



TRELINA SOLAR ENERGY CENTER

Case No. 19-F-0366

1001.15 Exhibit 15

Public Health and Safety

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Figure 15-1. Public Health and Safety

Figure 15-2. Receptor Locations

Exhibit 15: Public Health and Safety

This Exhibit will track the requirements of proposed Stipulation 15, dated June 19, 2020, and therefore, the requirements of 16 New York Codes, Rules, and Regulations (NYCRR) § 1001.15.

Commercial-scale solar arrays provide the means to harness renewable solar energy for electricity production that is both clean and renewable. Through the development of solar energy technology, communities can maintain air quality with minimal, temporary emissions produced during construction activities, typical of any commercial construction site, as further described for the Trelina Solar Energy Center (Project) in Exhibit 17: Air Emissions.

As discussed in Exhibit 10, solar energy significantly contributes to the New York State energy planning objectives of New York State's 2015 State Energy Plan (SEP) (amended in April 2020), promotes the objectives of the New York Public Service Commission's (PSC's) adopted Clean Energy Standard, and helps achieve the aggressive renewable goals of the Climate Leadership and Community Protection Act (CL&CPA; 2019).

The New York State's 2015 SEP is designed to conserve the environment by reducing greenhouse gas (GHG) emissions and other air pollutants in order to provide residents of New York with a clean, reliable, and affordable energy-generating system. The plan is designed to promote solar energy technology in order to increase the amount of energy generated using renewable energy technologies throughout New York State. The State of New York originally adopted the 2015 SEP with the goals of reducing statewide GHG emissions by 40% from 1990 levels and generating 50% of the State's electricity from non-GHG sources by 2030. Solar energy technology plays a significant role in reducing GHG emissions by providing clean energy, which successively improves the quality of the overall environment. Development of solar energy production will help New York progress toward a more sustainable energy future. Solar energy is a dependable source in the energy market that will promote public health through improved air and water quality.

The 2019 CL&CPA increases the State's renewable energy generation goal to 70% by 2030, with a specific goal of 6 gigawatts (GW) of solar generation by 2025. The CL&CPA also requires 100% carbon-free electricity in New York State by 2040. The 2015 SEP was amended in April 2020 to incorporate the CL&CPA's renewables mandates.

15(a) Anticipated Gaseous, Liquid, and Solid Wastes Produced at the Project during Construction and Operation

Solar energy technology allows for production of electricity without creating any gaseous, liquid, or solid waste byproducts during operation, and therefore eliminates the need to treat, collect, transport, and dispose of such waste in any significant amount. During the construction phase, the Project anticipates the disposal of minimal solid waste. Dumpsters will be located in construction staging areas for proper disposal of construction-related materials. Approximately five 40-yard dumpsters will be placed in areas nearest construction activities producing waste material to later be disposed of at local waste disposal facilities. Waste materials generated during construction are typical of construction projects and will include plastic, wood, cardboard, metal packing materials, construction scrap, debris from blasting, and general refuse which will be disposed of in adherence to local waste disposal regulations. Minimal construction material will accrue over the construction phase. During operation of the Project, routine maintenance activities will generate small amounts of waste which will be disposed of at the appropriate waste disposal facilities (e.g., cardboard, cleaning rags, and general refuse).

Waste materials from Project construction are anticipated to be collected in dumpsters and receptacles located on-site at laydown yards and staging areas. It is anticipated that a local waste management company will be contracted to collect and properly dispose of waste at a local waste disposal facility.

Gaseous and liquid waste will be limited to the operation of construction equipment that will be managed by the designated contractor. Construction equipment and vehicles will be fueled by unleaded gasoline and ultra-low sulfur diesel.

Concrete truck washout will generate small amounts of waste during construction. Concrete washout will be located near the foundation areas (at the Point of Interconnection [POI] facilities). The concrete will settle within the concrete truck washout. The contractor will be responsible for the removal and disposal of concrete at a licensed facility.

Where Project Components impact forested areas there will be some amount of tree clearing for access roads, solar panel placement, and to prevent shading (approximately 29.5 acres). The locations of tree clearing are shown on Sheet C-200 of the Preliminary Design Drawings in Appendix 11-1. Trees not otherwise claimed by the given landowner will be cut, logged, and

removed to local timber/firewood buyers. To reduce impacts to existing land uses, branch and brush debris will be chipped in place and spread in upland areas (safely away from water resources) on-site so as not to interfere with any existing land use practices and in accordance with the Project SWPPP.

15(b) Anticipated Volumes of Waste to be Released to the Environment at the Project during Construction and Operation

No additional volume of waste beyond that addressed in Section 15(a) will be released into the environment by the Project during construction or operation. A manufacturer's specification sheet for the typical type of crystalline silicon solar panel is included in Appendix 2-1.

15(c) Treatment Processes to Eliminate or Minimize Waste Released to the Environment

No treatment process to eliminate or minimize waste will be necessary as no additional volume of waste beyond that addressed in Section 15(a) will be released into the environment by the Project during construction or operation.

15(d) Collection, Handling, Storage, Transport, and Disposal for Wastes Retained

Collection, handling, storage, transport, and disposal procedures are addressed in Section 15(a).

15(e) Wind Power Facility Impacts

Impacts specific to wind powered facilities will not be addressed in the Application as they are not applicable to the Project.

15(f) Study Area Maps and Analysis

Figures 15-1 and 15-2 show the proximity of the Project Area to public water supply resources; community emergency response resources; facilities including police, fire and emergency medical response facilities and plans; emergency communications facilities; hospitals and emergency medical facilities; designated evacuation routes; existing known hazard risks including storm surge zones, landslide hazard areas, areas of geologic, geomorphic or hydrologic hazard; dams, bridges, and related infrastructure; gas transmission pipelines; explosive or flammable materials transportation or storage facilities; contaminated sites; and other local risk factors, should any be identified. Any flood hazard zones are included in Figure 4-5, as applicable.

Designated evacuation routes, storm surge zones, areas of coastal erosion hazard, landslide hazard areas, and areas of geologic, geomorphic, or hydrologic hazard (aside from flood hazard) are not applicable to the Project.

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

No significant adverse impact on the environment, public health, and safety were determined through the many studies performed during the preparation of this Application.

Based on the weight of scientific evidence and the design measures incorporated into the proposed Project design, the Project will not have any adverse impact on public health or safety. One existing full-time receptor, comprising two structures, is proposed for removal prior to construction (Sheet C.303 of Appendix 11-1). No additional short-term, long-term, or cumulative adverse receptor impacts are anticipated. This includes adverse impacts from audible sound, low frequency noise, glare, or to ambient air, potable water or other qualities of life. Evaluations of these issues are discussed in the respective exhibits. The glare analysis (Appendix 24-2) is discussed in Section 15(o) and in greater detail in Exhibit 24.

In addition, based on the weight of scientific evidence of the peer-reviewed literature on solar farms and health, no adverse impacts on public health or safety are anticipated from the designed Project. To the contrary, public health can be positively influenced as a result of renewable energy technology and its contribution to the displacement of harmful emissions from energy generation technologies which rely on fossil fuels. The total potential human health benefit is dependent upon the amount of emissions a generation facility is capable of displacing and its capacity factor, therefore the larger the facility the greater the potential human health benefits (Buonocore et al., 2015). The Project is expected to reduce emissions of sulfur dioxide, nitrogen oxides, and carbon dioxide from the power sector in New York in 2023. Refer to Exhibit 18 for details on emission reductions.

15(h) Adverse Impacts on the Environment, Public Health, and Safety

Adverse impacts on the environment, public health, and safety have been avoided or minimized to the maximum extent practicable. Solar panels will alter the visual landscape and have the potential to produce glare. A Visual Impact Assessment is provided in Exhibit 24, showing that potential visibility of the Project has been avoided or minimized. A glare analysis is provided

in Appendix 24-2 showing that potential glare, which is conservatively overstated in the modeling results, is nonetheless minimal to non-existent.

In the interest of monitoring and measuring any impacts that may arise, all workers will be trained and familiar with the Trelina Solar Emergency Response Plan (ERP) (Appendix 18-2). The Border City and Waterloo Fire Departments' comments on site access and road widths have been incorporated into the Preliminary ERP in Appendix 18-2. The ERP contains contact details for emergency workers, fire, ambulance, and police/sheriff, as well as the location of the closest hospitals. In addition, in the unlikely event that hazardous materials or environmental contaminants are encountered during excavation, safe-handling procedures and protocol in the ERP will be followed. The ERP will be updated, refined, and filed with the Secretary post-certification once a contractor is selected.

Construction impacts are short-lived. Long-term unavoidable impacts associated with operation and maintenance of the Project include varying degrees of panel visibility and loss/conversion of forested lands. As evaluated through site-specific environmental and ecological analyses, which are presented in Exhibits 4, 22, and 24 of the Application, these impacts are not considered significant, have been minimized to the maximum extent practicable (e.g., through vegetative screening and a comprehensive Landscaping Plan (Appendix 11-1)) and are outweighed by the benefits of providing a source of clean, renewable energy. Thus, by adding electricity from a renewable energy source to the power grid, the Project will have an incremental and long-term beneficial impact on climate and air quality.

15(i) Irreversible and Irrecoverable Commitment of Resources

There are a number of resources that will be committed to the Project for construction and operation.

During the Article 10 Application phase, there are significant human and financial resources committed to the Project. This includes an irretrievable investment by the Applicant and its partners in preparing the necessary studies and evaluations required for the Application. However, through proper design and the proposal of mitigation measures, it is assumed that the Application will be successful and the Project will proceed to construction and operation. In addition, it is recognized that New York State agencies, Seneca County, and the Town of Waterloo will be expending human resources on the review of the Application.

During the construction phase of the Project, a number of manufacturing materials, construction materials, and building supplies will be committed to the Project. This includes the material required for physical Components of the solar panels, gravel, concrete, steel, cables, etc., that will be dedicated for the life of the Project. Where possible, these materials will be recovered and reused at the end of the useful economic life of the Project. Additional material will be committed to the operation of the Project and will be irretrievable following Project decommissioning, including material required for the maintenance of panels, posts, fencing, etc. Details on this reclamation are provided in Exhibit 29: Site Restoration and Decommissioning.

15(j) and (k) Proposed Minimization and Mitigation Measures

The Applicant is committed to minimizing the commitment of resources to the Project and any potential adverse impacts on the environment, public health, and safety. The Applicant is consistently striving to achieve efficiencies throughout the development and operational phases of solar projects.

The Project has been designed according to industry standards. The mitigation measures described in the Application together with the proposed setbacks provide that there is no risk to public health and safety, while also serving to minimize annoyance of local residents. Further, the solar arrays are located on property purchased or leased from private landowners. Therefore, public access to the Project is limited and potential for exposure to health and safety risks is negligible.

Compliance with Article 10 regulations assures that public and agency comments are solicited and appropriately addressed. The Applicant intends to propose certificate conditions based upon applicable best management practices and other mitigation measures adopted by the Siting Board and PSC. The Applicant will maintain compliance with applicable federal, state, and substantive local regulations (that are not unreasonably burdensome – Exhibit 31), pertaining to the construction and operation of the proposed Project, which also will serve to minimize adverse impacts. Construction activities and Project engineering will be undertaken in compliance with applicable state, and substantive local building codes (that are not unreasonably burdensome), and federal Occupational Safety and Health Administration (OSHA) guidelines in order to protect the safety of workers and the public. The implementation of a state-approved State Pollutant Discharge Elimination System (SPDES) permit for construction-related stormwater runoff will protect water resources. The Spill Prevention, Control, and Countermeasure (SPCC) Plan will protect against inadvertent spills during construction and operation. Road use and repair and

traffic control will be coordinated at the local level, to assure that safety, congestion, and damage to roadways in the area is avoided, minimized, or addressed through a Road Use Agreement to be negotiated with the Town of Waterloo.

15(l) Proposed Impact Monitoring

The Applicant has provided a proposed Complaint Resolution Plan (Appendix 12-3). The objective of this plan is to establish a consistent method and procedure by which the Applicant will address public complaints during the construction and operation of the Project. The Complaint Resolution Plan outlines the numerous ways an individual can file a complaint, how the Applicant will investigate and attempt to resolve the complaint, and dispute resolution procedures. Exhibit 5: Electric System Effects will address the Operation & Maintenance plans and Exhibit 18: Safety and Security will address emergency response and contingency plans.

In compliance with the Article 10 certificate conditions and other applicable regulations, the Applicant will provide funding for an Environmental Monitor to oversee Project construction and restoration activities.

15(m) Herbicide Application

Selective use of herbicides may be employed as a secondary means of control where necessary. All applications will be administered through spot treatments and target specific discrete locations; broadcast and aerial applications of herbicides are not proposed. If necessary, herbicides are anticipated to be employed to treat invasive species as needed. All herbicide use will comply with the regulations and requirements of New York State Department of Environmental Conservation's (NYSDEC's) Bureau of Pesticide Management. Herbicides used would be typical of those used in farm settings and residential applications.

The Applicant will select and use only herbicides which are approved by and registered with the United States Environmental Protection Agency (EPA) and NYSDEC. Specific herbicides will be selected from the approved list based on best management practices for control of species targeted by the herbicide application. All herbicide applications will be performed by a NYSDEC-licensed Applicator. No unacceptable impacts to soil, groundwater, livestock, food crops and identified water supply wells are expected to occur. Notifications of herbicide application will be provided to regulatory agency and local entities as required by any applicable state and federal laws regulating the use of herbicides for spot-treatments to control invasive and unwanted vegetation.

No fertilizers are planned for use. Fertilizer may be utilized during the planting of trees and shrubs associated with the landscape buffer proposed for screening purposes. However, no fertilizers are planned for use during operation of the Project.

Snow removal will be conducted via plowing alone and will not require chemicals or salt products to aid in melting snow.

15(n) Receptor Locations

Receptors have been identified by the Applicant via field review along public roads, correspondence with local stakeholders, and review of aerial photos and tax records. Residential receptors have been differentiated between “full-time” or “seasonal,” and have been categorized conservatively – in that if there was uncertainty as to whether it was full-time or seasonal, in many instances a receptor was categorized as full-time. Additionally, all receptors identified by the Applicant have been sub-divided into participating and non-participating receptor categories, based on whether they have entered a lease agreement with the Applicant. Receptor locations are shown on multiple Figures as part of the Application, including Figure 15-2. This information will assist in the determination of operational sound impacts that exceed applicable standards as a result of the Project.

15(o) Glare Analysis

A glare analysis was prepared in accordance with Stipulation 24(a)(9) using the Sandia National Labs Solar Glare Hazard Analysis Tool, in order to determine the extent and assess the significance of glare from the Facility, in accordance with the proposed study for Exhibit 24; refer to Appendix 24-2. No significant impacts from glare are expected from the Project.

References

- Buonocore, J.J., Luckow, P., Norris, G., Spengler, J.D., Biewald, B., Fisher, J., & Levy, J. 2015. Health and Climate Benefits of Different Energy-Efficiency and Renewable Energy Choices. *Nature Climate Change*. <https://www.nature.com/nclimate/>. Accessed 2019.
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- New York State Energy Research and Development Authority (NYSERDA). 2012. *New York Solar Study*. <https://www.nyserda.ny.gov/About/Publications/Solar-Study>. Accessed 2019.
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