

Petition No. 1427
SunJet Energy, LLC
0 Matthews Street and 125 Hill Street, Bristol

DRAFT Staff Report
January 8, 2021

Introduction

On August 12, 2020, SunJet Energy, LLC (SunJet or Petitioner) submitted a notice of election to waive exclusion from Connecticut Siting Council (Council) jurisdiction, pursuant to Connecticut General Statutes (CGS) §16-50k(e), and a petition for a declaratory ruling (Petition), pursuant to CGS §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 1.0-megawatt or less AC solar photovoltaic electric generating facility and associated electrical interconnection located at 0 Matthews Street and 125 Hill Street in Bristol, Connecticut.

CGS §16-50k(e) states, "Any person intending to construct a facility excluded from one or more provisions of this chapter may, to the extent permitted by law, elect to waive such exclusion by delivering notice of such waiver to the council. Such provisions shall thereafter apply to each facility identified in such notice from the date of its receipt by the council." Under CGS §16-50i(a)(3), the Council has jurisdiction over electric generating facilities utilizing renewable energy sources with a generating capacity of *more than one megawatt*. (Emphasis added).

Pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40, on or about August 11, 2020, the Petitioner notified City of Bristol officials, state officials and agencies, the property owner, and abutting property owners of the notice of election to waive exclusion from Council jurisdiction and the proposed project.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act (UAPA), an administrative agency is required to take action on a petition within 60 days of receipt. October 11, 2020 was the deadline for this petition under CGS §4-176(e). In response to the Coronavirus pandemic, on June 29, 2020, Governor Lamont issued Executive Order No. 7DDD that provides for a 90-day extension of statutory and regulatory deadlines for administrative agencies. On December 17, 2020, pursuant to CGS §4-176(e) of the UAPA, the Council voted to set the date by which to render a decision as no later than May 9, 2021, which is the statutorily mandated 180-day decision deadline under CGS §4-176(i) with the 90-day extension per Executive Order No. 7DDD.

The Council issued its first set of interrogatories to the Petitioner on November 17, 2020. The Petitioner submitted responses to the Council's first set of interrogatories on November 27, and December 2, 2020. One of the responses included photographic documentation of site-specific features intended to serve as a "virtual" field review of the project. The Council issued a second set of interrogatories on December 8, 2020 and the Petitioner submitted responses on December 23, and December 29, 2020.

On January 8, 2021, Council staff member, Fred Cunliffe, visited the site.

Municipal Consultation

In 2019 and early 2020, the Petitioner performed public outreach with the City of Bristol (City) including attending several in-person meetings with City officials prior to the COVID-19 public health emergency.

On August 13, 2020, the Council sent correspondence to the City stating that the Council has received the notice of election to waive exclusion from Council jurisdiction and the Petition and invited the City to contact the Council with any questions or comments by September 11, 2020. No comments were received from the City.

State Agency Comments

On August 13, 2020, the Council sent correspondence requesting comments on the proposed project from the following state agencies by September 11, 2020: Department of Energy and Environmental Protection (DEEP); Department of Agriculture (DOAg); Department of Public Health (DPH); Council on Environmental Quality (CEQ); Public Utilities Regulatory Authority (PURA); Office of Policy and Management (OPM); Department of Economic and Community Development (DECD); Department of Emergency Services and Public Protection (DESPP); Department of Consumer Protection (DCP); Department of Labor (DOL); Department of Administrative Services (DAS); Department of Transportation (DOT); the Connecticut Airport Authority (CAA); and the State Historic Preservation Office (SHPO).

In response to the Council's solicitation, CEQ submitted comments on September 4, 2020. These comments are attached. No other state agencies provided written comments on the project.

While the Council is obligated to consult with and solicit comments from state agencies by statute, the Council is not required to abide by the comments from state agencies.¹

Public Act 17-218

Effective July 1, 2017, Public Act 17-218 requires, "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 DEEP in any solicitation issued prior to July 1, 2017, pursuant to section 16a-3f, 16a-3g or 16a-3j, the DOAg represents, in writing, to the Council that such project will not materially affect the status of such land as prime farmland or DEEP represents, in writing, to the Council that such project will not materially affect the status of land as core forest." The proposed facility has a generating capacity of 1.0 MW or less. Therefore, it is exempt from the provisions of Public Act 17-218.

Public Benefit

The project would be a distributed energy resource facility as defined in CGS § 16-1(a)(49). CGS § 16a-35k establishes the State's energy policy, including the goal to "develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practicable extent." The 2018 Comprehensive Energy Strategy (2018 CES) highlights eight key strategies to guide administrative and legislative action over the next several years. Specifically, Strategy No. 3 is "Grow and sustain renewable and zero-carbon generation in the state and region." Furthermore, on September 3, 2019, Governor Lamont issued Executive Order No. 3, which calls for the complete decarbonization of the electric sector by 2040. The proposed facility will contribute to fulfilling the State's Renewable Portfolio Standard and Global Warming Solutions Act as a zero emission Class I renewable energy source.

SunJet was awarded a contract with Eversource under the state's Low- and Zero-Emissions Renewable Energy Credit (LREC/ZREC) Program to sell the renewable energy credits (RECs) from the facility. The LREC/ZREC Program was developed as part of Public Act 11-80, "An Act Concerning the Establishment of the [DEEP] and Planning for Connecticut's Energy Future." The LREC/ZREC Program is not among the competitive energy procurement programs that are exempt from Public Act 17-218. Any RECs that are

¹ *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007)

produced by the facility in excess of the maximum quantity defined in the LREC/ZREC contract may be sold on the spot market.

SunJet executed a 15-year Virtual Net Metering (VNM) Agreement with the City.² The City would be the recipient of all the virtual net metering credits produced by the Project. The VNM Agreement contains options for two, five-year extensions. At the end of the term of the VNM Agreement, SunJet may seek other revenue mechanisms for the remaining useful life of the facility.

SunJet expects to participate in the ISO-New England, Inc. Forward Capacity Auction; however, the auction number and capacity commitment period is not known at this time.

Proposed Site

The proposed site is located on an 11.94 acre parcel at 0 Matthews Street, owned by L. Arbesam et al. The property, formerly a farm, contains a barn that was associated with an adjacent residential parcel at 125 Hill Street that is owned by Paul and Linda Arbesam. The subject properties are located within the Residential R-15 Zone. Surrounding land use is a mixture of undeveloped properties and residential.

The proposed facility would be constructed on an approximate 6-acre site³ on the 0 Matthews Street parcel.

Considerations in Petitioner's site selection process includes, but are not limited to, the following:

- a) parcel size, grade, and surrounding topography;
- b) absence of biological/hydrological conflicts;
- c) availability of land for lease or purchase; and
- d) proximity to the electrical infrastructure.

Pursuant to CGS §16-50p(g), the Council has no authority to compel a parcel owner to sell or lease property, or portions thereof, for the purpose of siting a facility.⁴

Proposed Project

The proposed 1.0 MW AC solar facility would include a total of 3,432 solar photovoltaic modules rated at 400 Watts direct current (DC). The modules would be installed on a single-axis racking system and oriented to the south at a 45-degree angle, rotating east to west to maximize energy production. The modules would be installed with a minimum ground clearance of approximately four to six feet, at maximum tilt depending on topographical conditions. The tracker control unit includes a sensor for snow load and height. The rack would articulate to its maximum tilt to shed snow load, as needed. The maximum height to the tops of the solar panels would be approximately 8 feet.

The racking system would be supported by posts driven or screwed into the ground to an embedment depth of about 10.5 feet. A geotechnical investigation found subsurface conditions to include subsoil, glacial till, and weathered rock. In the presence of dense soils and cobbles/boulders ground screws would be employed. Predrilling is required to install the ground screws.

² Pursuant to CGS §16-244u, the state's VNM program incentivizes the use of renewable energy by allowing municipalities and other end use customers to assign surplus energy production to other metered accounts.

³ RCSA §16-50j-2a(29), "Site" means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located.

⁴ *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007); CGS §16-50p(g) (2019).

The Petitioner would install eight inverters. The AC power output from the inverters would feed into a step-up transformer to raise the voltage to match the existing electric distribution system. The transformer and switchgear would be located on a 15-foot by 20-foot concrete pad in the northeast corner of the facility.

The maximum efficiency of the proposed 400-Watt solar panels would be approximately 17 percent. The annual power degradation would be approximately 0.8 percent per year.

Fencing would consist of a seven-foot tall⁵ chain-link fence with a four-to-six-inch wildlife gap at the bottom.

The Petitioner would construct approximately a 32-foot long, by 15-foot wide turn-around access drive for the solar facility off Matthews Street using an existing opening into the property. While the proposed access drive is opposite a residence, the Petitioner could position the access drive entrance opposite Peppermint Lane to minimize project line-of-sight from this residence.

The Petitioner and Eversource have completed an interconnection agreement. The electrical interconnection would extend underground from the proposed transformer to a proposed 5-foot by 15-foot concrete pad located adjacent to the south side of the existing barn on the property. Eversource maintains an existing underground connection from this location to an existing distribution pole on Hill Street. On the utility side of the project, Eversource would install four new poles on Matthews Street to facilitate the interconnection to the existing 3-phase distribution circuits.

Total tree clearing and grubbing area would be approximately 0.7 acres central to the project site. This area would be temporarily stabilized prior to installing the racking system. Two stormwater grass-lined basins would be installed west of the project site and would result in 4,000 cubic yards of excavated material that would be stockpiled and temporarily stabilized on site. This soil would be distributed on the site or removed from the site if not needed. Since these are excavated basins, consultation with the DEEP Dam Safety Office for the basins is not required. With the exception of these areas, the project has been designed to minimize alterations to existing slopes. A site construction phasing plan has been developed that includes two main construction phases. Phase 1 includes all work necessary to establish temporary sediment basins and other erosion control measures at the site. Phase 2 includes any remaining earthwork and grubbing followed by site infrastructure installation and site stabilization.

Two residences are equidistant to the proposed facility (618 and 628 Matthews Street) and are approximately 88 feet north of the proposed project perimeter fence. Matthews Street separates the residences and project site.

The operational life of the Project is expected to be 20 years. The inverters for the proposed project have a design life of approximately 10 years and are expected to be replaced during the operational life of the Project.

If approved, the Project construction period is estimated to take approximately 3.5 months after the issuance of all required permits and approvals. Work hours would typically be 7:00 a.m. to 5:00 p.m., Monday through Saturday.

Public Safety

⁵ Section 691.4(2) of the National Electrical Code (NEC), 2020 Edition notes that, "Access to PV electric supply stations shall be restricted by fencing or other adequate means in accordance with 110.31..." Section 110.31 notes that for over 1,000 Volts, "...a wall, screen, or fence shall be used...A fence shall not be less than 7 feet in height or a combination of 6 feet or more of fence fabric and a 1 foot or more...utilizing barbed wire or equivalent."

The proposed project would comply with the National Electric Code, National Electric Safety Code and National Fire Protection Association Codes and Standards, as applicable, including CT State Fire Prevention Code, Section 11.12.3 - Ground Mounted Photovoltaic System Installations. If one section of the solar array experiences an abnormal operation, that section (connected to a given inverter) can shut down while the remaining sections (on separate inverters) can remain active. The Facility would be remotely monitored and would have the ability to remotely de-energize in the event of a fault or other power outage event and/or emergency. An operations and maintenance company will perform detailed scheduled annual inspections of all equipment at the Project Site.

Prior to operation, the Petitioner would meet with local first responders to provide them with information regarding response to emergencies at solar facilities and discuss industry best practices. First responders would be provided access to the facility (Knox box) and emergency shutoff locations will be noted on placards.

The nearest federally-obligated airport to the proposed facility is Robertson Field Airport in Plainville, which is approximately seven miles east of the proposed site. A Federal Aviation Administration (FAA) notice and glare analysis is not required for this project. The solar modules are designed to absorb incoming solar radiation and minimize reflectivity.

Any noise associated with the construction of this project would be temporary in nature and exempt per DEEP Noise Control Regulations. The proposed project is expected to meet the DEEP noise standards at the property boundaries.

Environmental Effects and Mitigation Measures

Historic and Recreational Resources

Heritage Consultants (Heritage) prepared a Phase 1A Cultural Resources Assessment Survey dated May 2020 (Phase 1A Report). According to the Phase 1A Report, there are no previously identified archaeological sites within a 1-mile radius of the proposed project area. There are two resources listed on the National Register of Historic Places within a 1-mile radius of the proposed project area: Endee Manor Historic District and Rockwell Park; however, neither would be impacted by the proposed project.

Heritage determined the soils on the subject property have been extensively disturbed, and therefore possess a low sensitivity for archeological deposits.

Heritage identified several historic structures near the site, including the barn on the property and a barn on the east side of Hill Street, across from the house on the 125 Hill Street parcel. Heritage recommended vegetative screening to mitigate potential views of the facility from these resources.

SHPO reviewed the Heritage report and sent a letter to the Petitioner dated June 1, 2020, stating that the Project would not have adverse effects on historic resources if vegetative screening was installed as recommended by Heritage. The Petitioner proposes to install screening along the east fence line to screen views from the barns as well as along Hill Street.

The nearest publicly-accessible recreational resource (Birge Pond/Hoppers property) is located over 4,000 feet east of the proposed project and there are no expected views of the proposed project from this resource.

Visibility

The proposed project would be visible year-round from adjacent residences and public roads including, but not limited to, Matthews Street to the north and Hill Street to the east and from portions of the open fields south of the project. In general, views of the proposed facility would be minimized due to the low height on the panels and the presence of intervening vegetation in certain areas; however, to provide additional screening of the facility from abutting residential properties, landscape plantings consisting of 87 eight-foot-tall junipers would be installed along the north and east perimeter fence line.

Agriculture

No Prime Farmland Soils are located within the Project Area. A relatively small area of Prime Farmland Soils is within the northeast corner of the property but would not be disturbed by the proposed Project.

Currently, the project area is primarily a meadow managed as a hayfield.

Wetlands

The topography of the site slopes gently down from the northeast to the west/southwest. Slopes range from 0 to 12 percent on the project site. Ground elevations range from approximately 640 feet above mean sea level (AMSL) to 673 feet AMSL.

A wetland is located along the western edge of the property and west of the site development area. The wetland contains forested, scrub-shrub as well as emergent wetland habitats, and is part of a larger wetland complex that extends off-site. A poorly defined perennial stream flows from north to south through the wetland. Project construction related to site clearing and the installation of stormwater management basins would maintain a 50-foot buffer to the wetland. The site perimeter fence would be 100 feet to the wetland.

To protect wetland and watercourses during construction, the Petitioner would implement a Wetland Protection Plan (WPP) to minimize potential adverse impacts to wetland resources. The WPP includes erosion and sedimentation controls consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, contractor education, inspections and reporting by an environmental monitor, and a materials storage and spill prevention plan.

Vernal pool surveys were conducted on April 22nd and May 19th, 2020 for cryptic vernal pool habitat. No vernal pool indicator species were identified during the survey. Although a small embedded pond located within the wetland has a hydroperiod suitable to support amphibian breeding, it does not meet the physical characteristics of a vernal pool as it is permanently flooded by a perennial stream as opposed to seasonally flooded which is more favorable for obligate vernal pool species.

Wildlife

A DEEP Natural Diversity Data Base (NDDB) project review, dated June 29, 2020, identified two State listed Special Concern species, Savannah sparrow and bobolink and one State Endangered species, grasshopper sparrow, that have been recorded in the Project area.

These species are grassland birds that require open grassy areas to forage, breed and nest. DEEP recommended minimizing disturbance to grasshopper sparrow and bobolink habitat during the May 1 to August 30 timeframe and the Savannah sparrow during the April 1 to August 30 timeframe and avoid mowing and vehicular traffic between April 15 to Aug 15.

The Petitioner intends to prepare a grassland bird species mitigation plan consistent with the DEEP NDDB review to include mowing outside the restricted seasons for protected species.

One federally-listed Threatened-Species and state-listed endangered species, the northern long-eared bat (NLEB), is known to occur in Connecticut. The nearest NLEB hibernaculum to the site is in Litchfield, approximately 8.5 miles west of the Project. On April 24, 2020, the Petitioner consulted with the U.S. Fish & Wildlife Service (USFWS). USFWS did not respond within 30 days, and thus, the Petitioner's action is in compliance with the Endangered Species Act Section 7(a)(2) with respect to NLEB.

Forest

Development of the project would result in the clearing of approximately 0.7 acres of edge forest/hedgerow.

Air Quality

The project would not produce air or water emissions as a result of operation. The solar project would not produce air emissions of regulated air pollutants or greenhouse gases during operation.

The Petitioner estimates that there would be a 91 percent reduction in greenhouse gas emissions from Project operation over a 20-year period when compared to the operation of a natural gas fueled electric generating facility with equivalent megawatt-hour (MWh) production.

Water Quality

The site is not located within a Federal Emergency Management Agency designated 100-year or 500-year flood zone. The site parcel is also not located within a DEEP-designated Aquifer Protection Area.

There are no wells on the Project parcel. Adjacent areas are served by a public water supply.

A Petroleum Materials Storage and Spill Prevention plan is included within the WPP.

Stormwater

Pursuant to CGS Section 22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater pollution. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices. The DEEP Individual and General Permits for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (Stormwater Permit) requires implementation of a Stormwater Pollution Control Plan to prevent the movement of sediments off construction sites into nearby water bodies and to address the impacts of stormwater discharges from a project after construction is complete. A DEEP-issued Stormwater Permit is required prior to commencement of construction.

Stormwater generated by the Project will comply with the 2004 Connecticut Stormwater Quality Manual and in general with DEEP draft Appendix I – Stormwater Management at Solar Array Construction Projects.

The Petitioner met with the DEEP Stormwater Division on January 29, 2020 and DEEP did not provide any comments or concerns on the project. The Petitioner submitted its application for a stormwater permit September 30, 2020.

Decommissioning Plan

A Decommissioning Plan was submitted to the Council and has provisions for project removal and component recycling when operation of the facility is discontinued. Following the removal of project related equipment, the Petitioner would stabilize and restore the site.

Conclusion

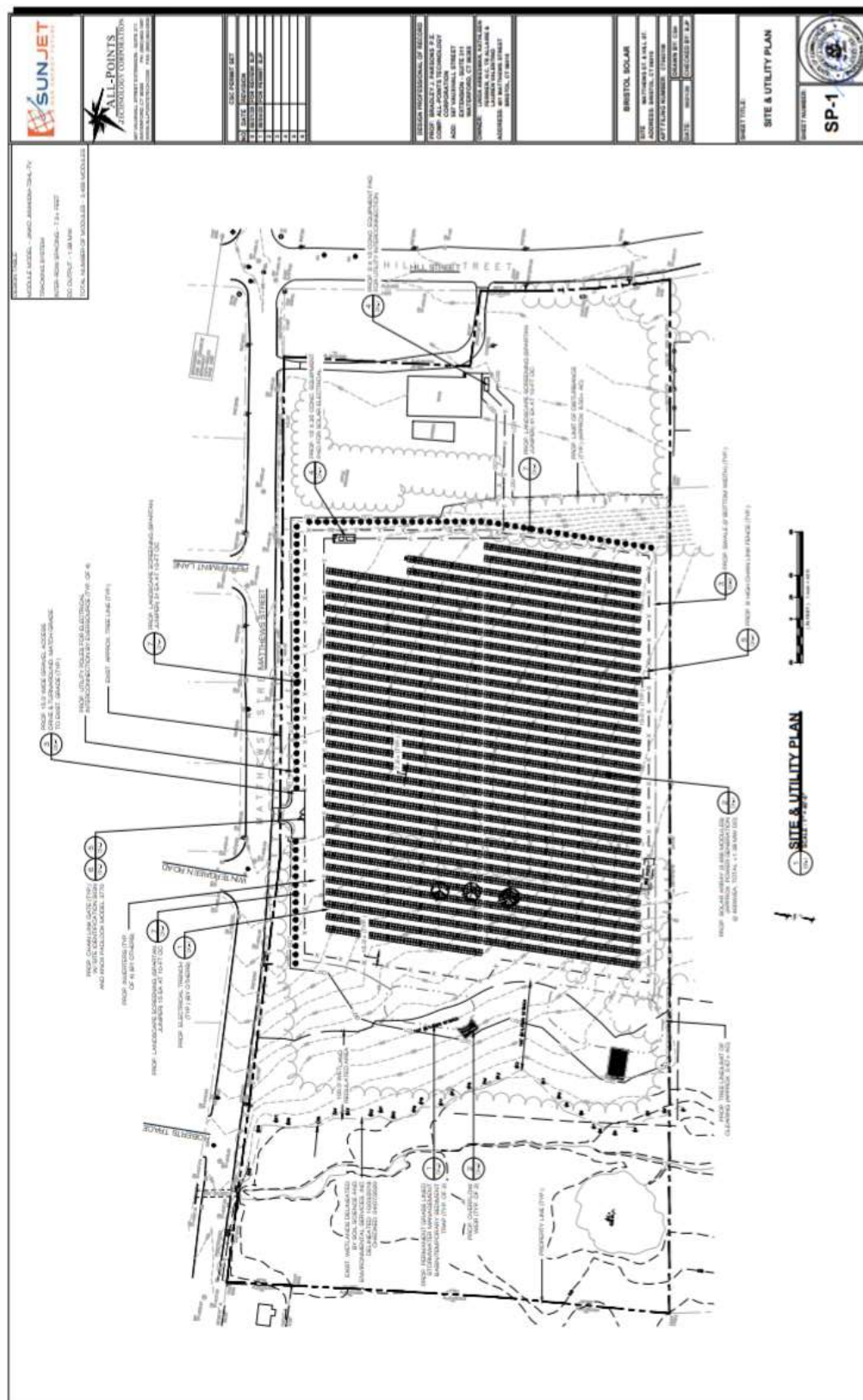
The project is a grid-side distributed resource with a capacity of not more than sixty-five megawatts, meets air and water quality standards of the DEEP, and would not have a substantial adverse environmental effect. The proposed project will not produce air emissions, will not utilize water to produce electricity, was designed to minimize environmental impacts, and furthers the State's energy policy by developing and utilizing renewable energy resources and distributed energy resources. Furthermore, the project was selected under the state's LREC/ZREC Program and further the state's VNM program.

Recommendations

If approved, staff recommends the following conditions:

1. Approval of any project changes be delegated to Council staff;
2. Submit a copy of a DEEP Stormwater Permit prior to commencement of construction;
3. Submit the final fence design in compliance with the National Electrical Code prior to the commencement of construction;
4. Submit the final structural design (for the racking system) stamped by a Professional Engineer duly licensed in the State of Connecticut prior to commencement of construction; and
5. Submit the grassland bird species mitigation plan consistent with the DEEP NDDB review letter dated June 29, 2020 prior to commencement of construction.

Proposed Site Layout



Aerial Site View



ATTACHMENT A – CEQ Comments



Keith Ainsworth
Alicea Charamut
David Kalafa
Lee E. Dunbar
Alison Hilding
Kip Kolesinskas
Matthew Reiser
Charles Vidich

Peter Hearn
Executive Director

STATE OF CONNECTICUT

COUNCIL ON ENVIRONMENTAL QUALITY

September 4, 2020

Melanie Bachman, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: PETITION NO. 1427 – SunJet Energy, LLC notice of election to waive exclusion from Connecticut Siting Council jurisdiction, and petition for a declaratory ruling, for the proposed construction, maintenance and operation of a 1.0-megawatt or less AC solar photovoltaic electric generating facility and associated electrical interconnection located at 0 Matthews Street and 125 Hill Street, Bristol, Connecticut.

Dear Ms. Bachman:

The Council on Environmental Quality (“the Council”) supports the development of clean, renewable energy technologies on appropriate sites in Connecticut. The Council is concerned about the scale of the statewide conversions of active, or potentially usable, farmland, which the legislature intended to be preserved when it enacted PA 17-218, for renewable energy installations.

Both the preservation of farmland and development of renewable energy sources are essential to the State’s future. It is at the Siting Council that these priorities intersect and sometimes conflict. Since June of 2020, this Council has reviewed six proposals to utilize farmland for renewable energy projects. The total farm acreage of active or potentially usable farmland in those five Petitions and one Application is over 330 acres. Inclusion of the all projects reviewed by this Council in the past eight months brings the total to over 540 acres of Connecticut farmland that were the target for siting of solar energy facilities. By comparison, the total acreage acquired for preservation by the State for all of 2019 was 773 acres.

While this Petition proposes the use of relatively few farmland acres compared to other recent Petitions, the continuing accretion of multiple individual decisions to site solar facilities on productive agricultural land has cumulative regional economic and ecological implications that go beyond the loss of prime soils. For example, there are many permanent and migratory species that depend on Connecticut’s farm fields for habitat. The Council urges the Siting Council to weigh the cumulative regional economic and ecological factors when assessing the scale and location of each proposed siting. Consideration of such cumulative and regional impacts by the Siting Council is within its authority under CGS Sec. 16-50p(a).

The Council also has the following comments regarding noise, wildlife, and visibility.

The Petitioner states that “once the Project is constructed and operational, the only equipment that will emit noise consists of the inverter cooling which cannot be heard

outside of the Project fence line.” However, the Petitioner also acknowledges that “no formal noise study was completed for the Project”. Furthermore, the proposed project would utilize a tracking system for the solar panels, which may emit noise. The Council recommends that the Petitioner confirm that noise from the proposed project would not exceed applicable noise standards at the nearest residential property lines.

The Council notes that three state-listed species may occur at the proposed site and that the Department of Energy and Environmental Protection (DEEP) Natural Diversity Database (NDDB) has issued recommendations in their determination letter dated June 29, 2020. The Council recommends that the Petitioner develop and submit to the Siting Council a Mitigation Plan for the identified state-listed species that incorporates, at a minimum, all of the recommendations suggested by the NDDB. The Council also recommends that the Petitioner consider vegetation around the eastern and southern sides of the proposed utility pad and electrical equipment that would be constructed near the southern end of the existing barn because of the possibility that structures at 125 Hill Street may be eligible for listing on the National Register of Historic Places.

Thank you for your consideration of these comments. Please do not hesitate to contact the Council if you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Peter Hearn", with a long horizontal flourish extending to the right.

Peter Hearn
Executive Director