STATE OF CONNECTICUT

SITING COUNCIL

PETITION OF TRITEC AMERICAS, LLC FOR A DECLARATORY RULING THAT NO CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED IS REQUIRED FOR THE CONSTRUCTION, OPERATION, MAINTENANCE, AND DECOMMISSIONING OF A 0.999 MW AC SOLAR PHOTOVOLTAIC PROJECT IN BETHANY, CONNECTICUT	**:**	**PETITION NO. _____**
	:	**July 11, 2023**

Under Connecticut General Statutes (C.G.S.) §§ 4-176, 16-50k(a), and 16-50k(e) and Regulations of Connecticut State Agencies § 16-50j-38 *et seq.,* TRITEC Americas, LLC ("Petitioner"), requests that the Connecticut Siting Council ("Council") approve by a declaratory ruling the location, construction, operation, maintenance, and decommissioning of a solar photovoltaic facility with a capacity of 0.999 MW AC and associated equipment inclusive of all solar panels, transformers, electrical switchgear, monitoring equipment, and access roadways ("Project"). The Project will be constructed on approximately 6.59 acres (leasehold area) of land located at 0 & 428 Bethmour Road, Bethany, Connecticut ("Project Site"). C.G.S. § 16-50k(a) provides in part:

> …Notwithstanding the provisions of this chapter or title 16a, the council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling (A) the construction of a facility solely for the purpose of generating electricity, other than an electric generating facility that uses nuclear materials or coal as fuel, at a Project Site where an electric generating facility operated prior to July 1, 2004, and (B) the construction or location of any fuel cell, unless the council finds a substantial adverse environmental effect, or of any customer-side distributed resources project or facility or grid-side distributed resources project or facility with a capacity of not more than sixty-five megawatts, as long as: (i) Such project meets air and water quality standards of the Department of Energy and Environmental

> Protection, (ii) the council does not find a substantial adverse environmental effect, and (iii) for a solar photovoltaic facility with a capacity of two or more megawatts, to be located on prime farmland or forestland, excluding any such facility that was selected by the Department of Energy and Environmental Protection in any solicitation issued prior to July 1, 2017, pursuant to section 16a-3f, 16a-3g or 16a-3j, the Department of Agriculture represents, in writing, to the council that such project will not materially affect the status of such land as prime farmland or the Department of Energy and Environmental Protection represents, in writing, to the council that such project will not materially affect the status of such land as core forest. In conducting an evaluation of a project for purposes of subparagraph (B)(iii) of this subsection, the Departments of Agriculture and Energy and Environmental Protection may consult with the United States Department of Agriculture and soil and water conservation districts. (Emphasis added).

The proposed Project would produce 100% carbon-free energy thereby promoting Connecticut's legal requirement for 100% zero-carbon emissions from electricity generation by January 1, 2040. Public Act ("P.A.") No. 22-5, §1 (3). The technical evidence, evaluations, and analysis presented herein by Petitioner demonstrate that the Project will be a renewable distributed generation resource with a nameplate capacity of not more than sixty-five megawatts, will meet air and water quality standards of the Connecticut Department of Energy and Environmental Protection ("DEEP"), and will have no adverse environmental effects. The construction, operation, maintenance, and decommissioning of the proposed Project fully comply with the requirements set out in C.G.S. § l6-50k(a). Therefore, Petitioner respectfully requests that the Siting Council approve the Project by a declaratory ruling.

I. PETITIONER INFORMATION

TRITEC Americas, LLC is based in San Diego, California. It is the Americas affiliate of TRITEC Group AG, a multi-national solar services company founded in 1987. TRITEC Americas

is a leading provider of solar PV project development, financing, and asset management services for the commercial and industrial solar market throughout the Americas.

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II. NOTICE, ABUTTER INPUT, SITE PLANS

Under the Regulations of Connecticut State Agencies § 16-50j-40, Petitioner provided written notice of this Petition to all Project abutters, appropriate officials in the Town of Bethany, and other government officials and agencies on September 27, 2022, and April 7, 2023. Certification of Service and the Model Notice Letters are shown in **Exhibit A.** In addition, Petitioner provided an overview of the proposed Project and Project Site and sought public comment from abutters and Bethany town officials. Petitioner conducted two video conferences– the first with the First Selectman and other Bethany town officials on September 9, 2022, and the second with abutters on October 6, 2022.

Petitioner had initially proposed a 1.375 MW AC solar project which would have been located on 12.00 acres and would have required a wetland crossing. See Initial Project Site Plan in **Exhibit B**. However, during the October 6th, 2022, public meeting, Project abutters expressed concerns about the wetland crossing and offered two suggestions to Petitioner regarding the

proposed location or placement of the Project in the Initial Project Site Plan. The first suggestion was to move the Project from the 0 & 428 Bethmour Road site to the town-owned property at 755 Amity Road, Bethany. The town-owned property is a 139-acre site suitable for a solar array. In response, Petitioner developed an alternative Project Site Plan for this property and delivered it directly to the First Selectman for consideration but has not received a response. The Alternative Project Site Plan is shown in **Exhibit C**.

The second suggestion was to keep the Project on the Bethmour Road site but avoid wetlands. In response, Petitioner reduced the Project size from 1.375 MW AC to 0.999 MW AC and the associated land area by about half–from 12.00 to 6.59 acres. The size reduction allowed for a new site design that avoids crossing wetlands and thus alleviated abutters' concerns. This new design is The Final Project Site Plan and is shown in **Exhibit D**. The Final Project Site Plan is the project being proposed in this Petition for Declaratory Ruling.

III. PROJECT

The proposed Project is a Class I renewable energy source as defined under C.G.S. § 16-1(a)(20) and, as such, will help the State achieve its stated energy policy goals and meet legal requirements for 100% carbon-free electric generation by January 1, 2040. See C.G.S. § 16a-35k; P.A. No. 22-5 §1 (3).

A. Project Site:

Petitioner utilized its internal experience and the knowledge and expertise of third-party electrical engineering, civil engineering, consultants, and legal counsel to carefully review, analyze, and select the proposed Project Site. The proposed Project Site selection was based on the site's suitability regarding size, topography, the absence of biological and hydrological conflicts, site availability, the proximity of the site to existing electrical infrastructure, and

approval by The Connecticut Light and Power Company d/b/a Eversource Energy ("Eversource") to interconnect the Project to the utility's electric distribution grid. The proposed Project was designed to minimize land disturbance and preserve the site. Petitioner conducted an extensive site assessment and analysis to prepare this Petition. The Project and Site Assessment involved the expert consultants and legal counsel shown in **Table 1** below:

TABLE 1:

Consultant	Site of Project Site Assessment and Analysis
BL Companies, Inc.	Land Surveying
Solli Engineering, LLC	Civil Engineering
BL Companies, Inc.	Wetlands Delineation and Impact Analysis
Solli Engineering, LLC	Habitat Review and Assessment
GEI Consultants, Inc.	Geotechnical Design Services
Archaeological Consulting Services LLC	Phase IA Environmental Project Site Assessment
Pure Power Engineering, Inc.	Electrical and Mechanical Engineering
Horton Electrical Services, LLC	Project Construction and Installation
Pure Power Engineering, Inc.	Interconnection Design and Medium Voltage Analysis
Michaud Law Group LLC	Legal Counsel

B. Project Site Description:

The Project Site is located at 0 and 428 Bethmour Road, Bethany, CT. The property is zoned residential. The Project Site currently consists of an abandoned single-story residence, two outbuildings, and vacant land. Petitioner has existing and proposed agricultural activities on the Project Site allowing the Project to be eligible as an "agrivoltaic" project. See Section III (H) below. The immediate vicinity of the Project Site is also residential. The solar array setback is fifty feet from the property line, consistent with the Town of Bethany's zoning regulations. See **Exhibit E** - Project Site, Interconnection, Existing Conditions, Proposed Conditions, and Surrounding Features Maps, which depict the Project Site boundaries, the host property's boundaries, and access roads.

C. Project Description:

The proposed Project will be a ground-mounted solar photovoltaic system using a single-axis sun-tracking system and related improvements. The proposed Project has approximately 2,590 non-reflective solar panels measuring from about 3'2" to 6'2" above final grade, depending on location and grades. It will be surrounded by a chain-link security fence and a vegetation buffer of evergreen trees to reduce the visibility of the Project significantly. The solar modules are designed to absorb incoming solar radiation and minimize reflectivity, so only a tiny percentage of incidental light will be reflected off the panels. This incidental light is significantly less reflective than standard building materials such as steel or a smooth water surface such as a pond or lake. The panels will rotate east to west tracking the sun and reducing overall reflectivity in any given direction. Petitioner will construct the proposed Project. The proposed Project construction period is estimated to take three to four months after receiving all required state and local government permits and approvals. If approved, the proposed Project will require a General Stormwater Permit from DEEP. The Table below shows the Estimated Project Construction Schedule.

Estimated Project Construction Schedule	
Task	**Duration**
Mobilization and Project Site Preparation	Two weeks
Civil Work: Road Construction, Grading	Two weeks
Racking, Panel & Electrical Installation	Three weeks
Interconnection and Medium Voltage	Two weeks
System Testing	One week
Approvals & Commissioning	Two weeks

D. Electric Distribution Grid Interconnection:

Petitioner will interconnect the Project to the Eversource electric distribution grid as depicted in **Exhibit E**. Eversource reviewed the Project's electrical design and output during their system impact review process and determined that the distribution circuit for the Project is suitable for the energy delivery to the electric grid from the Project. The line voltage of the electrical interconnection is 13.8 kV which will require offsite upgrades to the electrical distribution system. Eversource has granted interconnection approval to the Project, and Petitioner and Eversource have entered into an interconnection agreement. Eversource has indicated that it is ready to commence the necessary interconnection upgrades for the Project upon receiving a notice to proceed from Petitioner. It will complete the interconnection upgrade upon approval by the Council.

E. Equipment, Construction, Operation, Maintenance, and Decommissioning:

1. Equipment. The Project equipment is comprised of premium modules, such as a single-axis sun tracker system that has a designed life and warranty extending for twenty years, but the proposed Project may remain operational for up to 30 years. The Project's capacity factor is 25.3%, which is relatively high for a solar system and is due to the use of single-axis trackers. The solar capacity factor is the system's actual output ratio to its maximum potential output. Annual losses due to system degradation are estimated at 0.5% per year. A solar inverter is a critical component in a solar system. It converts direct current (DC) electricity into alternating current (AC), the standard form of electricity used in homes and businesses. The inverters for the proposed Project have an operational life and warranty of approximately ten years. Therefore, Petitioner expects at least one inverter replacement during the entire operating life of the Project.

Steel foundations will be driven into the ground for the solar array. Steel racking components will be mounted on these foundations, followed by the installation of photovoltaic modules. The electrical contractor will then install conductors from the photovoltaic modules to the inverters and a transformer on a pad at the end of the array. A switchgear will also be mounted to this pad. The electrical contractor will install a medium voltage (MV) circuit from the Project Site to the Eversource point of standard coupling. AC wiring from the inverters to the panels and MV Transformer occurs on the equipment pads next to the array. Underground conduits will protect feeders. The DC string wiring from the panels to the inverters is routed securely along the racking structure, preventing animal access. These wires enter a conduit weather head under the array, then route to the inverters. Any wiring along the system exposed to the sun is protected by split loom tubing to prevent UV damage. No wiring will be subject to damage during vegetation maintenance, as all wiring below the panels will be in a conduit. No spare parts or replacement modules will be kept on site. See Project Equipment List in **Exhibit F**.

2. Construction, Operation, and Maintenance. The proposed Project construction will have an anticipated duration of three to four months and will take place Monday through Friday between 8:00 a.m. ET and 5:00 p.m. ET. Construction will involve the services of electrical, civil, and structural contractors. The construction staging area will be located entirely within the proposed limit of disturbance associated with the project. One access road will be on the Project Site. Petitioner will carry out construction consistent with the 2002 *Connecticut Guidelines for Soil Erosion and Sedimentation Control* put out by DEEP.

Once built and operational, the Project will be monitored remotely twenty-four (24) hours a day, seven days a week, through a data acquisition system ("DAS"). The DAS system can detect local weather conditions, production from all equipment for the Project, and safety concerns

related to grid outages or faults. In the event of a fault or power outage within the solar facility and the Eversource distribution circuit, the proposed Project must be isolated from the distribution circuit within two seconds of fault detection. The proposed Project's Operations and Maintenance ("O&M") company will perform detailed scheduled annual inspections of all equipment at the Site. In addition, the O&M company will always be on-call in case unscheduled equipment maintenance or safety-related concerns are needed. Cleaning of the solar panels would be conducted as needed with non-toxic substances. However, it should be noted that regular cleaning is unnecessary due to average rainfall and environmental conditions. The tracker system has a snow sensor, and snow accumulation is shed automatically. The snow sensor can be programmed to have the trackers shed snow once it reaches a certain depth. The vegetation within the Project Site will be mowed two times a year. The Project's Operations and Maintenance (O&M) Plan is shown in **Exhibit G**. The proposed Project's estimated costs, including equipment and construction costs, are approximately $3.22/Watt AC x 0.999 MW, or about $3.2 million.

As shown in **Exhibit H**, geotechnical field investigations were completed in April 2022, with the report and findings completed in June 2022. The geotechnical investigation results established the conditions to determine the racking columns and beams' sizing (length and depth of posts). Deep glacial till throughout the proposed Project area will allow using a standard post-driven rack system.

3. Decommissioning Plan. At the end of the proposed Project's operational life, Petitioner will remove all equipment, including the tracking system, panels, inverters, and electrical collection system, and restore the site to its condition before construction. The Decommissioning Plan for the Project is shown in **Exhibit I**.

F. Public Health and Safety:

Petitioner's focus on safety will meet or exceed all health and safety requirements applicable to electric power generation. The proposed Project is designed to meet all industry, state, and local codes and standards and will not pose a safety concern or create an undue hazard to the public. The proposed Project includes a seven-foot-high safety fence and gate as mandated by National Electric Code and will limit access to authorized or emergency personnel only. Each employee working at the Project Site will (1) receive required general and Project Site health and safety training, (2) comply with all health and safety controls as directed by local, state, and federal requirements, (3) understand and employ the Project Site health and safety plan, (4) know the location of local emergency care facilities, travel times, ingress and egress routes, and (5) immediately report all unsafe conditions to the construction manager. The local contractor, Horton Electrical Services, LLC, will conduct outreach to local emergency responders in case of a fire or other emergency at the Project Site. The Fire Marshal will sign off on the site when the building permit is issued. Petitioner will be prepared to provide access to emergency responders and the utility to cut power to the site for safety-related concerns.

The calculated noise level from Project operations to the nearest property line is relatively low at 0.067 dBA. The dBA scale is used to measure environmental noise levels or evaluate noise emissions from machinery or equipment. The vegetation buffers will further reduce this minimal noise.

The closest airport is twelve miles southeast of the Project Site. Based on the distance of the Project Site, the FAA determined that there is no hazard to air navigation and no glare analysis would be necessary. See FAA Determination Letters provided in **Exhibit J**,

G. Non-Residential Renewable Energy Solutions Program:

Eversource selected the proposed Project during the most recent competitive solicitation of Year 2 (2023) of the State's Non-Residential Renewable Energy Solutions ("NRES") Program. The NRES Program is an incentive program that promotes clean-energy facility development with the energy generated by non-residential solar or other Class I renewable technologies. Under NRES, State, Agricultural, and Municipal ("SAM") customers can share compensation from renewable energy generation. This is done by matching the SAM's beneficial accounts with a renewable energy project. For this Project, Petitioner has an agreement with the cities of Torrington and Meriden, matching all of their beneficial electric accounts with the project. Because these cities are also defined as "distressed municipalities" by the Connecticut Department of Economic and Community Development ("DECD"), the NRES program rules prioritize such projects in the NRES program to ensure participation by and economic benefits to distressed municipalities in the form of electric bill savings. The proposed project would result in Torrington and Meriden receiving about $300,000 per year throughout the 20-year term of the NRES tariff agreement for a total of $6,000,000. Moreover, Torrington and Meriden will replace 100% of its electrical dependency with renewable energy through the proposed Project.

H. Agrivoltaics:

The proposed Project will be an "Agrivoltaic" project. The U.S. Department of Energy's Solar Energy Technologies Office defines agrivoltaics as "agricultural production, such as crop or livestock production or pollinator habitats, underneath solar panels or adjacent to solar panels." See U.S. D.O.E, *What is Solar and Agriculture Co-Location*, Solar Energy Technologies Office, https://www.energy.gov/eere/solar/solar-and-agriculture-co-location. Petitioner has tapped maple trees throughout 0 and 428 Bethmour Road in Bethany to produce maple syrup, and Petitioner has

established honeybee colonies for honey production within the fence line of the proposed Project. Petitioner intends to continue both agricultural practices throughout the Project's lifespan. Petitioner will also create a pollinator habitat underneath the solar array and throughout the Project Site for the honeybees. Additionally, Petitioner is working closely with the Connecticut Department of Agriculture to find other agricultural opportunities for the proposed Project, including using CTFarmlink to find local farmers and expand the agricultural capabilities of the Project Site.

I. Reduction in Greenhouse Gas Emissions Compared to Natural Gas:

Using resources from the National Renewable Energy Laboratory (NREL) and the U.S. Environmental Protection Agency (EPA), Petitioner estimates that there would be over a 90% reduction in greenhouse gas ("GHG") emissions by pursuing solar instead of natural gas. Petitioner estimates that over 20 years, the proposed Project will generate 42,217 MWh of electricity while emitting approximately 1,815 metric tons of CO_2e. To achieve the equivalent MWh production over 20 years as the Project, a natural gas generator would emit an estimated 20,517 metric tons of CO_2e over its lifespan. The above calculations are shown in **Exhibit K**.

J. Environmental Assessment:

Solli Engineering, LLC prepared a comprehensive Environmental Assessment ("EA") of the proposed Project. The EA is attached in **Exhibit L**. Per the EA, the maximum ground slope within the solar array area will be 9.5%. A Phase IA Cultural Resources Assessment Survey ("Phase IA") was conducted in March 2023 and is provided in **Exhibit M**. The State Historic Preservation Office ("SHPO") will review the Phase IA study for the potential need to complete a Phase IB Survey for a portion of the property. **Exhibit N** shows that **t**he proposed Project Site is not located within the approximate location of any endangered, threatened, or notable concern

species and significant natural communities in Connecticut (i.e., any Natural Diversity Data Base areas). The Project Site and the entire State of Connecticut are within the threatened Northern Long-Eared Bat range. The U.S. Department of the Interior's Fish and Wildlife Service confirmed compliance with protection for the bat in a letter provided in **Exhibit O**. Photographic site documentation is also provided in **Exhibit P**.

IV. CONCLUSION

As discussed above and in the EA, Petitioner proposes to construct a state-of-the-art, clean, carbon-free, environmentally friendly solar electric generation system that will produce the maximum amount of carbon-free clean energy, implement agrivoltaic practices, provide economic benefits to two distressed municipalities and avoid and minimize any adverse environmental effects.

Based on the evaluations and analysis presented in this Petition by Petitioner, the substantial evidence shows that the proposed Project will be a distributed resources project with a capacity of not more than sixty-five megawatts, will meet or exceed the air and water quality standards of DEEP, and will not have any substantial adverse environmental effects.

Accordingly, Petitioner respectfully requests that the Council grant this Petition for a Declaratory Ruling and approve the location, construction, operation, maintenance, and decommissioning of the proposed Project with a capacity of 0.999 MW AC, and associated equipment inclusive of solar panels, electrical transformers, electrical switchgear, monitoring equipment, and access roadways.

RESPECTFULLY SUBMITTED,

TRITEC Americas, LLC

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