CORDELIO POWER

FLAT CREEK SOLAR

Permit Application No. 23-00054

§ 1100.2-22 Exhibit 21

Electric System Effects and Interconnection

Contents

Acronym List

AAC	all-aluminum conductor
AC	Alternating current
ACI	American Concrete Institute
ACSR	aluminum conductor steel reinforced
ANSI	American National Standards Institute
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Materials
BESS	Battery Energy Storage System
BPS	bulk power system
CCT	Critical clearing time
CEII	Critical Energy Infrastructure Information
DC	Direct current
EIA	Electric Industry Alliance
EPC	engineering, procurement, and construction
FERC	Federal Energy Regulatory Commission
HV	high voltage
IBC	International Building Code
IEEE	Institute of Electrical and Electronics Engineers
kV	kilovolt
LOD	Limit of Disturbance
MOP	Manuals and Reports on Engineering Practice
MV	medium voltage
NDA	Non-Disclosure Agreement
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NERC	North American Electric Reliability Corporation
NESC	National Electric Safety Code
NFPA	National Fire Protection Association
NPCC	Northeast Power Coordinating Council, Inc.
NYISO	New York Independent System Operator, Inc.
NYPA	New York Power Authority
NYSDEC	New York State Department of Environmental Conservation

NYSRC	New York State Reliability Council, L.L.C.
NYSTS	New York State Transmission System
OATT	Open Access Transmission Tariff
ORES	Office of Renewable Energy Siting and Electric Transmission
OSHA	Occupational Safety and Health Administration
PD	Partial Discharge
PE	Professional Engineer
Plan	Facility Maintenance and Management Plan
POI	point of interconnection
PPE	Personal Protective Equipment
PV	photovoltaic
SCADA	supervisory control and data acquisition
SRIS	System Reliability Impact Study
TIA	Telecommunications Industry Association
UL	Underwriters Laboratories
Vac	voltage of alternating current
VLF	Very Low Frequency

Glossary Terms

Applicant	Flat Creek Solar NY LLC, a subsidiary of Cordelio Power LP, the entity seeking a siting permit for the Facility from the Office of Renewable Energy Siting and Electric Transmission (ORES) under Article VIII of the New York State Public Service Law.
Facility	Flat Creek Solar, a 300 MW solar generating facility located in the Towns of Root and Canajoharie, NY. The proposed Facility components to be constructed for the generation, collection, and distribution of energy for Flat Creek Solar include solar panel modules, electrical collection system, collection substation, point of interconnection (POI) switchyard, access roads, laydown/staging areas, and other ancillary facilities.
Facility Site	The participating parcels encompassing Facility components, which totals approximately 3,794 acres in the Towns of Canajoharie and Root, Montgomery County, New York (Figure 2-1).
Study Area	The Study Area for the Facility includes a radius of five miles around the Facility Site boundary, unless otherwise noted for a specific resource study or Exhibit. The 5-mile Study Area encompasses approximately 108,667 acres, inclusive of the approximately 3,794-acre Facility Site.
Limit of Disturbance (LOD)	The area to which temporary construction impacts will occur, totaling approximately 1,637 acres.

Exhibit 21: Electric System Effects and Interconnection

This Exhibit provides information required in accordance with the requirements of §1100-2.22 of the Article VIII Regulations.

21(a) Electric Interconnection

The power generated by the Facility photovoltaic (PV) arrays will be transformed from direct current (DC) to alternating current (AC) by 79 inverters placed throughout the Facility, up to 630 volts (Vac.). The collection substation will include a step-up transformer which will increase the voltage from 34.5 kilovolts (kV) to 345 kV for interconnection. The Facility point of interconnection (POI) switchyard will connect the Facility with the existing 345 kV New York Power Authority (NYPA) Transmission Line #352. The existing Line #352 will effectively loop in and loop out of the new POI switchyard. The POI switchyard for the Facility is located approximately 230 feet south of the existing NYPA Transmission Line #352. A high voltage (HV) circuit breaker and group operated disconnect switches will be installed between the main power transformer and the POI switchyard. The Applicant does not propose the installation of a Battery Energy Storage System (BESS).

The sections below provide a detailed description of the proposed electric interconnection components. Refer to Exhibit 5 (Design Drawings) and Appendix 5-1 for additional information regarding the proposed electric interconnection design including voltage, conductors, insulators, equipment to be installed, collection and transmission lines, collection substation and POI switchyard components, and tower materials and dimensions.

(1) Voltage

Power generated from the solar arrays will be approximately 1,500 volts DC and will be converted to approximately 630 volts AC. The power produced by the inverters will be directed to medium voltage (MV) transformers which will increase the voltage to approximately 34.5 kV for transfer to the collection substation by underground collection lines A transformer within the collection substation will increase the 34.5 kV to the transmission voltage of 345 kV for interconnection to the existing NYPA Transmission Line #352. An approximately 130-foot overhead generation-tie line (gen-tie) will connect the collection substation to the three-breaker ring bus in the POI switchyard. Power will then be transferred to the existing transmission system via two overhead transmission lines, approximately 230 feet in length, which will connect the POI switchyard to the existing NYPA Transmission Line #352.

(2) Conductors

The Facility's collection substation will be located in the northcentral part of the Facility Site off of Hilltop Road (County Rd. 96), west of the POI switchyard. The 12 proposed bundled conductors and four grounded shield wires to be used in the 230-foot span between the POI switchyard and the existing NYPA Transmission Line #352 will be either an all-aluminum conductor (AAC), aluminum conductor steel reinforced (ACSR), or similar conductors selected in coordination with NYPA. The final size and materials will be determined during final engineering design.

(3) Insulator Design

The interconnection insulator or chain of insulators will be typical utility-grade ceramic/porcelain or composite/polymer insulators, designed and constructed in accordance with American National Standards Institute (ANSI) and the National Electrical Manufacturers Association (NEMA) C29 Manual. The insulator for the collection substation and POI switchyard will be constructed of porcelain and the insulators for the interconnection span may be composite polymer. The load of the insulator will not exceed the insulator strength as detailed in ANSI/NEMA C29.9 Tables 1 and 2.

(4) Length of Transmission Line

The 345 kV transmission line between the collection substation and the POI switchyard is expected to be approximately 130 feet. The collection substation is expected to be 20 feet west of the proposed POI switchyard. The majority of the overhead line will be contained within the boundaries of the collection substation and the POI switchyard. The POI switchyard will connect to the existing NYPA 345 kV Transmission Line #352 via two adjacent overhead 345 kV lines, expected to be approximately 230 feet in length.

(5) Tower Dimensions & Construction Materials

The Facility proposes to use steel pole towers, approximately 140 feet above ground level. The maximum height of structures within the collection substation will be 90 feet and will be the frame of the structure for the 345 kV interconnection. The footprint of the collection substation is estimated to be 305 feet by 291 feet, totaling 88,755 square feet (2.04 acres). The estimated POI switchyard footprint is 492 feet by 333 feet, totaling 163,836 square feet (3.76 acres). The collection substation and POI switchyard are depicted in Appendix 5-1.

(6) Tower Design Standards

The proposed towers and foundations were designed in accordance with the following standards:

- ANSI
- NEMA
- American Society of Civil Engineers (ASCE)
    - Manual 72, “Design of Steel Transmission Pole Structures”
    - Manuals and Reports on Engineering Practice (MOP) 113, “Substation Structure Design Guide”
    - Standard 48, “Design of Steel Transmission Pole Structures”
- American Society for Testing and Materials (ASTM)
- Institute of Electrical and Electronic Engineers (IEEE) C2 – National Electric Safety Code (NESC)
- National Fire Protection Association (NFPA) 70 – NEC - National Electric Code
- Occupational Safety and Health Administration (OSHA)
- Rural Utilities Service Bulletin 1724E-200 “Design Manual for High Voltage Transmission Lines”

(7) Underground Cable System & Design Standards

No underground lines or cabling are proposed for the 345 kV gen-tie between the collection substation and the POI switchyard. Running the lines overhead avoids the need for concrete vaults installed underground to support the installation and operation of a high voltage underground transmission line. Should an underground connection be required, it will be designed in accordance with the following codes and standards:

- ANSI
- ASTM
- IEEE
- NFPA
- NEMA
- OSHA
- NEC

(8) Underground Lines Profile & Oil Pumping Stations/Manhole Locations

Underground 34.5 kV collection lines will be installed in the MV collection system throughout the Facility. Generally, installations of underground collection lines will be no less than 36 inches (3 feet) below ground surface (bgs) outside of agricultural lands, and 48 inches (4 feet) bgs within agricultural lands. For areas where the depth to bedrock is encountered less than 48 inches bgs, the collection lines will be buried below the surface of the bedrock if the bedrock is friable. Cross section details of the 34.5 kV collection lines are presented in Exhibit 5 (*Design Drawings*), Appendix 5-1.

As noted, no underground cabling for the 345 kV connection to the NYPA Transmission Line #352 is anticipated. Oil pumping stations or manholes are not proposed for the Facility.

(9) Equipment to be Installed

The collection substation will include two 34.5 kV to 345 kV main power transformers, two 34.5 kV buses, 34.5 kV underground feeder risers, 34.5 kV overhead feeder bays, medium and high voltage breakers, one 345 kV dead end structure, lightning masts and a control building. The control building will house all local controls, protection relays, and communication infrastructure required to deliver the energy safely on the existing NYPA Transmission Line #352. The equipment within the collection substation will be placed on concrete foundations, helical piles, or similar support structures.

The power generated by the solar PV modules will be collected at the collection substation at a voltage of 34.5 kV. A step-up transformer is required to raise the collection substation voltage level from 34.5 kV to the NYPA Transmission Line #352 operating level of 345 kV.

The POI switchyard will include a three-breaker ring bus adjacent to the existing NYPA 345 kV Transmission Line #352. The POI switchyard is expected to include three 345 kV breakers, ten 345 kV disconnect switches, three 345 kV metering units, three 345 kV dead end structures, lightning masts, bus supports, buried control wiring, buried ground wires, control enclosure, and fenced substation gravel yard.

(10) Any Terminal Facility

Terminal facilities will consist of the 34.5 to 345 kV collection substation described above and the 345 kV POI to the existing NYPA Transmission Line #352.

(11) Cathodic Protection Measures

Cathodic protection measures are not expected to be required for installation of the underground systems. The underground MV collection system crossing the existing gas pipelines within the Facility will be encased in HDPE conduit therefore will not require cathodic protection measures.

21(b) System Reliability Impact Study

A System Reliability Impact Study (SRIS) for the Facility was performed by CF Power for the New York Independent System Operator (NYISO) in accordance with the NYISO Applicable Reliability Standards set forth in Attachment X of the NYISO Open Access Transmission Tariff (OATT). A copy of the SRIS is included as Appendix 21-1 in this Application, but will be filed separately under confidential cover, as NYISO requires the SRIS to remain confidential due to Critical Energy Infrastructure Information (CEII) Regulations. The SRIS was performed using the updated NYISO Class Year 2019 ATBA base cases that were developed from the 2019 Federal Energy Regulatory Commission (FERC) 715 filing cases which had the 2024 system representation. Results of this study are summarized below:

- Steady-State Analysis (N-0, N-1 & N-1-1), Summer Peak and Light Load:
    - Under N-0 pre-contingency condition, no thermal or voltage violations impacted by the Facility were identified in the Study Area.
    - Under the post-contingency (N-1) conditions with the Facility, no thermal overload (>100% of LTE ratings) was observed. No adverse impact was observed due to the connection of the Facility.
    - For the N-1-1 analysis, new thermal overload on Porter to Ilion 115 kV branch was observed and can be mitigated by re-dispatching the Facility after first contingency. Thus, it is not considered as an adverse impact caused by the Facility. No new voltage violation was observed and existing voltage violations worsen by the Facility can be brought back to pre-development levels by re-dispatching the Facility after first contingency.
- Stability Analysis:
    - The transient stability analysis indicated that the New York State Transmission System (NYSTS) and the proposed Q1089 units remained stable and positively

damped under the studied contingencies in both summer peak and light load conditions.

  - Critical clearing time (CCT) assessment indicates that the connection of the Facility will not impact the CCT at the POI as well as adjacent buses including Edic and Princetown 345 kV substations.

- Transfer Assessments:
  - The Facility's impact on the Normal and Emergency transfer limits of the Upstate NY to South East NY, Total East and Central East interfaces was evaluated. The transfer limits were evaluated in the predominant north-to-south direction. Thermal degradations higher than 25 MW were observed. These can be mitigated by redispatch under the MIS. The Facility had no adverse impact on the voltage or stability limit of any of the tested interfaces.
- Short-Circuit Analysis:
  - The connection of the Facility will increase the total bus fault currents at nearby substations. No fault current exceeding lowest breaker rating was observed.
- Northeast Power Coordinating Council (NPCC) A-10 Testing:
  - Stability and steady state analyses were conducted under summer peak and light load conditions to assess the impact of the selected bus tripping contingencies on the outside of the local area. The assessment indicates that no new bulk power system (BPS) elements were classified as the result of the connection of the Facility.

The SRIS will also be submitted as part of this Application submission directly to a representative at ORES with CEII Non-Disclosure Agreement (NDA) clearance as a confidential appendix.

21(c) Impact on Transmission System Reliability

The SRIS evaluated several power flow base cases developed by the NYISO including thermal and voltage summer peak and light load system steady state conditions. During summer peak and light load system conditions the SRIS determined that the Facility does not cause any significant thermal and voltage impacts under normal and emergency system conditions.

21(d) Impact on Ancillary Services

The SRIS did not identify any benefits or detriments of the Facility on ancillary services or the electric transmission system.

21(e) Impact on Total Transfer Capacity

Transfer limit analysis was performed to evaluate the impact of the Facility on the transfer limits of the UPNY-SENY (open and close), Central East and Total East interfaces. Thermal, voltage and stability transfer limit analyses were conducted using pre- and post-contingency Levelized Transfer cases. Transfer assessments were conducted in accordance with the following North American Electric Reliability Council (NERC), New York State Reliability Council (NYSRC) rules, and NYISO manuals:

- NERC Standard FAC-013-2 Transfer Capability Methodology
- NYSRC Reliability Rules for Planning and Operating the New York Bulk Power System
- NYIS methodology for Assessment of Transfer Capability in the Near-Term Transmission Planning Horizon
- NYISO Transmission Expansion and Interconnection Manual – Attachments F, G, and H
- NYISO Emergency Operating Manual

The results of the stability transfer analysis show that with the Facility in service, the system's dynamic response is stable. The Facility has adverse impacts on the normal and emergency thermal transfer limits of the Central and Total East interfaces. The Facility adversely impacts the emergency thermal limit of the UPNY-SENY interface. These thermal impacts can be mitigated via redispatching the Facility under the MIS.

The Facility does not adversely impact the voltage or stability limit on any of the tested interfaces.

21(f) Criteria, Plans, and Protocols

The Applicant intends to contract with an engineering, procurement, and construction (EPC) contractor(s) to design, build, and commission the Facility.

(1) Engineering Codes, Standards, Guidelines and Practices

The Facility will be designed in accordance with the following applicable standards, codes, and guidelines:

- American Concrete Institute (ACI)
- ANS)
- ASCE
- ASTM
- International Building Code (IBC)
- IEEE
    - IEEE 48 - Standard Test Procedures and Requirements for Alternating-Current Cable Terminations 2.5 kV through 765 kV
    - IEEE 80 – IEEE Guide for Safety in AC Substation Grounding
    - IEEE 400 - Guide for Field Testing and Evaluation of the Insulation of Shielded Power Cable Systems
    - IEEE 400.1 – Guide for Field Testing of Laminated Dielectric, Shielded Power Cable Systems Rated 5 kV and Above with High Direct Current Voltage
    - IEEE 400.3 - Guide for Partial Discharge Testing of Shielded Power Cable Systems in a Field Environment
    - IEEE 485 – IEEE Recommended Practice for Sizing Lead-Acid Batteries for Stationary Applications
    - IEEE 605 - IEEE Guide for Design of Substation Rigid-Bus Structures
    - IEEE 693 – IEEE Recommended Practices for Seismic Design of Substations
    - IEEE 980 - IEEE Guide for Containment and Control of Oil Spills in Substations
    - IEEE 998 – IEEE Guide for Direct Lightning Stroke Shielding of Substations
    - IEEE C37.110 - Guide for the Application of Current Transformers Used for Protective Relaying Purposes
    - IEEE C37.119 - IEEE Guide for Breaker Failure Protection of Power Circuit Breakers
    - IEEE C37.2 – IEEE Standard Electrical Power System Device Function Numbers and Contact Designation
    - IEEE C37.90 - IEEE Standard for Relays and Relay Systems Associated with Electrical Power Apparatus
    - IEEE C57.13 – IEEE Standard Requirements for Instrument Transformers

- IEEE C57.12.10 - IEEE Standard Requirements for Liquid-Immersed Power Transformers
    - IEEE 998 – IEEE Guide for Direct Lightning Stroke Shielding of Substations
    - IEEE 1313.2 - IEEE Guide for the Application of Insulation Coordination
- NESC
- National Electric Code (NEC) 2020
- NERC
- NESC
- NFPA
    - NFPA 70 - National Electric Code
    - NFPA 850 – National Fire Protection Association – Recommended Practice for Fire Protection for Electric Generating Plants and High Voltage Direct Current Converter Stations
- NEMA
- Telecommunications Industry Association (TIA)/Electric Industry Alliance (EIA)

The Facility will comply with NYISO codes and standards regulating the design, construction, and commissioning of electrical and interconnection facilities. For Facility components to be owned be the Applicant (e.g., collection system), best industry practices, standards, and guidelines will be used. For the POI switchyard, NYPA requirements will be followed. Refer to Exhibit 5 for additional information on applicable engineering codes, standards, guidelines, and practices.

(2) Facility Type Certification

The Facility will use materials and equipment meeting applicable local, state, and federal requirements and will be certified by the Underwriters Laboratories (UL) or other nationally recognized testing laboratory as required by NFPA 70. Material will be sourced new and will meet applicable requirements and standards listed above in order to facilitate the long-term, reliable operation. Specification sheets for the proposed solar modules and racking systems are provided in Appendix 2-1. The equipment ultimately installed at the Facility will be selected prior to construction and will depend on factors such as market conditions and availability. The equipment ultimately selected for use at the Facility shall comply with the applicable standards and requirements listed above.

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

Inspection, testing, and commissioning of Facility's electrical connections, panel operations, and associated components will be conducted to ensure the integrity of the Facility components. The Facility will have a written inspection, testing, and commissioning plan for electrical systems, as detailed below. The inspection, testing, and commissioning plan shall be implemented for all stages of construction and post-construction. When completed, inspection, testing, and commissioning documentation will be provided to the ORES and stored at the Facility Site.

Post-construction inspection, testing, and commissioning of the Facility's solar panels includes, but is not limited to:

- Adhering to all employee safety requirements;
- Confirmation that the panels have been de-energized to ensure no current is flowing through the electrical components;
- Verifying all protective equipment has been properly installed;
- Confirming that all wires and cable have been routed properly without sharp bends;
- Checking that all fuses, connections, safety switches, breakers, inverters, and all other systems/components are appropriately installed and securely fastened;
- Ensuring that there are no short circuits or short protections, and confirming the components are ready to receive power; and
- Panel and inverter testing.

MV Collection System

Equipment and material used for the collection system will require factory acceptance test reports be provided by the manufacturer showing compliance with the applicable ANSI/IEEE/NETA standards and design standards. The collection system materials shall be inspected by the Applicant and its contractors prior to and during construction and installation for defects. The system shall also be inspected to confirm it adheres to the design specifications. Testing and reporting shall be performed under the supervision of a licensed State of New York Professional

Engineer (PE). The equipment shall be de-energized prior to performing testing, except for equipment required to be energized for functional testing, including, but not limited to insulators, hardware, cables, fiber, cable accessories, sectionalizing equipment, fill materials, and grounding material.

Commissioning of the collection substation includes, but is not limited to the following procedures:

- Visual, mechanical, and electrical testing of power transformers and high-voltage breakers;
- Testing of all metering units, circuit breakers, transformers, switches, relays, computer systems, and other instruments;
- Switchgear and switchboard inspections and testing;
- Testing and diagnostics of all cables;
- Testing of the grounding systems; and
- Substation integration into the data collection system.

Materials, equipment, and installation methods used for the underground and aboveground cables, fiber optic cabling, and the MV system shall be tested and inspected during construction to ensure conformance with the design according to the approved construction drawings. The electrical cables, equipment, and fiber optic communication cables shall be tested in accordance with IEEE/ANSI/NETA recommendations to identify any deficiencies or damage in the system that could result in outages or failure. Refer to Appendix 5-1 for typical MV system details.

The MV electrical cable testing may at a minimum include Very Low Frequency (VLF) or Partial Discharge (PD) testing. The fiber optic communication cables will be tested for continuity and attenuation after cable placement, splicing, and termination. Testing of transformers will be performed in accordance with applicable ANSI/IEEE standards. Post-installation attenuation testing results shall be compared with the pre-installation attenuation results. Changes in attenuation shall not exceed the tolerance of the approved pre-installation specifications. Test results shall be submitted by the construction contractor to the Applicant for review and approval.

Collection Substation & POI Switchyard

The collection substation shall be inspected, tested, and commissioned in accordance with applicable ANSI, IEEE, NFPA, NETA, ASTM, etc. requirements. Testing of the collection substation shall be performed with the equipment de-energized, except where specifically required for it to be energized for functional testing.

Equipment and materials used for construction of the collection substation and POI switchyard will be visually inspected for defects and compatibility with the design specifications prior to installation. Manufacturing facilities shall complete industry standard electrical and mechanical tests on equipment before the equipment leaves the manufacturer. Additional tests will be performed on specific equipment after installation at the Facility Site to ensure that there was no damage during transport or installation. Standard testing shall be performed on equipment to ensure that the components were constructed and installed correctly at the Facility Site.

PV Modules

Facility commissioning will begin once the PV modules, collection substation, and POI switchyard are fully installed and the NYISO is ready to synchronize the Facility with the existing electrical grid. Commissioning and operation of the Facility relies on consistent systems monitoring and testing. Systems monitoring will include DC array inspection through manual electrical testing and aerial thermal imaging.

(4) Maintenance and Management

A Facility Maintenance and Management Plan (Plan) will be prepared for the Facility prior to the commencement of construction. This Plan will detail the required maintenance, management, and inspection procedures required during operation of the Facility. The Plan will be implemented once the Facility is operational and submitted in accordance with Section 1100-10.2(e)(3) of the Article VIII regulations. The objective of the Plan is to improve the operational capacity and availability of the Facility through maintenance guidelines and regular inspections intended to pro-actively detect significant safety or maintenance issues at the Facility. Operational maintenance of the Facility will include, but is not limited to, routine mowing and vegetation management; inspection, cleaning, and maintenance of the solar arrays and electrical equipment; and safety inspections.

The Plan will detail the Facility's vegetation management procedures, including, but not limited to mowing and herbicide application. The fenced area will be mowed to ensure vegetation remains below the height of the solar panels. Areas within the Facility fencing will be planted with native vegetation according to the Landscaping Plan (see Appendix 5-1). Vegetated areas outside of the fenced area shall be mowed, brush-hogged, and maintained periodically to provide maintenance access and to prevent shading of solar panels. Herbicides may be applied as a spot treatment to specific locations, such as around high voltage equipment that can't be safely maintained mechanically, to provide a secondary form of vegetation control. Herbicide use at the Facility shall comply with the New York State Department of Environmental Conservation (NYSDEC) Pesticide Control Regulations and requirements. Herbicides may be used to control the spread of invasive species. An Invasive Species Management and Control Plan has been prepared for the Facility and is provided as Appendix 11-1 to this Application.

MV Collection System

The MV collection system is primarily passive and ongoing maintenance is generally not required for the MV collection system aside from routine visual monitoring and inspection, and failure correction. The primary equipment for sensing and managing electrical faults in the MV collection system is in the substation. Sectionalizing equipment will be located throughout the Facility along the MV Collection System routes. Sectionalizing equipment will be located at key points between aboveground and underground portions of the MV collection system and will detect or protect the system from electrical faults.

Industry standard hazard labels will be installed on accessible electrical equipment specifying Personal Protective Equipment (PPE) required for operational activities. Appropriate PPE will always be used for the activities being performed.

Collection Substation

The collection substation will have a supervisory control and data acquisition (SCADA) system that will send status and alarm signals to the overall Facility system. These signals will notify operators of items such as breaker trips, battery charger trouble, and transformer high and low temperature levels. Details of the SCADA system will be determined during the design phase after certification by the ORES but is generally accomplished using a communications line to transfer signals from an operator station to the substation equipment.

Equipment within the collection substation will be supplied by major manufacturers and shall be inspected and maintained in accordance with the manufacturer's O&M manual. Inspection and maintenance requirements will vary by equipment type and manufacturer. Copies of the manufacturer's O&M manuals shall be stored onsite.

The collection substation shall be inspected regularly and following certain sever weather events such as significant snow and ice storms, and extremely high winds. The collection substation design will be evaluated for adequacy to ensure changes in environmental factors, utility requirements, and equipment changes, do not negatively impact the Facility.

21(g) Transfer of Transmission Ownership

As noted, the Facility will interconnect to the existing NYPA 345 kV Transmission Line #352 via a 230-foot interconnecting transmission line from the POI switchyard to be constructed as part of the Facility. Upon completion of construction, the Applicant will transfer the land containing the interconnection facilities to NYPA. The Applicant will be responsible for transferring ownership and management of the POI switchyard and interconnecting facilities to NYPA prior to operation.

(1) Facilities to be Transferred

Final design and construction of the POI switchyard may be competed by either NYPA or the Applicant. If completed by the Applicant, NYPA will be consulted for design reviews, construction oversight, and commissioning.

(2) Transmission Owner Design Requirements

As noted, the POI switchyard and interconnecting transmission line will be owned and operated by NYPA and, therefore, NYPA will be responsible for operation and maintenance activities at the POI switchyard. The Applicant will retain responsibility for O&M activities at the collection substation and will coordinate with NYPA regarding final arrangements of responsibility as part of final design.

(3) Operational and Maintenance Responsibilities and Standards

Operation and maintenance responsibilities associated with the Facility's interconnection infrastructure, from the take-off structure to the main line, will be the responsibility of the Applicant. The Applicant will be responsible for the O&M activities at the substation and may coordinate with NYPA regarding the interconnection location.

21(h) Multi-use Options for Utilities

The Applicant does not anticipate sharing facilities with other utilities currently.

21(i) Equipment Availability and Delivery Schedule

Availability and delivery times for major Facility components vary depending on the selected equipment, manufacturer, and market conditions. The Applicant does not anticipate any concerns regarding major equipment availability or delivery timelines for the Facility but will monitor equipment availability prior to making the final equipment selections. Facility components are expected to be delivered during the following time ranges, based on current Facility design:

- PV Modules– Summer 2027 to Spring 2028
- High Voltage Transformers – Fall 2027 to Spring 2028
- Inverters – Fall 2027 to Spring 2028
- Racking Equipment – Spring 2027 to Winter 2027

Procurement strategies will be developed prior to construction during the final engineering and Facility planning stage. Modifications to equipment procurement may be required after the commencement of Facility construction based on product availability.