WATKINS GLEN SOLAR ENERGY CENTER

Case No. 17-F-0595

1001.12 Exhibit 12

Construction

Contents

Appendices

Exhibit 12: Construction

This Exhibit will track the requirements of Stipulation 12, dated February 21, 2020, and therefore, the requirements of 16 New York Codes, Rules and Regulations (NYCRR) § 1001.12.

12(a) Quality Assurance and Quality Control Plan

This Exhibit details the preliminary quality assurance and quality control (QAQC) procedures and discusses how Watkins Glen Solar Energy Center, LLC (the Applicant) will monitor Watkins Glen Solar Energy Center (the Watkins Glen Solar Energy Center or the Project) installation to maintain conformance with the applicable design, engineering and installation standards and criteria.

A construction team will be present at the Project Area to handle materials, construction, and quality control during construction of the Project. The Engineering, Procurement, and Construction (EPC) Contractor, selected by the Applicant, will manage local subcontractors to complete Project construction. An example QAQC Plan has been prepared for the Project and is provided as Appendix 12-1; however, the EPC Contractor, once selected, will prepare a Final QAQC Plan for the Project that will be submitted to the Secretary of the Siting Board.

Coordination between the Project development and construction teams will be ongoing throughout Project construction. A full-time construction manager will be present on a daily basis to collaborate with the EPC Contractor. The construction manager will be responsible for coordinating Project construction activities and communicating with local officials, citizens groups, and landowners as needed. In addition, the construction manager will be responsible for:

- Project Plan of the Day;
- Schedule, cost, and quality performance;
- Safety and environmental performance;
- Monthly management meetings;
- Overall Project direction;
- Revenue performance;
- Administration of contracts; and
- EPC contractor guidance and quality control.

The Applicant's construction manager will maintain full authority and responsibility for the EPC Contractor, subcontractors, and the associated quality control measures. Refer to Appendix 12-1

for the QAQC Plan and additional information regarding personnel roles and responsibilities and quality assurance guidance.

The construction manager will be responsible for maintaining construction site safety under the Applicant's "ZERO Today" philosophy as described in Exhibit 18 of this Application. In addition, the Applicant will conform to the requirements of the Occupational Safety and Health Administration (OSHA), the United States Environmental Protection Agency (USEPA), and other applicable regulations in New York State to ensure the safety of personnel and the public. The appropriate safety training will be required of all personnel working on the Project.

In addition to the construction manager, numerous personnel with varying levels of responsibilities will be involved in the planning and construction of the Project to ensure the timely, safe, and efficient use of resources and labor. A brief description of the specific responsibilities of each supporting personnel in relation to the Project is provided below. Additional details on the personnel roles and responsibilities are provided in Appendices 12-1 and 12-2 of this Application. Appendix 12-2 also details the Applicant's Major Duties & Accountability Matrix for the Project personnel.

- **Project Engineer** – Provides support and quality control to the engineering team for the Project. Communicates requests for information and engineering change notices to the construction team should there be any questions with field construction. Timely resolution of any engineering inquiry is imperative to drive the Project schedule.
- **Project Controls** – Tracks cost controls, risk, and capital forecasting in relation to the Project. Monitors updates to the Project schedule and reports on effects to the Project and its associated costs.
- **Operations Plant Lead and Start-Up Operations Transition** – Typically brought in near the end of construction to ensure a quick, safe, and efficient transition from the construction team to the operations team. This ensures the end of construction and transition into commissioning activities are completed smoothly.
- **Civil/Environmental** – Interfacing with permitting to ensure the requirements have been met. Identification and resolution of deficiencies. Oversight of compliance with environmental requirements. Maintaining daily coordination of the civil construction and activities associated with the installation of the solar panel arrays. Review and quality assurance of work in accordance with design standards. Monitor safety compliance, implement quality control, perform inspections and assurance of mechanical completion.

An Environmental Monitor, as described in other sections of this application, will also be retained and present on site.

- **Electrical** – Coordination and monitoring of electrical contractor's work. Monitoring and coordination of all electrical and ground testing of the solar panel arrays and inverters. Monitor safety compliance, assessment of deficiencies and their associated resolutions.
- **Substation** – Coordination and monitoring of substation contractor's work. Maintain daily coordination of the substation construction. Monitoring and coordination of electrical and ground testing of the substation. Monitor safety compliance, assessment of deficiencies and their associated resolutions.
- **Logistics and Materials** – Ensure the efficient delivery of Project equipment and materials on site and in accordance with the Project schedule.
- **Commissioning** – Manage the testing and inspection of the electrical, mechanical, and communication systems associated with the Project.
- **Site Coordinator** – Management of weekly performance metrics, logging or contractor documents and drawings, coordination with road contractor, and maintaining jobsite safety.
- **Site General Support** – Assist and support various support personnel.
- **Site Administrator** – Management and transmittal of Project documents. Assistance with the business management and administrative duties of the Project Manager and other associated support staff.

An example QAQC Plan from the EPC Contractor has been provided in Appendix 12-1. The EPC Contractor and construction personnel will adhere to the requirements listed in the document or similar requirements, as well as the Applicant's standards. The EPC Contractor, once selected by the Applicant, will provide a Project-specific Quality Program with the same or similar requirements as those listed in this section and the example document.

Accountabilities and Oversight

The highest quality controls will be maintained by the Applicant and its contractors and subcontractors for the development, construction, and operation of the Project. The personnel listed above, and further described in Appendix 12-1, will maintain the quality of construction and daily operations of the Project. The EPC Contractor will be responsible for maintaining documentation, conformance, inspection, and testing of work completed at the Project and must ensure all work is completed in accordance with Project specifications. The comprehensive

QAQC Plan to be provided by the EPC Contractor in conjunction with the quality oversight to be provided by the Applicant and their personnel will ensure the highest level of quality and safety metrics throughout the Project development, construction, and operation.

Project Organization

An organizational structure will be determined by the EPC Contractor prior to the start of construction. The structure will outline roles and responsibilities of Project personnel and their associated oversight responsibilities in order to maintain the quality and safety of the Project. At a minimum, the structure shall include managers, engineers, superintendents, inspectors, foremen, and quality and safety personnel. Each Project personnel is responsible for maintaining the highest level of quality and safety in every aspect of the construction process. Non-conforming work will be corrected appropriately.

Process Controls

Process controls will be implemented to ensure work is completed in a safe, consistent, and high-quality manner. Process controls such as Project meetings, daily planning meetings, and monthly management meetings will be utilized to help address responsibilities and ensure the safe and timely completion of Project construction. These meetings may cover topics such as daily construction activities and scheduling, safety notices, and emergency agendas to resolve on-site construction challenges.

Design Controls

Construction personnel shall review the plan and drawings to ensure completeness of construction. Instances where additional information is required for construction shall be noted on the plans and drawings by the engineering team. Any deviations to the Project design must be reviewed and approved by the Engineer of Record prior to construction of that Project Component.

Document Control

A controlled and defined manner will be identified for the collection, storage, transmittal, and submittal of Project related documents. The Applicant will receive Project closeout documentation as a Project deliverable. Timelines for Project reporting will be established between the Applicant and the EPC Contractor prior to the start of construction.

Training

Project personnel will complete internal and external trainings, as appropriate, to ensure consistency and completeness of job site training efforts. Project personnel are required to have safety trainings and to abide by the regulations set forth by OSHA and New York State. Training records for all Project personnel will be maintained for the duration of construction.

Subcontractor Evaluations

Subcontractor evaluations will assess the performance, safety, capability, and quality of work completed by the subcontractors. The subcontractors will be evaluated throughout the Project development and construction process and may be subject to audit. The evaluations will help the Applicant assess the subcontractor's suitability for completing present in future work.

Material Management

Manufacturer recommendations and Project specifications will be adhered to for materials delivered or supplied for use during construction of the Project to ensure the quality of the products. Materials will be handled and stored in accordance with the manufacturer's recommendations to prevent compromise of the material quality.

Inspection and Testing

Inspection and testing shall be conducted in accordance with manufacturer, engineering, and Project specifications to ensure consistency with the inspection and testing protocol. Internal and external quality checklists will be developed and utilized for inspections and testing. Third-party testing contractors will be consulted as appropriate. Documentation from each inspection and testing procedure shall be retained to guarantee the quality of the Project Components, materials, and systems.

Calibration

Calibration of construction tools and equipment will be completed to ensure the construction work is performed within the required technical standards. The calibrations will be conducted in accordance with the applicable standards and manufacturer's recommendations. The results from each calibration shall be maintained.

Nonconformance

Project materials, products, and work will be inspected and tested to ensure conformance with manufacturer, engineering, and Project specifications. Project Components that are nonconforming will be subject to rejection, repair, or replacement, as determined collaboratively between the Applicant and the EPC Contractor. Unsatisfactory work completed by the EPC Contractor will be resolved immediately by the Applicant and corrective actions will be taken to avoid future nonconformance.

Auditing

Audits will be performed to ensure quality standards are being met and adhered to throughout Project development and construction. Results of the quality audits will promote efficiency and quality control, as well as further the quality standards as the Project progresses. Records from each audit shall be maintained by the Applicant.

Project Delivery

The Project shall be constructed in accordance with the plans, engineering standards, manufacturer's recommendations, contractor standards, and the Applicant's expectations. Meetings between the EPC Contractor and the Applicant will be conducted on a regular basis to ensure all expectations are being met. The inspections and testing of Project Components will verify Project quality standards are being met. Every precaution shall be taken by the EPC Contractor to ensure the safety of Project employees and the general public throughout the duration of Project construction and operation. Public safety is a high priority to the Application.

Prior to operation of the Project, an Operation and Maintenance (O&M) staff will be selected and integrated into the Project during the construction phase. The Applicant, construction manager, and O&M staff will be in continuous coordination to ensure a smooth transition from construction of the Project to commissioning and operation of the facility.

12(b) Company Official Statement

(1) Protection of Underground Facilities

The Applicant and its contractors will conform to the requirements contained in Public Service Law § 119-b, as implemented by 16 NYCRR Part 753, regarding protection of underground facilities in order to assure public safety and prevent damage to public and private property.

(2) Pole Numbering and Marking Requirements

The Applicant and its contractors will conform to the pole numbering and marking requirements as implemented by 16 NYCRR Part 217, if required.

12(c) Preliminary Plans to Avoid Interference with Existing Utility Systems

Utility information within the Project Area was collected by the Applicant. Existing/operating utilities, both above and below ground, are classified as electric, communication, natural gas, etc. One existing 24-inch diameter natural gas pipeline, the Empire Pipeline, has been identified within the Project Area. The pipeline is a subsidiary of National Fuel Gas Corporation. In addition, one 10-inch diameter natural gas pipeline, the Columbia Gas Pipeline, owned by TransCanada, is located within the Project Area. The two pipelines are identified on Figure 4-2 and within the Preliminary Design Drawings in Appendix 11-1. The pipeline right-of-way (ROW) and easement requirements for these pipeline owners are detailed below. A request with Dig Safely New York will be submitted by the Applicant or EPC Contractor for information and identification of all documented buried utilities within the Project Area. The safety of all personnel and the public, as well as the prevention of damages to existing/operating utilities, is a top priority of the Applicant.

The Applicant will continue to collaborate with the companies for utilities identified within the Project Area to ensure minimal interference with utility services. In one area where utility avoidance is not feasible on the Project's westernmost parcel, horizontal directional drilling (HDD) and crossing of an existing pipeline at a 90-degree angle will be utilized to minimize interference to the natural gas pipelines noted above. The Applicant will establish crossing agreements with utility companies as necessary for permanent crossing of Project Components with existing utilities. Only one crossing of the natural gas pipelines is proposed for the Project as to minimize interference with existing/operating utilities.

Permanent crossings with distribution lines, fiber optic lines, and oil pipelines are not expected by the Applicant. If deemed necessary, the permanent crossing would be subject to site-specific engineering and construction requirements. The Applicant will adhere to all requirements set forth by the applicable engineering codes and guidelines for each permanent utility crossing and with the requirements of Dig Safely New York. If permanent crossings are required, the Applicant will work with the utility companies to ensure minimal inference with existing/operating utilities. Refer to the Preliminary Design Drawings in Appendix 11-1 for the preliminary plans and details regarding utility crossings.

National Fuel's Empire Pipeline

National Fuel has been consulted regarding the pipeline easements, restrictions, setbacks, separation distances, utility crossing and nearby installation requirements, recommended protective measures, and communication and coordination requirements. Refer to Appendix 12-4 for National Fuel's Empire Pipeline Encroachment Manual that was provided as part of the Applicant's consultation efforts. Work proposed within the ROW of both National Fuel's Empire Pipeline and TransCanada's Columbia Gas Pipeline, detailed in the following section, consists of horizontal directional drilling (HDD) for underground collection lines and installation of an access road with culverts located underneath at an existing stream. Both the HDD for collection lines and the stream crossing occur at the same location, thus limiting the number of pipeline crossings required for the Project. See sheets C-304 and C-602 of the Civil Drawing Set in Appendix 11-1 for a depiction of this ROW. Sheet C-602 of the Civil Drawing Set notes the minimum required 10-foot separation from both pipeline easements and depicts HDD details. The proposed culvert will be located within the existing stream bed and will not impact the pipelines.

Empire Pipeline's ROW is 50 feet wide unless otherwise stipulated. A minimum separation distance of 25 feet must be maintained between the pipeline, cathodic protection, and other permanent facilities and structures. Temporary storage sheds or buildings shall not be located within 25 feet of the pipeline.

Underground utilities which cross the Empire Pipeline shall be installed a minimum of 12 inches below the pipeline. Power lines less than 600 volts installed via open trench shall be encased in non-metallic conduit or be covered with treated lumber. Power lines exceeding 600 volts installed via open trench shall be encased in non-metallic conduit covered by a minimum of three inches of concrete. Utilities shall be installed at right angles (not parallel) to the pipeline within the pipeline ROW. Sandbag padding shall be installed between the Empire Pipeline and foreign crossings. Utility crossings shall be approved by National Fuel and the crossings shall be permanently marked within the ROW.

Heavy equipment is not to be moved across the pipeline ROW without notifying the General Foreman at National Fuel.

Grading may be permitted within the ROW, however a minimum of 36 inches of grade, or 48 inches in agricultural areas, must be maintained above the pipeline. The finish grade shall be field verified by a National Fuel inspector.

Tree clearing and vegetation management is not anticipated within the pipeline ROW; however, should it be deemed necessary, approval must be obtained from National Fuel prior to commencement of the activity and the following requirement would apply:

- National Fuel must be notified at least three days prior to the commencement of tree clearing activities.
- Trees and vegetation plantings exceeding 5 feet in height are not permitted within the pipeline ROW.
- Brushes and vegetation below 5 feet in height may be placed within 10 feet of the pipeline.
- Areas disturbed by tree clearing or planting must be graded, seeded, mulched, and properly restored. Upon completion of restoration within the ROW, a National Fuel representative shall complete a site walkthrough with the Applicant or the Applicant's representative to ensure restoration is satisfactory.

Vibratory equipment use is not permitted within 25 feet of the pipeline without permission from National Fuel. Blasting activities near pipelines may be conducted at the Contractor's risk. National Fuel shall be notified of blasting activities at least two weeks in advance for blasting activities within 200 feet of the pipeline. A blasting plan developed in accordance with Empire's Blasting Specifications within the Encroachment Manual (Appendix 12-4) shall be provided for blasting within 200 feet of the pipeline. Refer to the Blasting Plan in Appendix 21-3 for additional information.

The Applicant will continue to coordinate with National Fuel regarding potential impacts within the pipeline ROW due to construction of the Project. The Applicant will provide National Fuel with the following information in order to obtain encroachment rights within the pipeline ROW:

- A cover letter detailing the Project and the Applicant's contact information;
- Three sets of drawings for the portion of the Project within the pipeline ROW, which will detail:
    - Existing and proposed grades and the pipeline elevation;
    - Ground profile for grade changes;
    - Vehicle information for hauling or traveling across the ROW.

Construction plans for areas within the ROW will be submitted to National Fuel for review and approval prior to commencement of construction. The Applicant will allow up to four weeks for review of the Project by National Fuel. Refer to the Empire Pipeline Encroachment Manual for the

General Forman's contact information, as well as contact information for Dig Safely New York. Preliminary details on the Applicant's proposed pipeline crossing are included on site plan drawings C.304, C.306, and C.307 in Appendix 11-1.

TransCanada's Columbia Gas Pipeline

As described previously, work proposed within the ROW of the Columbia Gas Pipeline consists of HDD for underground collection lines and installation of an access road with culverts located underneath at an existing stream. Both the HDD for collection lines and the stream crossing occur at the same location, thus limiting the number of pipeline crossings required for the Project. The proposed culvert will be located within the existing stream bed and will not impact the pipelines.

Ground disturbance is not permitted within the pipeline ROW or within 25 feet of the pipeline except in the presence of a TransCanada representative. The Applicant or the Applicant's representative shall provide at least 72 hours' notice in advance of construction activities within the ROW or 25 feet from the pipeline. Notice must be in the form of person to person contact; voice messages are not permitted. Should entry into excavated areas within the ROW be necessary, the entry shall be completed in accordance with TransCanada and OSHA standards.

Construction equipment is not permitted within 3 feet of the pipeline. A temporary crossing shall be constructed and maintained for equipment crossings outside of an existing ROW road or where a TransCanada representative has determined insufficient cover is present. A minimum of 5 feet of cover shall be maintained at all times for the crossing. The temporary crossing shall be a minimum of 20 feet wide and shall extend 15 feet beyond the pipeline on each end. Crossings shall only occur at the designated areas.

Underground utilities shall have a clearance of at least 18 inches from the pipeline when installed and shall be installed at right angles to the maximum extent practicable. Bored crossings are permitted by TransCanada provided the following conditions are met:

- Submit detailed drawings to TransCanada for review and approval prior to construction. The drawings shall include the location of the bore pits, location and alignment of the new facility, elevations profiles, etc.
- Expose, by hand digging or hydrovac operations, the top and sides closest to the drill of all TransCanada pipelines or buried facilities.

- Excavate sight holes a minimum of 5 feet and maximum of 10 feet parallel from the side nearest to the drill of each buried pipeline or facility.
- Staging and laydown for bore pits must occur outside the TransCanada ROW.
- A continuous depth or consistent profile and straight horizontal alignment across the width of the ROW shall be maintained.
- A minimum clearance of 3 feet shall be maintained for facility crossings.

Underground electrical cables crossing the TransCanada ROW must be installed with heavy-wall conduit or PVC for the entire width of the ROW. Power lines exceeding 600 volts shall be installed a minimum of 3 feet below the pipeline, if practicable, and shall be protected by a concrete pad, color coded red, across the entire width of the ROW. The lines should also have external, spiral wound neutrals grounded on each side of the ROW. Power lines exceeding 600 volts or that cross or are parallel within 200 feet of TransCanada's pipeline, must be reviewed and approved prior to construction.

Overhead utilities 75 feet or higher must have highly visible ball markers installed on the portion crossing over the pipeline ROW. Poles, towers, and expansions anchors are not permitted within the ROW or within 25 feet of the pipeline, measured at a right angle.

Blasting activities shall not occur within 500 feet of the ROW until the blasting plan has been reviewed and approved by TransCanada. The plan shall be submitted the TransCanada a minimum of two weeks prior to the scheduled blasting activities.

Construction plans for areas within the ROW will be submitted to TransCanada for review and approval prior to commencement of construction. The Applicant will continue to coordinate construction efforts with TransCanada as necessary. Refer to the Columbia Pipeline TransCanada General Guidance document in Appendix 12-5 for additional information regarding construction guidelines and contact information. Preliminary details on the Applicant's proposed pipeline crossing are included on site plan drawings C.304, C.306, and C.307 in Appendix 11-1.

12(d) Procedures to Address Public Complaints

A formal Complaint Resolution Plan has been developed to provide guidance on addressing potential public complaints, including noise-specific complaints, during the construction and operation of the Project. The Complaint Resolution Plan, provided as Appendix 12-3, details the specific procedures for issuing a complaint and the information required by the complainant in

order to properly resolve the complaint. A standard complaint form and a sound complaint form are provided in the Complaint Resolution Plan. These forms may be submitted to the Applicant by mail or delivered in person to the temporary construction office at the Project Area.

Reasonable complaint inquires will be answered by a Project representative within 72 hours of receipt during normal business hours. A record shall be maintained by the Applicant detailing the complaint received and the resolution taken. Records will also be maintained for unresolved complaints received and a description of the reason for no resolution. The complaint resolution process will be limited to reasonable and objectively practical complaints.

The Applicant will retain and maintain a log of each complaint and the associated complaint resolution. The complaint log can be sent to the New York State Department of Public Service (NYSDPS) upon request within seven business days.

The Applicant shall publish a summary of the Complaint Resolution Plan in local newspapers, including local community and general circulation newspapers, no fewer than two weeks prior to the commencement of construction activities. Inclusion of the summary in the newspapers will provide notice to the public regarding the Complaint Resolution Plan. A list of newspapers in which the summary will be published are identified in the Applicant's Public Involvement Program (PIP) Plan. The Complaint Resolution Plan will also be provided to the Town of Dix, will be posted on the Applicant's website, and will be available at the temporary construction office.

If a complaint resolution cannot be provided within 60 days of receipt of the complaint, a timeline, and recommended measures to be taken will be provided to the complainant. The timeline and measures will be developed in accordance with the complaint resolution procedures adopted by the New York Public Service Commission (NYPSC).

The Complaint Resolution Plan is provided as Appendix 12-3 of this Application. The Plan provides additional details regarding addressing and resolving public complaints throughout Project construction and operation.

12(e) Stakeholder Communication

The public shall be notified at least 14 days prior to commencement of construction activities as follows:

- Provide notice by mail to host and adjacent landowners within 2,500 feet of the final layout, and persons who reside on such properties (if different from the landowner);
- Provide notice by mail to owners and operators of water wells within 2,500 feet of the final layout;
- Provide notice to the Town of Dix and Schuyler County officials and emergency personnel;
- Publish notices in The Watkins Glen Review & Express and The Schuyler County Hi-Lites for dissemination;
- Provide notice for display in public places, such as the Town of Dix Town Hall, the Watkins Glen Public Library, the Town of Beaver Dam and Town of Watkins Glen post offices, the Project website, the Project construction trailers/offices; and,
- File notice with the Secretary for posting on the NYSDPS Document and Matter Management (DMM) website.

The public will not be notified of tree-clearing activities related to testing and surveying, such as geotechnical drilling and meteorological testing.

The notices listed above shall contain the following information:

- A brief description of the Project;
- A map of the Project Area;
- The anticipated construction schedule and transportation routes;
- The name, mailing address, local or toll-free telephone number, and email address of the Project Development Manager and Construction Manager;
- The procedure and contact information for registering a complaint; and,
- Contact information for the Secretary to the NYPSC and Commission.

The Dix Town Board and Planning Board shall be notified prior to construction of all areas where information regarding the Project, construction activities, and Project contact information have been posted.