and procedures

Zoning Code, Chapter 201, Article VI, Natural Resource Protection Standards

- § 201-48, Watercourses, local approvals
- § 201-49, Wetlands, reports and approvals
- § 201-50, Wildlife Habitat Assessments

Zoning Code, Chapter 201, Article VII, Design & Landscaping Standards

- § 201-52, Landscaping & Buffering
    - (B), landscaping plan
    - (E), replanting plan, approval of substitutions, maintenance agreement, non-compliance
    - (J), alternative landscaping plan
    - (K), Town review
- § 201-53, lighting plans and procedural requirements

Zoning Code, Chapter 201, Article VIII, Signage Regulations

- § 201-60, temporary sign permit
- § 201-64, Sign Permit Required; Regulations, Procedures, Fees
- § 201-65, Violations
- § 201-66, Penalties for Offenses
- § 201-67, Enforcement

Zoning Code, Chapter 201, Article X, Site Plan Review

(b) Local Procedural Requirements Requiring Board Authorization

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

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

[13] In the event construction or installation of utilities or other features requires the disturbance of Town roads, repair/replacement of Town roadways would need to meet Town specifications. These matters could be dealt with via a Road Use Agreement or similar arrangement with the Town(s), or the Applicant may seek to have the Siting Board authorize the Town to take certain actions related thereto. The Application will explain these matters in greater detail.

for the Towns to issue local ministerial permits related to driveways, such as in the Town of Coxsackie Code Chapter 85.

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

Municipal officials are generally responsible for reviewing and approving local building permits and ensuring compliance with the New York State Fire Prevention and Building Code and Energy Conservation Code of New York State. In addition, the Town may choose to contract with qualified consultants to assist their review 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. Generally, it is not known at this early stage whether the Facility will trigger certain of the identified regulations listed below; the list is meant to provide a broad overview based on an initial screen of Town laws. These provisions are included because of their potential application to the Facility, but the Facility layout set forth in the Application may not include components or aspects which trigger some of the requirements identified below.

Town of Athens

Zoning Code, Chapter 180, Article III, General Standards (as amended by local law adopted July 5, 2017)

- Article III § 180-52, Solar Energy
    - (D)(4), Site plan review standards
        - (a) "Large-Scale Solar Energy Systems shall adhere to the height, setback, and maximum percent parcel coverage of the underlying zoning district, as shown in Table 2, Density and Dimensions. In determining the maximum percent parcel coverage, the total square footage of the solar modules, along with the impervious footprint of the Solar Energy Systems shall be included."
        - (b), perimeter fencing; warning signs
        - (c), use of materials, colors, and textures that will blend with existing environment
        - (d), landscaping and/or screening materials
        - (e), placement of power lines and transformers
    - (D)(5)(b) "Decommissioning requires removal of the Solar Energy System, including but not limited to removal of solar modules, solar energy equipment, associated buildings, cabling, electrical components, and any other associated facilities below grade . . ."
    - (D)(7) "Large-Scale Solar Energy Systems are considered abandoned after one (1) year without active and continuous electrical generation and shall be decommissioned and removed from the property at the owner's or operator's expense. . ."
    - (D)(8) "All means of shutting down the Solar Energy Systems shall be clearly marked."

Zoning Code, Chapter 180, Article IV, Site Plan Review & Special Use Permits

- Article IV § 180-55, Site Plan Review
    - (A), substantive standards for issuance of Site Plans
    - (I), substantive factors for consideration

Zoning Code, Chapter 180

- Table 2, Density and Dimensions
- § 180-15, District Regulations
    - (B) Agricultural (Ag)
    - (C) Rural Residential (RU)
    - (D) Multi-Use Commercial (MUC)
    - (F) Light Industrial 1 (LI-1) and Light Industrial 2 (LI-2)
- § 180-24, Environmental Performance Standards,
    - (C) Noise and Vibrations
    - (D) Lighting and Glare
- § 180-25, Agricultural Buffers
- § 180-30, Stream and Wetlands
- § 180-32, Development on Steep Slopes
- § 180-33, Erosion and Sedimentation Control
- § 180-3 and -36, Signs
- § 180-51(A)-(E) and (G)-(H), Conservation Standards

Other Potentially Applicable Athens Requirements:

- Chapter 92, Building Construction and Fire Protection
- Chapter 101, Fill Permit
- Chapter 105, Flood Damage Prevention[14]
- Chapter 150, Streets and Sidewalks, permits and procedural requirements

Town of Coxsackie

Chapter 91-3, Electrical Standards, adoption of National Electrical Code

Chapter 96, Excavations

- (18), active excavation area
- (19), setbacks
- (20), access driveways and parking
- (21), preservation of natural resources
- (22), other safeguards
- (23), restoration

Chapter 103, Uniform Fire Prevention & Building Code

[14] Based upon initial review, it appears that special flood hazard areas are located within or near the Facility Area, associated with large wetlands, where the Applicant is not intending to place components. Thus, there may not be any proposed installations which would actually trigger this provision of law.

Chapter 108, Flood Damage Prevention[15]

- (14), general standards
- (15), standards for all structures
- (17), nonresidential structures

Chapter 167, Solar Energy Collection Systems

- § 167-5, Regulation & Approval Standards for Utility-Scale Solar Collector Systems
    - (B)(1)-(3), bulk area requirements: height, setback, and lot coverage
    - (C)(3), Visual requirements
    - (C)(4), artificial lighting
    - (C)(5), utilities
    - (C)(6), site access
    - (C)(7), glare and heat
    - (C)(10), fencing
    - (C)(11), Noise

Chapter 170, Streets and Sidewalks[16]

- (11), culverts
- (12), development of right-of-way and subgrade
- (13), guardrails
- (14), utilities
- (16), clearing
- (17), subgrade
- (18), foundation course
- (19), pavement base course
- (20), finish course
- (21), profile of finished surface
- (22), grade stakes
- (23), tolerances
- (24), culverts and roadside ditches
- (25), curbing

Zoning Code, Chapter 201, Article IV, Supplemental Regulations

- § 201-30, Fences & Walls
    - (A)-(C), (E), (F), location, height, materials and construction, and orientation of fences & walls
- § 201-31, Height Restrictions
- § 201-32, maximum impervious surface
- § 201-34, Performance Standards
    - (D) Noise

[15] While Flint Mine Solar does not anticipate constructing generation components within designated floodplain areas, connections such as collection lines may be installed near or beneath certain floodplain areas near large wetlands in the Facility Area. For that reason, the standards required for floodplain construction are included here and will be reviewed further in the Application, if applicable.

[16] In the event construction or installation of utilities or other features requires the disturbance of Town roads, repair/replacement of Town roadways would need to meet Town specifications. These matters could be dealt with via a Road Use Agreement or similar arrangement with the Town(s), or the Applicant may seek to have the Siting Board authorize the Town to take certain actions related thereto. The Application will explain these matters in greater detail.

    - (E) Vibration
    - (F) Glare & Heat
    - (G) Smoke
    - (H) Odors
    - (I) Other forms of Air Pollution
    - (J) Wastes
    - (K) Radioactivity or Electromagnetic Disturbance
    - (L) Fire and Explosion Hazards
- § 201-37, Visibility at Intersections

Zoning Code, Chapter 201, Article VI, Natural Resource Protection Standards

- § 201-46, Density Calculations
- § 201-47, steep slopes
- § 201-48(A)-(B) & (D), watercourse buffer areas and general standards, alterations
- § 201-49(C), wetlands standards
- § 201-50, wildlife habitat

Zoning Code, Chapter 201, Article VII, Design & Landscaping Standards

- § 201-51, Design Standards
- § 201-52, Landscaping & Buffering
    - (D) Minimum Planting Requirements
    - (E), plant materials, replacements
    - (F), species choice
    - (G), perimeter landscaping requirements
    - (H), interior landscaping requirements
    - (I), parking area interior landscaping requirements
    - (I), outdoor storage landscaping requirements
    - (J), alternative techniques
- § 201-53(E)-(H), Lighting Standards
- § 201-54(C), Historic Sites requirements

Zoning Code, Chapter 201, Article VIII, Signage Regulations

- Article VIII § 201-60, Temporary Signs
- Article VIII § 201-61, Permanent Signs
- Article VIII § 201-62, sign condition and maintenance

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

As the Applicant has emphasized to both Towns, it is Applicant's desire to comply with all substantive local laws and ordinances, such that these kinds of requests are not necessary. However, as has been noted in discussions with both Towns, there may be portions of existing or proposed local laws which prove unworkable for a utility-scale solar facility or which, if applied to the Facility, could cause a more significant impact on the community or the environment than if

the requirement were not enacted or applied. The Applicant will continue its efforts to work cooperatively with both Towns to identify these areas of concern, and to develop a manageable solution.

If necessary, the Applicant will 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 Facility is not anticipated to require any physical connections for water, sewer, or telecommunication lines. As such, the Applicant has not identified any procedural local ordinances or laws related to the interconnection of water, sewer, or telecommunications lines that are applicable to the Facility. In the event such changes are determined to be needed, they will be addressed in the Application.

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

The Facility is not anticipated to require any physical connections for water, sewer, or telecommunication lines. As such, the Applicant has not identified any substantive local ordinances or laws related to the interconnection of water, sewer, or telecommunications lines that are applicable to the Facility. In the event such changes are determined to be needed, they will be addressed in the Application.

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

Since, the Facility is not anticipated 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. In the event such connections are determined to be needed, relevant standards will be addressed in the Application.

(i) Summary Table of Substantive Local Requirements

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

(j) Zoning Designation

The Towns of Athens and Coxsackie have adopted zoning regulations. Town Zoning Maps are attached to this PSS. The Application will describe the zoning designations underlying the properties where the Facility is proposed, and whether solar is a permitted use there, at the time of the Application.[17] The Application will also set forth any important distinctions within the Towns' respective zoning codes regarding matters such as the definition of important terms (e.g., structure or building), as that can impact the applicability of provisions to various components of a utility-scale solar facility.

The Article 10 Application will provide a detailed summary of the zoning regulations for the Towns, as well as any applicable Greene County requirements, as required by 16 NYCRR § 1001.31(j). As part of that summary, the Article 10 Application will discuss the permitted and prohibited uses in the zoning district(s) where the Facility is proposed to be located, as well as the solar specific regulations 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

2.32.1 Discussion

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

2.32.2 Proposed Content of the Application

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

The Applicant has compiled a preliminary listing of state approvals, consents, permits, or other conditions of a procedural nature required for the construction or operation of the proposed Facility, as summarized in the Table 7 and Table 8.

Table 7. List of All State Approvals for the Construction and Operation of the Facility that are Procedural in Nature and Supplanted by Article 10

[17] The Applicant has recently approached the Town of Athens regarding a potential change to the zoning designations and/or amendments to the Town Solar Law, to authorize utility-scale solar on the parcels identified. The Application will include the zoning information as it exists at the time of Application submission, and will include a summary of discussions with the Towns to address local law issues of this kind.

State Agency	Requirement	Discussion
New York State Department of Environmental Conservation	Water Quality Certification (WQC), Section 401 of the Clean Water Act	The request for a 401 WQC will not be filed until a federal U.S. Army Corps of Engineers permit application is filed (if necessary). Under Article 10, the WQC must be issued by the Siting Board.
New York State Office of Parks, Recreation, and Historic Preservation (OPRHP)	Consultation Pursuant to §14.09 of the New York State Historic Preservation Act	The Applicant will consult with the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) to ensure compliance with §14.09 of the New York State Historic Preservation Act.
New York State Department of Environmental Conservation	Endangered and Threatened Incidental Take Permit Article 11, 6 NYCRR Part 182	This permit is required if, in consultation with state agencies, it is determined that the Project could result in the incidental "take" of any T&E species or—more relevant here—occupied T&E species habitat. If this permit is required, the procedural requirements are supplanted by Article 10. While the Applicant does not anticipate actual take of individual members of the species, the Facility may impact the grassland habitat used by those species, as discussed further in Section 2.22. To aid in avoiding, minimizing and mitigating potential impacts to this habitat, the Applicant is anticipating conserving at least 200 acres of grasslands in the Facility Area. The Application will include a more substantial discussion of these issues, and proposed avoidance, minimization and mitigation of impacts, as well as the potential need for an incidental take permit.
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, or for any change, modification, or disturbance of protected streams, stream beds 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	This permit is required for construction projects that disturb one or more acres of soil. In accordance with 16 NYCRR 1001.32(a) this is identified as a state procedural requirement issued by the NYSDEC pursuant to federal recognition of state authority. This approval is subject to review by the NYSDEC independent of the Article 10 process.
New York State Public Service Commission	Certificate of Public Convenience and Necessity NY PSL §68	No electric corporation shall begin construction of an electric plant, having a generating capacity of at least 80 MW, without first having obtained the permission and approval of the commission. The procedural requirements of Section 68 are supplanted by Article 10.

As indicated in the table above, some of these state procedural requirements are supplanted by PSL Article 10, except those permits to be issued by the New York State Department of Environmental Conservation (NYSDEC) which are authorized pursuant to Federal recognition of State authority, or pursuant to federally delegated or approved authority, in accordance with the Clean Water Act, the Clean Air Act and the Resource Conservation and Recovery Act, and permits pursuant to Section 15-1503, Title 9 of Article 27, and Articles 17 and 19 of the ECL.

Table 8. List of All State Approvals Related to the Construction of the Facility to be Obtained from Issuing Agency

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

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

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

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

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

The Applicant will construct and operate the Facility in a manner that conforms to all State substantive requirements for those approvals, consents, permits, certificates, or other conditions, to the greatest extent practicable. The following is a list of all substantive state requirements, which are potentially applicable to the Facility:

- Water Quality Certification (WQC), Section 401 of the Clean Water Act 6 NYCRR Part 621.4e (Water Quality Certifications in Accordance with Section 401 of the Clean Water Act)
- Consultation Pursuant to Section 14.09 of the New York State Historic Preservation Act
- Permit for Protection of Waters, Article 15, 6 NYCRR Part 608.7b (Permit Application Review) and 608.8 (Standards)
- Permit for Freshwater Wetlands, Article 24, 6 NYCRR Part 663.5 (Standards for Issuance of Permits and Letters of Permission)
- SPDES General Permit for Construction Activity, Article 3, 6 NYCRR Part 750-1.11 (Application of Standards, Limitations, and other Requirements)
- Endangered and Threatened Incidental Take Permit Standards, Article 11, 6 NYCRR 182.12 (Incidental Take Permit Standards)

(d) Summary Table of Substantive State Requirements

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

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

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

2.33 OTHER APPLICATIONS AND FILINGS

2.33.1 Discussion

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

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

2.33.2 Proposed Content of the Application

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

Besides the list of approvals identified in Sections 2.32 and 2.33, the Applicant does not have, and is not aware of, any other application or filing before any state or federal governmental agency, department or court which concerns the subject matter of this proceeding (i.e., Flint Mine Solar). Should that change, additional information will be added to the Application.

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

Table 9 summarizes any anticipated federal permit, consent, approval, or license needed for the proposed Facility. This information will be confirmed and/or updated in the Article 10 Application. In Exhibit 25 on Transportation, the Article 10 Application will discuss any outreach or discussions between the Applicant and the Federal Aviation Administration ("FAA"), to the extent that any are required for this Facility. However, the Facility is not anticipated to trigger those federal regulations which require FAA consents or approvals, given the location of the project and the fact that no structures are proposed over 200 feet in height.

Table 9. Federal Permits and Approvals for the Facility

Agency	Anticipated Application Date[1]	Description of Permit or Approval Required
U.S. Army Corps of Engineers	TBD	• Section 10 of the Rivers and Harbors Act of 1898; • Section 404 or Nationwide Permit for Placement of Fill in Federal Jurisdictional Wetlands/Waters of the U.S. • National Environmental Policy Act (NEPA) Compliance; • Compliance with Section 106 of the National Historic Preservation Act (NHPA).

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

2.34 ELECTRIC INTERCONNECTION

2.34.1 Discussion

Interconnection of the Facility to the electric transmission system will be achieved using multiple systems. The PV modules themselves produce power at a low voltage, which is converted from direct current (DC) to (AC) at the inverters. Some of this energy may be stored temporarily in barriers located adjacent to the inverters. A medium voltage collection system comprised of underground or above-ground cables comprised of numerous circuits in parallel, connects the PV arrays to the inverters and transmits the power to a collection substation. The collection substation then transforms the electricity voltage 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.

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 an existing 115KV transmission line owned by National Grid. A short (anticipated to be less than 500 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.

The types, design standards, and descriptions of the electric interconnection components will be included in the Article 10 Application. Direct burial methods through use of a cable plow, rock saw, rock wheel trencher and/or similar equipment may be used during the installation of any underground electrical collection system. 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.

2.34.2 Proposed Content of the Application

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

(a) Design Voltage and Voltage of Initial Operation

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, along with the design voltage and voltage of initial operation.

(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. Typical details related to conductors will also be included, as described in Section 2.11 of this PSS.

(c) Insulator Design

On overhead sections of the collection line (if any), 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) Typical Length of Transmission Line

The Facility is not proposed to include a transmission line.

(e) Typical Dimensions and Construction Materials of the Towers

Overhead collection lines may be required in some areas where there is rock or the potential for buried cultural artifacts. Any overhead lines will use typical dimensions and construction materials of the support structures will be presented in the Article 10 Application.

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

Any overhead lines will use typical dimensions and construction materials of the support structures will be included in the Application.

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

The Application will include the type of cable system to be used and the design standards for that system.

(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 also include a plan/overview of the POI switchyard and collection substation.

(j) Any Terminal Facility

The Application will include a description of the terminal facilities (LaFarge and Pleasant Valley, and, if used, North Catskill and Feura Bush).

(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

2.35.1 Discussion

The information presented in Exhibit 35 of the Article 10 Application will be derived from an electric and magnetic field (EMF) study to be prepared for the Flint Mine Solar Facility. The EMF Study will identify segments of electrical lines that will have unique electric and magnetic field characteristics, will identify these segments on aerial photos or drawings, and will indicate the distance to the nearest residence or occupied building in each ROW segment. The EMF Study will also model the strength and locations of electric and magnetic fields that will be generated by the Facility.

2.35.2 Proposed Content of the Application

Consistent with the requirements of 1001.35 of the Article 10 Regulations, Exhibit 35 of the Article 10 Application will include:

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

None of the electrical lines from the 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. 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:

(1) any known overhead electric transmission, sub-transmission, and distribution facilities showing structural details and dimensions and identifying phase spacing, phasing, and any other characteristics affecting EMF emissions;

(2) any known underground electric transmission, sub-transmission (i.e., 34.5 kV collection system), and distribution facilities;

(3) ROW boundaries; and

(4) structural details and dimensions for all structures (dimensions, phase spacing, phasing, and similar categories) and an overview map showing locations of structures.

(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

The Application will include an EMF study with calculation tables and field strength graphs calculated at one meter above ground level with five-foot measurement intervals depicting the width of the entire ROW and out to 500 feet from the edge of the ROW on both sides for each unique ROW cross section. The EMF Study will also include:

(1) Licensed Professional Engineer

The EMF study included in the Article 10 Application will be signed and stamped/sealed by a licensed professional engineer registered and in good standing in the State of New York.

(2) Computer Software Program

The software to be used in the EMF study will be identified in the Article 10 Application.

(3) Electric Field Calculation Tables and Field Strength Graphs

The EMF study will model the strength and locations of electric fields to be generated by the Facility. Modeling will be conducted at rated voltage, and the measurement location and interval will be described in the Article 10 Application. Electric field strength graphs depicting electric fields along the width of the entire ROW and out to the property boundary of the Facility will be included in the EMF study. Digital copies of all input assumptions and outputs for the calculations will be provided under separate cover.

(4) Magnetic Field Calculation Tables and Field Strength Graphs

The EMF study will model the strength and locations of magnetic fields to be generated by the Facility. Modeling will be conducted at rated voltage, and the measurement location and interval will be described in the Application. There is no expected change in amperage under any of the following conditions: summer normal, summer short term emergency, winter normal, and winter short term emergency Therefore, the magnetic field modeling to be performed will be applicable to any of these conditions. Magnetic field strength graphs depicting magnetic fields along the width of the entire ROW and out to the property boundary of the Facility will be included in the EMF study. Digital copies of all input assumptions and outputs for the calculations are being filed under separate cover.

(5) Magnetic Field Calculation Tables and Field Strength Graphs for Maximum Annual Load within 10 Years

There is no expected change in amperage in maximum average load initially versus for 10 years after initiation of operation. Therefore, the modeling of magnetic fields described above in 1001.35(d)(4) (including both the graphs and tables included in the EMF study) will be applicable to both initial operation and operation after 10 years.

(6) Base Case Magnetic Field Calculation Tables and Field Strength Graphs

Other than the short (<1000ft) loop-in/loop-out lines between the existing 115kV lines and the POI Switchyard, there are no proposed high voltage transmission lines, therefore this analysis is not applicable to the proposed Facility.

2.36 GAS INTERCONNECTION

The proposed Facility will not require gas interconnection facilities, and as such, the requirements of 1001.36 are not applicable and will not be included in the Article 10 Application.

2.37 BACK-UP FUEL

The proposed Facility will not require back-up fuel, and as such, the requirements of 1001.37 are not applicable and will not be included in the Article 10 Application.

2.38 WATER INTERCONNECTION

The proposed Facility will 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 Greene 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 Greene 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

2.40.1 Discussion

It is not anticipated that the Facility will require telecommunication interconnections as that term is defined by Article 10, 16 NYCRR 1000.2. It is likely that data will be transmitted to National Grid, and possibly to Central Hudson Gas & Electric and others using existing telecommunications facilities as the area is generally served by existing cellular and broadband services. However, the Applicant will conduct a review of existing communications facilities to determine whether new facilities will be required to meet off-site communication needs prior to submitting the Article 10 Application. If any additional facilities are identified, a description of such facilities will be contained in Application Exhibit 2.40.

2.40.2 Content of the Application

(a) Operational Data Transmitted to NYISO

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 in order to outline the scope and methodology of studies being performed for the Facility, which will generate up to 100 MW-AC of renewable energy with no emissions of pollutants, including greenhouse gases, to the atmosphere, and without the need for the use of significant quantities of water. Proposed Facility components will include: PV modules, mounting systems, underground or overhead collection lines, inverters, energy storage if economically feasible, a collection substation, a point of interconnection (POI) switchyard, access driveways (gravel or other low impact surface), 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 Article 10 Regulations.

The proposed Facility is a utility-scale solar project located in Greene County, New York in the Towns of Coxsackie and Athens. The proposed Project Site boundary (see Figure 2) consists of approximately 1,700 acres of private land, including a mix of post-agricultural and forest land. The Project's actual footprint will total approximately 600 acres within the proposed Facility Area boundary. Portions of the remaining acreage within the Project Site boundary will be used for proposed grassland habitat and cultural resource preservation, wetlands, buffer areas and screening.

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 February 9, 2018, comments on the PIP were received from the New York State Department of Public Service (DPS) on March 9, 2018, and the PIP was updated, finalized and filed by the Applicant on April 9, 2018. The PIP, as well as electronic copies of this PSS and other case documents, can be accessed, viewed and downloaded on the online case record maintained by the Siting Board and on the Facility-specific website maintained by the Applicant:

- (http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterSeq=55834)
- (http://www.hudsonenergydev.com/flint-mine-solar.html)

Flint Mine Solar has an office at 2021 Western Avenue, Suite 105A, Albany, NY 12203. The Applicant has also held various public meetings/open houses, which provided answers to questions from area residents, as well as the following information:

- Facility and company fact sheet
- Article 10 Process Presentation
- Preliminary Layout Maps

- An overview of anticipated Economic Benefits

The Applicant has provided paper copies of all major filings, as well as documents presented at the open houses, at the following repositories:

- Heermance Memorial Library (Coxsackie)
- D.R. Evart Library (Athens)
- Athens Town Hall
- Coxsackie Town Hall

Following submission of this PSS, stakeholders and members of the public will have an opportunity to review and comment on the document, and the Applicant will formally respond to those comments by filing a PSS Comment Response. Within 60 days of this PSS filing, a pre-application conference will be held in the Project vicinity, at which time the Presiding Examiners will consider requests for intervenor funding from municipalities and qualified local parties, and will authorize the commencement of the voluntary pre-application stipulations process. The Applicant would then continue to implement studies, outreach efforts, and information-gathering committed to in this PSS and in Stipulations, in preparation of the Flint Mine Solar Article 10 Application.

During the time before the submission of the Article 10 Application, the Applicant intends to continue stakeholder outreach. The Applicant has conducted a mailing to members of the master stakeholder list, including host and adjacent landowners, 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 at least one additional open house on November 8th, 2018 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 the Article 10 Regulations which govern the format and contents of the Article 10 Application, 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
- Archeological Surveys
- Historic Architectural Resources Survey
- Preliminary Geotechnical Investigation
- Invasive Species Control Plan
- Preliminary Stormwater Pollution Prevention Plan
- Preliminary Spill Prevention, Control and Countermeasure Plan
- Plant and Wildlife Species Inventory
- Wetland and Stream Delineation Report
- Route Evaluation Study
- Draft Decommissioning Plan
- Electric and Magnetic Field Study

Finally, as previously indicated, the Applicant has prepared a content matrix to allow for a comparison of the content of this document with the requirements of 1000.5(l), which is provided in Table 10.

Table 10. Comparison of Contents of this PSS with the Requirements of 16 NYCRR § 1000.5(l)

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

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Flint Mine Solar PSS	Notes
Section 1000.5 (l)(2)(iii)	The extent and quality of information needed for the application to adequately address and evaluate each potentially significant adverse environmental and health impact, including existing and new information where required, and the methodologies and procedures for obtaining the new information;	Section 2.0	This Section, and all associated subsections, identify the extent and quality of information that is proposed to be included in the Article 10 Application, including numerous stand-alone support studies.
Section 1000.5 (l)(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.
Section 1000.5 (l)(2)(vi)	For those adverse environmental and health impacts that cannot be reasonably avoided, an identification of measures proposed to mitigate such impacts;	see above	see above

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Flint Mine Solar PSS	Notes
Section 1000.5 (l)(2)(vii)	Where it is proposed to use petroleum or other back-up fuel for generating electricity, a discussion and/or study of the sufficiency of the proposed on-site fuel storage capacity and supply;	Not applicable to this Project	
Section 1000.5 (l)(2)(viii)	A description and evaluation of reasonable and available alternative locations for the proposed facility, including a description of the comparative advantages and disadvantages of the proposed and alternative locations, except that a private facility applicant may limit its description and evaluation of alternative locations to parcels owned by, or under option to, such private facility applicant or its affiliates;	Section 2.9	This Section of the PSS specifically addresses alternatives, including reasonable and available alternative locations and the comparative advantages and disadvantages of the proposed and alternative locations. However, as indicated in Section 2.9, this Project is being proposed by a private facility applicant and therefore the description and evaluation of alternative locations will be limited to parcels owned by, or under option to, such private facility applicant or its affiliates.
Section 1000.5 (l)(2)(ix)	If the proposed facility affects any land or water use or natural resource of the coastal area and federal authorization or funding is necessary, a preliminary analysis of the consistency of the proposed facility with the enforceable policies of the New York State coastal management program or, where the action is in an approved local waterfront revitalization program area, with the local program;	Not applicable to this Project	

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Flint Mine Solar PSS	Notes
Section 1000.5 (l)(2)(x)	A statement of the reasons why the primary proposed location and source, taking into account the potentially significant and adverse environmental impacts, is best suited, among the alternatives, including a "no action" alternative, to promote public health and welfare, including the recreational and other concurrent uses that the site may serve, except that a private facility applicant may limit its description and evaluation of alternative locations to parcels owned by, or under option to, such private facility applicant or its affiliates and its description and evaluation of alternative sources to those that are reasonable alternatives to the proposed facility that are feasible considering the objectives and capabilities of the sponsor;	Section 2.9	This Section of the PSS specifically addresses alternatives, including a "no action" alternative and a statement of the reasons why the primary proposed location and source, taking into account the potentially significant and adverse environmental impacts, is best suited, among the alternatives, to promote public health and welfare, including the recreational and other concurrent uses that the site may serve. However, as indicated in Section 2.9, this Project is being proposed by a private facility applicant and therefore the description and evaluation of alternative locations will be limited to parcels owned by, or under option to, such private facility applicant or its affiliates.

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Flint Mine Solar PSS	Notes
Section 1000.5 (l)(2)(xi)	A preliminary identification of the demographic, economic and physical attributes of the community in which the facility is proposed to be located and in which any alternative location identified is located, and a preliminary environmental justice evaluation of significant and adverse disproportionate environmental impacts of the proposed facility and any alternative facility identified that would result from construction and operation considering, among other things, the cumulative impact of existing sources of emissions of air pollutants and the projected emission of air pollutants from the proposed or alternative facility in a manner that is in accordance with any requirements for the contents of an Article 10 preliminary scoping statement contained in 6 NYCRR Part 487 promulgated by the DEC for the analysis of environmental justice issues; and	Sections 2.27 and 2.28	Section 2.27 provides demographic information for the host towns, while Section 2.28 specifically address Environmental Justice, including identification of the nearest Potential Environmental Justice Area

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Flint Mine Solar PSS	Notes
Section 1000.5 (l)(2)(xii)	An identification of any other material issues raised by the public and affected agencies during any consultation and the response of the applicant to those issues.	Appendix B	As of the date of filing this PSS, a number of issues have been raised by the public or affected agencies, which have been captured in this PSS. The Meeting Log included at Appendix B to this PSS provides more detail on these types of issues identified by members of the public, but generally they have included: grassland habitat and environmental impacts; impacts to land use and property; potential impacts to the Sleepy Hollow Lake; agricultural impacts; construction; visibility; heat and glare from solar modules; communications impacts; and project size and scale.
Section 1000.5 (l)(3)	An identification of all other state and federal permits, certifications, or other authorizations needed for construction, operation or maintenance of the proposed facility;	Sections 2.32 and 2.33	Section 2.32 addresses state laws and regulations, which Section 2.33(b) addresses anticipated federal permits and approvals.
Section 1000.5 (l)(4)	A list and description of all state laws and regulations issued thereunder applicable to the construction, operation or maintenance of the proposed facility and a preliminary statement demonstrating an ability	Section 2.32	Section 2.32 addresses state laws and regulations.

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Flint Mine Solar PSS	Notes
	to comply;		
PSL 1000.5(l)(5)	A list and description of all local laws, and regulations issued thereunder, applicable to the construction, operation, or maintenance of the proposed facility and a statement either providing a preliminary assessment of an ability to comply or indicating specific provisions that the applicant will be requesting the Board to elect not to apply, in whole or in part, and a preliminary explanation as to why the Board should elect not to apply the specific provisions as unreasonably burdensome in view of the existing technology or the needs of or costs to ratepayers whether located inside or outside of such municipality;	Section 2.31	Section 2.31 addresses local laws and ordinances.
PSL 1000.5 (l)(6)	A description of the applicant, its formation, status, structure, holdings, affiliate relationships, powers (including whether it has or will seek to obtain the power of eminent domain, either directly or indirectly), franchises and consents;	Section 2.1	Section 2.1 describes the applicant, including the type of business and its formation. The Applicant does not plan to seek to obtain the power of eminent domain.
PSL 1000.5 (l)(7)	A description of the applicant's property rights and interests or those it proposes to acquire to all lands of the proposed facility and any private or public lands or private or public streets, highways or rights-of-way	Section 2.13	Section 2.13 provides information regarding the applicant's property rights and interests.

16 NYCRR Section 1000.5(l)	Requirement	Corresponding Section of the Flint Mine Solar PSS	Notes
	crossed by any interconnections necessary to serve the facility such as, but not limited to, electric lines, gas lines, water supply lines, waste water or other sewage treatment facilities, communications and relay facilities, access driveways, rail facilities, or steam lines; and		
PSL 1000.5 (l)(8)	Any other information that the Applicant may deem to be relevant.	Entire PSS	Any other information deemed relevant by the Applicant has been included in the PSS.

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