

PETITION NO. 1426 - East Windsor Solar One, LLC petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 4.9-megawatt AC solar photovoltaic electric generating facility located west of the Ellington town boundary at 341 East Road, East Windsor, Connecticut and associated electrical interconnection. }

Connecticut

Siting

Council

May 6, 2021

Opinion

Introduction

On August 10, 2020, East Windsor Solar One, LLC (EWSO or Petitioner) submitted a petition (Petition) to the Connecticut Siting Council (Council), pursuant to Connecticut General Statutes (CGS) §16-50k and §4-176, for a declaratory ruling for the construction, maintenance, and operation of a 4.9-megawatt AC solar photovoltaic electric generating facility located west of the Ellington town boundary at 341 East Road, East Windsor, Connecticut and associated electrical interconnection.

Jurisdiction

As it applies to the petition, CGS §16-50k states in relevant part, “...the Council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling...(B) the construction or location... of any grid-side distributed resources project... with a capacity of not more than sixty-five megawatts, as long as such project meets the air and water quality standards of the Department of Energy and Environmental Protection and the Council does not find a substantial adverse environmental effect...” The project is a “grid-side distributed resources” facility, as defined in CGS §16-1(a)(37) and has a capacity of approximately 4.9 MW.

Effective July 1, 2017, PA 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 the Department of Energy and Environmental Protection (DEEP) in any solicitation issued prior to July 1, 2017, pursuant to section 16a-3f, 16a-3g or 16a-3j, the Department of Agriculture (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 such land as core forest. PA 17-218 also requires that the Council not find a substantial adverse environmental effect in its exercise of jurisdiction over the facilities eligible to be approved by declaratory ruling under CGS §16-50k. There are no exemptions from this provision of PA 17-218.

By letter dated May 20, 2020, DEEP’s Bureau of Natural Resources determined the proposed solar facility would not have a material impact on the status of core forest. By letter dated September 16, 2020, DOAg determined the proposed solar facility would not have a material impact on the status of prime farmland.

Pursuant to CGS §16-50x, the Council has exclusive jurisdiction over the construction, maintenance and operation of solar photovoltaic electric generating facilities throughout the state. PA 17-218 does not confer the Council’s exclusive jurisdiction upon DOAg or DEEP nor does it permit DOAg or DEEP to impose any enforceable conditions on the construction, maintenance and operation of solar photovoltaic electric generating facilities under the exclusive jurisdiction of the Council.

Public Benefit

Pursuant to CGS §16-50p, a public benefit exists when a facility is necessary for the reliability of the electric power supply of the state or for the development of a competitive market for electricity. PA 05-1, An Act Concerning Energy Independence, portions of which were codified in CGS §16-50k, established a rebuttable presumption that there is a public benefit for electric generating facilities selected in RFPs. The Project was awarded two low emission renewable energy credit (LREC) contracts through a competitive RFP for 4 MW of the project's capacity and is pursuing an additional zero emission renewable energy credit (ZREC) for the additional 1 MW capacity.

Energy produced by the project would be sold to Eversource at market rates specified in the utility tariff. EWSO would participate in virtual net metering (VNM) if capacity becomes available. Participation in the VNM program would be subject to all VNM Rider and other program requirements and is contingent upon the availability of VNM capacity.

EWSO intends to participate in an Independent System Operator – New England (ISO-NE) Forward Capacity Auction (FCA).

Proposed Project

Pursuant to a lease agreement with the property owner, EWSO proposes to construct the solar facility on a site within an approximately 75.99-acre portion of a 147.8-acre parcel that straddles the East Windsor/Ellington Town boundary. The proposed site would be located entirely within East Windsor on agricultural property that is zoned Agricultural/Residential and Single Family Residential.

Approximately 19,344 fixed tilt bi-facial solar panels, including 15,990 395-Watt and 3,354 380-Watt¹ direct current (DC) panels, would be installed. The solar panels would be installed on racks driven approximately 8 feet into the ground. The solar array rows (panel edge to panel edge) would be spaced approximately 17.2 feet apart. Once installed, the horizontal width of the panel row would measure approximately 11.4 feet.

The project would be enclosed by a chain-link fence with a height of 8 feet along the northern portion and 7 feet along the southern, eastern and western portions. The entire northern and western fence line would include privacy slats. All fencing would extend to the ground, as requested by EWSO's grazing partners.

Access to the facility would extend along a new gravel access road from East Road, on the western boundary of the property, and continue to the center of the facility where another new access road would be constructed perpendicular to it in a north/south direction for a total of approximately 2,340 feet of new gravel roads.

Construction hours would be Monday through Friday from 7:00 AM to 4:00 PM; Saturday, if necessary, from 7:00 AM to 4:00 PM; and Sunday, if necessary, from 9:00 AM to 4:00 PM. The Council will require construction hours to occur Monday through Saturday with any Sunday work to be requested as necessary.

¹ Both ratings are based on front side of the solar panel only. The bifacial contributions from the reverse sides of the panels would add approximately 10 percent.

Electrical Interconnection

The project's electrical interconnection would extend to an existing distribution pole northwest of the site near the corner of East Road and Middle Road. Six new 40-foot utility poles would be installed along Middle Road. The project requires three separate meters to support the potential for three LREC/ZREC contracts, which require no more than one LREC/ZREC contract at a given revenue meter in any given solicitation. The three meters on the three easternmost poles are the point of change of ownership between EWSO and Eversource.

The existing electric distribution line along Middle Road would be upgraded from single phase to three-phase.

Project Alternatives

EWSO selected the site based on the following factors:

- a. The property is cleared and not within core forest;
- b. The facility would not impact wetlands;
- c. The site is in close proximity to the existing electrical grid; and
- d. The facility would leave approximately 80 percent of the property undeveloped.

Public Safety

The project would comply with the National Electrical Code (NEC), the National Electrical Safety Code (NESC) and the National Fire Protection Association code. EWSO would provide emergency responders access to the site via a Knox Lock Box at the entrance to the facility. EWSO would also notify local emergency response personnel and de-energize the system remotely in the event of a fire at the facility.

EWSO would provide assistance and/or training to local emergency responders, if requested. The Council will require EWSO to offer training to local emergency responders.

The project is not located within a Federal Emergency Management Agency designated 100-year or 500-year flood zone.

Noise generated during facility operations would comply with the DEEP Noise Control Standards. Noise resulting from construction is exempt from DEEP Noise Control Standards.

EWSO has not consulted with the DEEP Dam Safety Division based on the stormwater basin being designed to contain water at a maximum 1.5-foot depth during the 100-year storm event and fully drain within 72 hours. The Council will require EWSO to consult with the DEEP Dam Safety Division regarding permitting requirements, if any, for the proposed stormwater basin prior to site construction.

The project has an anticipated life of 35 years. At the end of the project's lifespan, it will be fully decommissioned and removed from the property. The site would be restored to its original condition, with the exception of any access roads that the property owner prefers to keep in place.

EWSO has procured the solar panels for the project. It intends to recycle all project materials at the end of the life of the project. However, no Toxicity Characteristic Leaching Procedure (TCLP) data for the solar panels has been provided. The Council believes that a TCLP test should be conducted prior to the solar

module installation to determine if the modules contain hazardous substances. Thus, the Council will require that the solar panels selected pass the applicable TCLP test at the time of this decision and not contain PFAS.

Environmental

Historic and Archaeological Resources

There are no known properties listed on the State or National Register of Historic Places located within or near the project site.

A cultural resource survey determined materials found on the site lacked research potential and qualities of significance and no additional testing was required. The State Historic Preservation Office concurred with the results of the survey and found that no historic properties would be affected.

Visibility

The solar facility would be visible year-round from approximately 369 acres or 14.6 percent of the one-mile radius study area. An additional approximately 361 acres (14.3 percent of the one-mile radius study area) would be expected to have seasonal views of the facility during leaf-off conditions. The surrounding area is generally devoid of trees and consists of agricultural areas. Residences to the north across Middle Road and on Jessie Lane farther north, were developed on former agricultural fields and lack natural vegetation.

EWSO would install privacy slats within the northern fence line, which would also be one foot taller (8 feet) than the rest of the fence surrounding the facility. Also, EWSO would install landscaping along the northern fence line to reduce views of the facility from the residential areas to the north. Additionally, EWSO would install privacy slats in the fence along the western border of the facility along East Road and would be willing to install landscaping along that fence line as well.

The proposed 40-foot utility poles including equipment installed at the top of those poles, along Middle Road would be visible from Middle Road and the surrounding area. The junction pole would be located approximately 50 feet on a diagonal from the existing Eversource electric distribution pole at the corner of Middle Road and East Road. The additional five poles would be behind the fence of the facility. The Council recommends EWSO consult with Eversource to reduce the visual impact of the poles.

No state or locally designated scenic roads would be impacted by the facility. The nearest publicly accessible recreational area to the proposed facility is Pierce Memorial Park, located approximately 0.75 mile west of the proposed facility. Views from the park are not anticipated.

Agriculture

Approximately 21.3 acres of the project area are classified as prime farmland soils. The property has been used for agricultural purposes over the past century. EWSO would use minimally intrusive construction methods to limit substantial grading on the site. In areas that require excavation, such as equipment pads, stormwater basin, access roads and swales, topsoil would be segregated and stockpiled for reuse or spread as top dressing for re-establishing vegetation.

EWSO would implement a sheep grazing program at the facility for vegetation maintenance within the fenced perimeter of the project. A flock of sheep would be brought to the site and maintained under the care

of a local farmer annually from April/May through October/November. Approximately 3 sheep per acre for a total of about 72 sheep would be brought to the site during a given growing season. The sheep would be kept in different paddocks and rotationally grazed from paddock to paddock by a flock manager or sheep farmer to manage vegetation and prevent overgrazing. The Council will require EWSO to submit a plan for hosting sheep grazing at the site.

The fenced area would be seeded with low-growing grasses and forbs suitable for sheep and pollinator-friendly species. The Council will require that the final seed mix be included in the D&M Plan.

Forest and Parks

There is no mapped core forest at the site. No state forests or parks are located in the vicinity of the site. No tree clearing is proposed.

Wildlife

The proposed site is within a shaded area of the DEEP Natural Diversity Database (NDDB). On February 24, 2020, EWSO submitted an NDDB request to DEEP. On March 5, 2020, DEEP replied stating they do not anticipate negative impacts to state-listed species within the area.

The northern long-eared bat (NLEB), a federally-listed Threatened Species and state-listed Endangered Species, has a range that encompasses the State of Connecticut. There are no known NLEB hibernacula within East Windsor; the nearest known hibernaculum is located in East Granby. There are no known maternity roost trees in Connecticut. Additionally, no tree clearing is proposed for this project.

Air Quality

The project would meet DEEP air quality standards with no emissions associated with site operation. Thus, no air permit would be required. The project would meet DEEP air quality standards.

A natural gas-fueled electric generating facility of equivalent size would produce about 305,791 metric tons of carbon dioxide equivalent (MT CO₂eq) over a 20-year service life. The solar project would have an estimated carbon debt of 33,386 MT CO₂eq. Thus, the solar facility would result in an 89 percent reduction in greenhouse gas emissions compared to a natural gas-fueled electric generating facility.

Water Quality

The project site is located outside of a DEEP-designated Aquifer Protection Area. Groundwater is classified as “GA” which indicates it is presumed suitable for human consumption without treatment; however, the project is not expected to impact groundwater quality.

There is an onsite well that serves the single-family home south of the facility. No groundwater impacts are anticipated from construction of the facility. Vibrations resulting from installation of the racking system are not expected to cause sediment releases.

Wetlands and Watercourses

The Inland Wetland and Watercourses Act (IWWA) strikes a balance between economic activities and wetlands preservation. The impact of a proposed activity on the wetlands and watercourses that may come from outside the physical boundaries of the wetlands or watercourses is a major consideration. Defined upland review areas, such as 100 feet, provide a trigger for reviewing whether a regulated activity is likely to affect wetlands and watercourses. Under CGS §22a-41(d), regulatory agencies shall not deny or condition an application for a regulated activity in an area outside wetlands or watercourses on the basis of an impact or effect on aquatic, plant, or animal life *unless such activity will likely impact or affect the physical characteristics of such wetlands or watercourses.*

One wetland (Wetland 1) was delineated on the site property consisting of vegetated wetlands bordering Pecks Brook, an interior perennial watercourse, and two man-made agricultural ponds. The stream and wetland complex drains south, initially on the Ellington portion of the parcel and then turns west into the East Windsor portion of the parcel and eventually drains into a farm pond. The nearest construction activities would occur approximately 145 feet to the west of the wetland habitat and includes the fencing, solar modules and stormwater features. EWSO would install erosion and sedimentation controls consistent with the 2002 *E&S Guidelines* to ensure avoidance of any unintentional impacts to these resources.

Per the 2004 *Connecticut Stormwater Quality Manual* (2004 Stormwater Manual), generally, a 100-foot undisturbed upland buffer along a wetland boundary or on either side of a watercourse should be maintained to promote water quality.

Vernal Pools

A cryptic vernal pool habitat was identified interior to Wetland 1 on the Ellington portion of the parcel. The nearest edge of the vernal pool is approximately 515 feet east of the project area.

Two common vernal pool indicator species, the wood frog and spotted salamander, were confirmed within the vernal pool. An additional vernal pool indicator species, the blue-spotted salamander, was considered potentially present because the pool is within the Scantic River Drainage Basin, an area where populations of blue-spotted salamander are known to occur, and the pool is suitable breeding habitat for the species. The pool would also be suitable habitat for the spotted turtle. Painted turtle and spring peeper were also identified at the vernal pool.

The project would be consistent with the 2015 U.S. Army Corps of Engineers New England District's Vernal Pool Best Management Practices.

Stormwater

Pursuant to CGS §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) require implementation of a Stormwater Pollution Control Plan (SWPCP) 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.

DEEP has the authority to enforce project compliance with its Individual or General Permit and the SWPCP, including, but not limited to, the installation of site-specific water quality protection measures in accordance with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control* (2002 E&S Guidelines).

The project has been designed to comply with the 2004 Stormwater Manual and the 2002 E&S Guidelines.

EWSO would install one grass-lined infiltration basin/temporary sediment basin in the southern portion of the project area. Solar panels and a portion of the access road would be located within the stormwater basin; however, stormwater in the basin is not expected to rise above 1.5 feet even during a 100-year storm event. The basin is also designed to fully drain within 72 hours. The proposed stormwater management system was designed to meet DEEP Guidance Regarding Solar Arrays.

Stormwater calculations were performed for 2, 10, 25, and 100-year storms. The hydrological calculations indicate that the design of the proposed stormwater basins would reduce peak rates of runoff below pre-construction levels.

A pre-application meeting was held with DEEP Stormwater Division in January of 2020. The only recommendation from that meeting was to utilize the Appendix I guidance document, which has been incorporated into the stormwater management plan.

The stormwater management plan has been approved by DEEP and is pending a letter of credit.

EWSO would discuss with DEEP Stormwater Division the proposed sheep grazing on the site and discuss any concerns DEEP may have. The Council will require EWSO to discuss the potential impacts of sheep grazing with DEEP Stormwater Division and include any recommendations from DEEP in the D&M Plan.

Conclusion

Based on the record of this proceeding, the Council finds that there would not be a substantial adverse environmental effect associated with the construction, maintenance and operation of an approximately 4.9 MW solar photovoltaic electric generating facility and an associated electrical interconnection located west of the Ellington town boundary at 341 East Road, East Windsor, Connecticut.

The proposed project is a grid-side distributed resources project with a capacity of less than 65 MW under CGS §16-50k, it was selected under the state's LREC Program, it is consistent with the state's energy policy under CGS §16a-35k, and the proposed project would meet all applicable U.S. Environmental Protection Agency and DEEP Air and Water Quality Standards. Therefore, the Council will issue a declaratory ruling for the proposed project.