



Petition of CT Solar PDF, LLC for a Declaratory Ruling that a Certificate of Environmental Compatibility and Public Need is not Required for the Construction, Operation, and Maintenance of a 1.45 MW (AC) Solar Photovoltaic Power Generation Facility

at 60 Middletown Ave, North Haven, CT 06473

Prepared for:
Connecticut Siting Council

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I. Introduction

This is a Petition for a Declaratory Ruling, pursuant to Connecticut General Statutes §§4-176 and 16-50k, that no Certificate of Environmental Compatibility and Public Need (“Certificate”) is required for the development, construction, operation and maintenance of this proposed solar photovoltaic project proposed by CT Solar PDF, LLC (“CT Solar” or “Petitioner”) in North Haven, Connecticut (the “Project”). The Project consists of the installation and operation of a ±1.45-megawatt (“MW”) alternating current (“AC”) solar photovoltaic system, along with associated equipment.

The Project proposes to utilize a combination of ground-mounted, canopy and roof-mounted solar panels. The Project area consists of approximately 1.4 acres. All work associated with the Project is proposed, and is located within a parcel owned by Medtronic, Inc. (“Project Site”) See Figure 1 – Site Location Map.

The State of Connecticut has established numerous energy conservation and sustainability goals. Approval of this Petition by the Connecticut Siting Council (“Council”) would allow the State to further its progress toward meeting those goals. If approved, the Project will commence with financing, detailed design, procurement in late summer 2023, and construction in 2024. The intended in-service date is early 2025.

II. Petitioner

The legal name of the Petitioner is CT Solar PDF, LLC. CT Solar is a Minnesota limited liability company. CT Solar PDF LLC is a special purpose limited liability company owned by Nokomis Energy, a professional renewable energy business with over 25 years of combined experience developing community, on-site, and utility-scale solar photovoltaic projects across the upper Midwest and northeastern the United States.

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III. Proposed Project

Project Background

Existing Site Use

The Project Site is located within an approximately 38.4-acre parcel located at 60 Middletown Avenue, North Haven, Connecticut, and is owned by Medtronic, Inc., a medical device manufacturing company. The Medtronic facility includes existing buildings, associated paved parking lots, and an open grassed area. The entire property is enclosed within a security fence and entry is controlled by gatehouses. These improvements and associated development occurred between 1991 and 2005. All grassed areas within the fence are routinely mowed and maintained, and on occasion, are used to store temporary structures.

Surrounding Land Use

The city of North Haven has zoned the subject parcel within its IL-30 Light Industrial District. The parcel is surrounded largely by other parcels within this same District, with some commercial zoning located nearby. The parcel is bounded by Middletown Avenue to the southeast, McDermott Road to the west and northwest, and other light industrial parcels to the northeast and south. See Figure 2 – Land Use. Interstate 91 is located in the immediate vicinity, as is the Little River.

Project Site Alternatives

The primary purpose of the Project is to supply Medtronic with electric power as needed for its operations. Given that purpose, no other sites were investigated for the Project. Instead, the Petitioner undertook a preliminary investigation of the overall parcel to identify potential natural resource and environmental impacts, and then worked to identify a preliminary design to meet the primary purpose while minimizing impacts to the extent practicable. The resulting design will not have an adverse effect on the existing environment and ecology of the Project Site or the surrounding area. The Project as designed also will have no measurable impact on those living the surrounding area.

Project Description

Site Access

The Project Site offers numerous established access points off Middletown Avenue. Each access point is an existing, paved driveway, which can be used for construction, equipment delivery, and general access. No new access roads are proposed as part of the Project.

Project Design and Layout

The Project proposes to install a combination of ground-mounted, canopy and roof-mounted panels. Each of these mounting types is composed of a distinct array within the Project Site. Due to the varied nature of the installation approach, a combination of two different panel types is proposed to be used: 445-watt panels for the roof mounted array, and 540-watt panels for the canopy and ground-mounted arrays. Both panel types will offer fixed tilting capability to maximize capture. The ground-mounted panels will be mounted on steel racking with driven posts or ground screws, which will be set to a minimum depth necessary to reach sufficient structural capacity to resist the loads from the equipment weight and anticipated snow and wind forces. Panels located within the paved area will be mounted utilizing a truss system consisting of concrete foundations, steel columns and a truss structure. Finally, roof-mounted panels will be placed atop the roof

structure and secured via flat racking designed for roof mount applications. Panels will be installed with gaps at sufficient spacing to allow for driplines from the panels to mimic natural rainfall.

The Project, as proposed, has a nameplate capacity of ± 1.45 MW AC, utilizing a total of 4,370 individual panels. The Project has a DC capacity of ± 2.16 MW. Approximately 34 inverters are proposed in the design, and these are distributed throughout the layout to accommodate the generation capacity of each array. The inverters are proposed to be installed adjacent to the arrays and racking structures, as appropriate. As energy is captured by the panels, the generated power will run through the inverters to a transformer, appropriate switchgear, meter(s), and disconnects prior to interconnecting with the larger distribution system. Site plans for the site are included in Appendix A – Site Plans.

Electrical Interconnection

CT Solar submitted an interconnection application to The United Illumination Company (“UI”) on December 23, 2022. UI is in the process of completing a Distribution System Impact and Facility Study for the Project.

Fencing and Site Security

The Project Site already operates and is managed to maintain high security. The Project will meet applicable local, state, national, and industry health and safety standards required for electrical power generation. The Project will not require regular staffing or any maintenance that would generate waste. Medtronic already maintains an existing fence and gated access system to restrict public access to the Project Site. Further, the Project proposes to install additional, 7-foot-high chain link fencing around the ground-mounted array to provide additional security and to meet National Electric Code requirements. While the Project does not require operational maintenance staff on-site, the Project will be monitored continuously and can be de-energized remotely.

Stormwater Management

CT Solar has prepared a Stormwater Management Report in accordance with the 2004 Connecticut Stormwater Quality Manual and with the December 31, 2020 Connecticut General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (“Stormwater General Permit”). The Stormwater Management Report is found in Appendix B. Because construction of the Project will disturb more than one acre of land, CT Solar will register under the General Permit at least sixty (60) days prior to commencing construction activities.

CT Solar reviewed online soil mapping and has performed a geotechnical investigation to determine the native soil conditions and infiltration rates within the Project area. The findings of these investigations were incorporated into the Stormwater Report. The Project design proposes to install two of the three distinct arrays atop impervious roof or paved parking structures. The canopy and roof mounted arrays will not require additional stormwater features beyond that which is already present to adequately handle flow from parking and buildings.

Proposed Construction Schedule

CT Solar has proposed a seven-month long construction schedule. See Appendix C. Construction activities within the Project area are proposed to commence in summer, 2024 and conclude with final energization and completion in January 2025. Construction activities are expected to take place between 7:00AM and 6:00PM Monday through Friday, with some potential for construction on Saturdays between 8:00AM and 5:00PM.

Construction phases will include installation of erosion and sedimentation (E&S) control measures, earthwork to incorporate stormwater management features, trenching for the installation of racking and modules, installation of interconnection equipment, and reseeding and landscaping. No panels or other permanent infrastructure will be installed in the ground-mounted array until after the installation of all E&S measures.

The total amount of earthwork proposed for the Project is minimal, as the Project design contemplates installation of the ground-mounted array at existing grade. Some cut/fill will be required for the installation of stormwater control measures, and for general grading to maximize layout capture potential. No tree clearing is proposed by the design.

A Storm Water Pollution Control Plan (“SWPCP”) will be developed and implemented by a licensed civil engineer. The SWPCP will include regular inspection of the E&S measures to prevent sedimentation and/or water quality impacts. The Stormwater Management Report attached to this Petition provides the general best management practices to be employed on site, along with appropriate maintenance and evaluation methods and tools to ensure compliance.

Operations and Maintenance

Once operational, the Project will require minimal regular maintenance, and no full-time staff will be required to operate the site. Regular mowing and vegetation management activities will be required. These activities do not involve a higher level of frequency than already occurs on site to maintain the grassed areas. No snow removal operations are anticipated in typical weather conditions due to the design and orientation of the panels, however some post-storm inspections may occur after major events.

CT Solar anticipates that the facility will require annual inspection and potential maintenance of the panels and associated infrastructure. Such inspections are likely to require minimal staff. Repairs to equipment will be made as necessary. The Project will be remotely monitored at all times to ensure safe, consistent and efficient energy capture and delivery. See Appendix D for the Operations and Maintenance Plan for the facility.

Decommissioning

The Project has an anticipated lifespan of no less than 25 years. The Petitioner has developed a Decommissioning and Restoration Plan to set forth the requirements and obligations it will meet once it is determined that the Project has reached the end of its useful life. See Appendix E.

Project Benefits and Needs

Connecticut has set significant decarbonization goals in the next seven years. The Governor’s Council on Climate Change recommended that Connecticut’s Renewable Portfolio Standard (“RPS”) include a target of 40 percent Class I renewable energy sources by 2030, with further goals to decarbonize energy production within the State from there. The end goal, as stated by the Governor, is to achieve a fully zero carbon target for the energy sector by 2040 – just 17 years from now.

If approved, the Project will provide a further step toward achieving the State and the Governor’s goals. The Project will offset a total of 2,165 tons of carbon dioxide annually. See Appendix F for the Carbon Debt Analysis for the project. The Project also will benefit a major regional employer in Medtronic, which will see its electricity imported from the larger “grid” reduced substantially once the Project becomes fully operational. Other benefits include supporting local construction jobs and furthering the development of a workforce that builds and services renewable energy projects.

Public Outreach Efforts

Pursuant to section 16-50j-40(a) of the regulations of the Connecticut Siting Council, CT Solar PDF LLC provided notification to the required abutters and government officials. Proof of delivery is provided in Appendix G.

Potential Environmental Effects

Air Quality

The Project will have no air emissions during operation and, therefore, no air permit is required. Temporary, construction-related mobile source emissions will be involved in building the Project. CT Solar will control any temporary emissions at the Project Site during construction by enacting appropriate mitigation measures, such as utilizing water for dust control, avoiding excessive idling, and properly maintaining construction equipment.

Noise

Potential Project-related noise is regulated by the Connecticut General Statutes §22a-69 and the North Haven Noise Ordinance. The Connecticut General Statutes establishes maximum sound levels allowable during operation at the nearest residential property, commercial or educational property, and agricultural/industrial property. Those levels are 51 dBA (the more restrictive standard for nighttime), 66 dBA, and 70 dBA, respectively. Construction tools and equipment are exempt from these standards.

The proposed Project is not anticipated to have adverse noise-related impact on the surrounding area, due to the nature of the area in which the Project is located, the surrounding industrial uses, and the low-level noise generated by solar generation equipment. The inverter chosen for the Project is rated to generate no more than 65 dBA at a 1m distance. All other equipment anticipated for the Project will produce lower-level noise.

Scenic Areas and Visual Impacts

The Project is located within an industrial area, and the subject parcel includes multiple multi-story buildings, paved parking, and other structures. Areas where views are not blocked by other structures are screened from view by existing mature vegetation. The surrounding area contains much of the same kind of land use and development. No residences or other sensitive developments will have a view of the Project. Peter's Rock, a designated open space, is located approximately 0.75 miles east of the Project Site. Because of the design and layout of the Project, it is not anticipated that panels or other equipment will be visible from the Peter's Rock area. The Project will not have impacts on scenic areas. See Figure 3 – Surrounding Features Map.

Public Health & Safety

The proposed Project is not expected to create any adverse impact on public health, nor to present additional safety risks. The Petitioner has committed to build the site in a manner that meets or exceeds local, state, national and industry health and safety requirements and standards. The Petitioner will require all personnel onsite during construction to follow a site-specific construction health and safety plan that will be developed prior to commencement of construction. During construction, safety training will be made available to contractors and personnel, and a designated individual will be responsible for implementing and enforcing the health and safety plan.

During construction, additional traffic will include typical construction vehicles, equipment delivery trucks, and general trucks and automobiles. Major equipment deliveries will be scheduled to take place during regular business hours. Construction activities and associated traffic will occur between 7:00AM and 6:00PM.

Minimal amounts of hazardous substances will be stored and employed on site. During operation, transformers and other equipment will use nominal amounts of oil for cooling. Diesel fuel and gasoline will be in regular use during the construction phase. These fuels generally will be stored on-site in appropriately lined and monitored storage units. A project specific Spill Prevention, Control, and Countermeasure ("SPCC") Plan and an Operations and Maintenance ("O&M Plan") have been developed for the Project.

Federal Aviation Administration

CT Solar consulted with the Federal Aviation Administration ("FAA") to screen the Project for potential impacts to air navigation. The Petitioner submitted a Notice of Proposed Construction on February 6, 2023 stating that the Project does not exceed the FAA's Notice Criteria. The Project was issued a Determination of No Hazard to air navigation on March 21, 2023. The FAA's determination on the Project is found in Appendix H.

Site Soils and Geology

The Petitioner reviewed the Natural Resources Conservation Service ("NRCS") online soils mapping tool to identify soils within the Project Site. That review determined that the NRCS classifies the entire site as "Urban Land" within the Hydrologic Soil Group "D." CT Solar has performed geotechnical subsurface testing at the Project Site. The Project Site and the soils found therein have been disturbed for decades and do not present soil suitable for agricultural use. As such, no Prime Farmland is found within the Site. See Appendix I – Farmland Classification.

Historic and Archaeological Resources

The Petitioner submitted request for concurrence of no impact to resources of moderate/high archaeological sensitivity to the State Historic Preservation Office ("SHPO") on February 2, 2023. A copy of the SHPO concurrence is found in Appendix J.

Wetlands and Watercourses

The vicinity of the Project Site was investigated for state and federal wetlands by Davison Environmental on January 7, 2023. The investigation was conducted by a soil scientist according to the requirements of the Connecticut Inland Wetlands and Watercourses Act (Public Act No. 155).

Inland wetlands include soil types designated as poorly drained, very poorly drained, alluvial, and floodplain by the NRCS's National Cooperative Soils Survey. Wetlands were delineated by examining the upper 20" of the soil profile with an auger. No snow or frost cover was present at the time of investigation. Watercourses means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs and all other bodies of water, natural or artificial, vernal or intermittent.

The only regulated resource identified in the project vicinity was the Little River, which is located outside the project area. No bordering wetlands were present in the area of investigation. No evidence of vernal pools were identified within the study area.

Davison's Wetland Delineation report is provided in Appendix K.

Wildlife and Habitat

The Petitioner submitted to the Connecticut Department of Energy and Environmental Protection (CTDEEP) an initial request for review of the Natural Diversity Database (NDDDB) on February 9, 2023. CTDEEP responded with a letter on February 9, 2023 (Appendix L).

The NDDDB review identified the potential existence of Eastern Box Turtle (*Terrapene carolina*) in the vicinity of the site and recommended implementation of best management practices during construction to protect against any unintentional harm to the turtles. A copy of the best management practices is included in the site plans. These best management practices have been incorporated in the development of the Site Plans and proposed construction sequence. As a result, the Project is not anticipated to have an adverse impact on the Eastern Box Turtle or any CTDEEP listed species.

Water Supply

If necessary during construction, water will be brought from off-site and discharged, utilizing best management practices before leaving the site. During operation minimal water use is anticipated to facilitate cleaning the panels.

Floodplains

The attached Federal Emergency Management Agency (FEMA) Flood Map (Figure 4) indicates that the Project is not located within the 100-year FEMA floodplain. As a result, the proposed project is not expected to have an impact on the floodplain.

Drinking Water Resources

The proposed activities associated with the Project do not involve the withdrawal of water, nor the storage or use of oil or hazardous materials (other than what is present in the construction equipment). Any water utilized during construction for dust control will be minimal. Thus, the proposed project is not anticipated to have an impact on the water quality in the vicinity of the Site.

A review of the Connecticut Aquifer Protection Area Map prepared by the CTDEEP Aquifer Protection Area Program (Figure 5) indicates that the Project is not located within an area identified as an Aquifer Protection Area. The nearest Aquifer Protection Area is located approximately five miles north of the Project Site. Based on the separation distance, the proposed project is not anticipated to have an impact on any Aquifer Protection Area.

The CTDEEP groundwater classification underlying the property is classified as "GB". Class GB designated uses are industrial process water and cooling waters and baseflow for hydraulically-connected water bodies and is presumed not suitable for human consumption without treatment,

Stormwater Management

Under current conditions, stormwater from building roofs and parking areas are directed to an existing storm sewer. Rainfall and other untreated stormwater from the grassed area proposed for the ground-mounted array generally flows northerly and discharges offsite, untreated.

The canopy and roof mounted panels will be installed on existing impervious areas and will not cause an increase in runoff rate or volume. The panels will be situated so that the drip line of each section mimics that of natural rainfall. The proposed stormwater management system for the ground-mounted array has been designed to meet State standards found within the 2004 Connecticut Stormwater Quality Manual and the

CTDEEP Stormwater General Permit effective December 31, 2020. The system consists of an infiltration BMP that will mitigate increase in stormwater runoff due to installation of the panels over the existing pervious area. A seed mix of permanent turf forming grasses will be applied to establish vegetation directly under the panels to help stabilize the topsoil. The mix will also help prevent erosion, sequester nutrients, and lower runoff rates. The only new impervious surfaces created by the Project will be the de minimis square footage of equipment pads. No new access roads are proposed.

During operation, stormwater runoff from the ground-mounted array will be directed to a stormwater management BMP to ensure there are no increases in runoff rate and volume and no reduction in water quality.

IV. Conclusion

As demonstrated by this Petition, the Project will comply with the standards set forth in Connecticut General Statutes §16-50k(a). As explained herein:

- The Project clearly meets CTDEEP's air and water quality standards, with no material emissions associated with construction or operation.
- The Project has been sited to avoid environmental impacts and involves no tree clearing and no impacts to wetlands and watercourses.
- The Project has been designed to minimize stormwater impacts by utilizing existing infrastructure and best management practices.
- The Project does not anticipate any impacts to abutting landowners or sensitive resources within the Project vicinity.

In addition, the Project will bring the State closer to achieving its established decarbonization goals. Given the benefits this Project will provide the State of Connecticut, CT Solar respectfully requests that the Council approve this Project as designed and issue a declaratory ruling that a Certificate is not required.