DRAFT

Petition No. 1345A
North Stonington Solar Center, LLC
Request for Amendment and Development and Management Plan

DRAFT Staff Report
August 21, 2020

Introduction

On October 26, 2018, the Connecticut Siting Council (Council) issued a Declaratory Ruling to Pawcatuck Solar Center LLC (PSC) for the construction, maintenance, and operation of a 15.0 megawatt (MW) AC solar photovoltaic electric generating facility on approximately 353 acres comprised of four abutting parcels off Ella Wheeler Road in North Stonington, and an associated electrical interconnection to Eversource Energy's Shunock Substation on Pendleton Hill Road in North Stonington (Project). The Council's October 26, 2018 Declaratory Ruling ordered a specific site layout, referred to as the Project Alternate, and required a Development and Management (D&M) Plan to be submitted to the Council for approval prior to commencement of facility construction at the site.

On June 11, 2019, pursuant to Condition Nos. 6 and 7 of the Council's Declaratory Ruling PSC notified the Council that Lincoln Clean Energy acquired the Project and renamed the Project, "North Stonington Solar Center, LLC." On March 3, 2020, Enerparc, Inc. notified the Council that it acquired the Project from Lincoln Clean Energy, also known as North Stonington Solar Center, LLC (NSSC). NSSC is a Connecticut limited liability company with an office at 301 N. Lake Avenue, Suite 202, Pasadena, California.

On March 17, 2020, NSSC, submitted a partial D&M Plan to the Council specific to site clearing to avoid conflicts with a Department of Energy and Environmental Protection (DEEP) clearing restriction associated with the red bat, a special concern species listed on the Natural Diversity Database, which may occur in the forested areas of the site. The submitted D&M Plan contained modifications to the site layout and equipment to be installed from what the Council approved in its October 26, 2018 Declaratory Ruling.

On April 23, 2020, the Council denied the partial D&M Plan on the basis that it was not in compliance with the Council's October 26, 2018 Declaratory Ruling as the submitted site plan did not comply with the site layout approved by the Council and a DEEP approved Storm Water Pollution Control Plan (SWPCP) was not included with the submittal. The Council recommended that NSSC submit a request to amend the October 26, 2018 Declaratory Ruling for the modified site layout proposed in the Partial D&M Plan or a revised D&M Plan for the approved site layout for Council review and approval prior to any work commencing on the site, including, but not limited to, site clearing.

Prior to the Council's review and denial of the partial D&M Plan, on April 14, 2020, NSSC obtained a DEEP-approved partial General Stormwater Permit that was limited to site clearing. This Partial General Stormwater Permit was not submitted to the Council as part of the partial D&M Plan filing or as a supplement to the partial D&M Plan filing.

NSSC cleared approximately 84 acres of forest from April 14 to April 30, 2020. An 8.8 acre portion of this site clearing was not authorized by the Partial General Stormwater Permit. Consequently, NSSC submitted a modified site clearing plan to DEEP on May 4, 2020, which DEEP approved on May 14, 2020.

Request for Amendment

On June 16, 2020, NSSC submitted a request to Amend the Project and a D&M Plan for the modified project. The modifications to the Project consist of the following:

a) Reduction in PV modules from 61,000 modules (340 watt DC) to 45,927 modules (435 watt DC);
b) Revision to the interconnection from an underground installation to an overhead pole connection to avoid wetland impacts associated with installation of underground conduits. The revised interconnection includes the installation of twenty-one 45-foot tall Class 2 wood utility poles on the site and 3 additional poles on Pendleton Hill Road to facilitate the interconnection;
c) Reduction in the length of Project access roads from approximately 26,000 linear feet to approximately 7,350 linear feet by eliminating the former perimeter road design. The modified access road layout would provide access to all Project equipment pads;
d) Slight reduction in anticipated first year Project output from 31,500,000 Kilowatt-Hours (kWh) to 30,343,000 kWh of energy; and
e) Reduction in amount of site clearing from 96 acres to 84 acres.

On June 25, 2020, the Council issued an incomplete notice to NSSC indicating that, pursuant to Section 16-50j-40 of the Regulations of Connecticut State Agencies, notice of the amended petition was deficient. On July 8, 2020, NSSC submitted a response indicating that notice requirements have been fulfilled.

On June 26, 2020, the Town submitted comments to the Council that stated the Town wanted to be sure any site changes be approved by the Council.

On June 26, 2020, the Council sent correspondence requesting comments on the proposed project from the following state agencies by July 18, 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).

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]

No state agencies provided comment to the Council.

Development and Management Plan

Also on June 16, 2020, in addition to submitting the Request to Amend the Project, NSSC submitted a proposed D&M Plan that incorporates the changes listed in the Request to Amend the Project. On July 20 and August 4, 2020, the Council submitted D&M Plan interrogatories to NSSC. NSSC submitted responses to the interrogatories on July 30 and August 11, 2020, respectively.

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

The 15.0 MW AC Project will be developed on portions of four leased parcels, zoned industrial, that total approximately 353 acres. The properties consist of a mix of forest, wetlands and former agricultural lands. Generally, the site features gently rolling terrain except for the northeast corner of the site and some periphery areas that have steeper hillside slopes. Existing agricultural fields of various sizes are located mainly in the northern and western portions of the site. Several wetland corridors generally extend from north to south on the site.

The project is divided into 6 distinct array areas with Arrays 1 and 2 located in the southwest portion of the site, Arrays 3 and 4 located in the north-central portion of the site, and Arrays 5 and 6 located in the northeast portion of the site. The Project would occupy an approximate 146 acre area of which 110 acres are located within a perimeter security fence.

The Declaratory Ruling requires the following information to be included in the D&M Plan:

a. A final site plan including, but not limited to, final solar panel and tracking system design, access roads, electrical interconnection, fencing, equipment pads, and post-construction stormwater controls, as designed in the Department of Energy and Environmental Protection (DEEP)-approved Stormwater Pollution Control Plan (SWPCP);

The final site plans provided illustrates the site design, solar array arrangement, clearing, perimeter fencing, access drive design, the location of the interconnection line, and post-construction stormwater controls.

Specifically, the project consists of approximately 45,927 Longi Bifacial 435 watt modules, measuring 84 inches by 41.1-inches. The modules will be installed on a Netracker tilt racking system arranged in north-south rows with each row supporting 81 modules. The tracker system uses a central motor to mechanically move a central drive arm. Each drive arm connects to 20 to 30 tracker panel support arms (panel rows) that can support up to 81 modules. The central drive arm provides for simultaneous panel arm movement and rotation of the connected panel rows at angles ranging from 50 to -50 degrees. The height of the panels above ground would range from 9.0 feet at the top and 1.0 feet at the bottom at maximum tilt angle. The module racking system has a north-south ground slope tolerance up to 17.6 percent and an east-west ground slope tolerance up to 13.1 percent.

Inter row spacing would be approximately 14 feet except for within a spadefoot toad management area where inter row spacing will be 20 feet.

The project will connect to Eversource's Shunock Substation, located on the west side of Pendleton Hill Road using an overhead 13.8-kV distribution feeder that will extend from the south end of the Project. The overhead line will be supported on 21 wood utility poles within in a 60-foot wide, 1,500-foot long utility corridor. Eversource will install an additional 3 utility poles along Pendleton Hill Road to complete the interconnection. Six concrete inverter/transformer pads (10-feet by 11-feet) will be constructed, with one pad for each array area.

Access to the Project will be from the end of Ella Wheeler Road. From this access point, approximately 7,350 linear feet of 20-foot wide gravel roads will be installed to access the inverter pad locations. Shallow six-inch deep "ditches" would be installed on both sides of the gravel roads. To reduce impervious surfaces, NSSC would be willing to install 16-foot wide gravel roads, a reduction of 29,400 square feet of impervious surface.

The solar field areas will be enclosed by an NESC-compliant six-foot tall chain link fence topped with three strands of barbed wire. A six-inch gap will be maintained at the bottom of the fence to allow for small animal movement into the array areas. The perimeter fence will be installed to create three distinct fenced areas to allow for larger animal movement along two corridors between the fenced array areas.

Eight stormwater control ponds will be constructed for permanent stormwater control. Six of the basins will be located on the east and west sides of the northeast solar array areas (Arrays 5 & 6). In addition, stormwater flow control features consisting of swales and smaller detention basins with outfall pipes and emergency spillways will be constructed upgradient of wetland areas to reduce post construction stormwater flows to pre-construction flows and to minimize the disruption of overland flow to existing wetland areas.

b. Submission of a copy of the DEEP-approved SWPCP;

NSSC submitted an application for a General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities for the construction and installation of the on May 28, 2020. DEEP is currently reviewing the Project. A copy will be submitted to the Council upon the completion of DEEP's review.

c. Construction site plans that comply with the DEEP-approved SWPCP and include, but are not limited to, site clearing, grading, site phasing, construction laydown areas, temporary access roads, erosion and sedimentation controls, concrete washout stations, and details regarding construction-related environmental mitigation.

The D&M Plan includes construction related details as well as environmental mitigation measures.

Approximately 110-acres of the site will be disturbed to develop the solar array areas, including 50.3 acres of field areas and 59.7 acres of forest. Tree clearing will be conducted on 84 acres of the site which includes 59.7 acres of clearing with grubbing in the solar array areas, 14.8 acres of clearing with no grubbing outside of the solar array perimeter fence, and 9.3 acres of selective clearing to reduce shading effects. Approximately 1,822 square feet of tree clearing occurred in wetlands along the overhead utility corridor.

Site grading is indicated in detail on the site plans and will occur in select areas throughout the site. Grading is necessary to create favorable slope tolerances for the array tracker system. Most grading will occur in the northeast portion of the site for Arrays 4 and 5 and in the southwest portion of the site for Arrays 1 and 2.

The Project has a total of 59,909.96 cubic yards of cut and 59,712.43 cubic yards of fill which leaves 197.53 cubic yards of excess cut that will be spread across the site with no resulting material impact to site grades.

A gravel construction laydown area (approximately 72,000 SF) will be established at the west end of the site, where Ella Wheeler Road ends. NSSC will establish a minimum 47-foot wide buffer from the laydown area to an adjacent wetland. Specifications for a concrete washout station have been provided. A temporary gravel construction tracking pad will be established at the site entrance on Ella Wheeler Road.

An erosion and sedimentation control (ESC) site sequence has been provided with the main elements consisting of installation of ESC perimeter controls, construction of temporary sediment

traps, grubbing and rough grading, temporary stabilization, installation of solar arrays and permanent stormwater controls, and final site stabilization. Other measures include the installation of erosion control blankets, steep slope matting in specified areas, and temporary seeding.

Main access into the site will be along the routes of the Project interior access roads. No temporary access roads are proposed. Specific construction site phasing is a requirement of the DEEP General Permit and will be provided once the General Permit is approved.

Environmental mitigation includes on-site environmental monitoring, wetland/vernal pool protection measures and the establishment of a spadefoot toad management area. NSSC has retained All Points Technology (APT) as the on-site monitor. APT was on-site during daily tree clearing activities in April and has conducted subsequent site visits to inspect ESC that were installed during clearing operations.

Due to the numerous wetlands on site as well as a vernal pool near Arrays 3 and 4, a wetland and vernal pool protection program was incorporated into the D&M Plan. Elements of the program include provisions for appropriate erosion controls and work area isolation measures, petroleum materials and spill prevention measures, periodic site inspections, herpetofauna sweeps, contractor education, herbicide and pesticide restrictions, and reporting.

The Eastern spadefoot toad, a state endangered species was identified in the north-central portion of the site around a temporary breeding pool located in a former cornfield. As part of the Project, a management plan will be implemented to include a ±10.5 acre "no build zone" established around the temporary breeding pool, restoration of the breeding pool and adjacent habitat, and a wide-spaced solar array area (inter row spacing at 20 feet) east of the "no build zone" to create additional favorable habitat conditions. The breeding pool is currently in the process of restoration with excavation of approximately 27 cubic feet of accumulated organics and manure deposits and re-contouring of the pool area. Pool specific plantings would be installed by October 1, 2020, followed by habitat enhancement around the pool.

Tree clearing was conducted at the site outside of a DEEP-recommended tree clearing restriction of May 1 to September 1 to reduce impacts to the red bat which may occur at the site[2].

d. Final seeding plan for all disturbed areas of the site;

Seeding will encompass all disturbed areas including the solar array areas, swales, and retention/detention basins. The proposed seed is a mix of Creeping Red fescue, Tall Fescue or Smooth Bromegrass and Redtop which is consistent with the seed mix specified in *2002 Connecticut Guidelines for Erosion and Sediment Control.* The specified seed mix contains plant species which will support various pollinator insect populations.

e. Construction work hours and days of the week;

Work hours will typically be 6:00 a.m. to 6:00 p.m., Monday through Saturday and 8:00 a.m. to 6:00 p.m. Sundays. The Work hours are consistent with the Town of North Stonington ordinances.

[2] DEEP modified its recommended tree clearing restriction from April 1 – October 31 to May 1 - September 1 by email correspondence to NSSC dated March 6, 2020.

f. Details of any post-construction environmental mitigation measures; and

NSSC prepared an eastern spadefoot toad report dated September 2019, and modified on October 8, 2019 upon consultation with DEEP, to include post-construction population monitoring, invasive species monitoring, and stormwater detention basin monitoring to assess the potential for decoy breeding pools. Corrective actions would be taken, if necessary, upon consultation with DEEP.

g. Details of post-construction site maintenance and vegetation management.

The Facility will be monitored remotely 24 hours a day, 7 days a week for system performance. Any system abnormalities or alarms will be reviewed with personnel dispatched to the site, if necessary.

Site inspections will be conducted several times per year of site components and features, including but not limited to, access roads, fencing and gates, equipment pads and supports, solar array systems, electrical components and connections, and inverter/transformer cleaning, testing, and preventative maintenance per manufacturer specifications. Solar module clearing is not anticipated but if necessary, only water will be used.

Operation and maintenance personnel will inspect vegetation within and outside the facility perimeter fence. Stormwater management basins and features will be inspected for any issues/damage including rilling and erosion, sediment accumulation, and blockages of outlet control weirs. Corrective actions will be performed as necessary.

Vegetation cutting will occur on an as needed basis. Herbicides to control vegetation will not be used except in certain circumstances.

Recommendations

If the Request to Amend the Project and the D&M Plan are approved, staff recommends following conditions:

1. Submission of a copy of any DEEP-approved revised SWPCP, prior to construction;
2. Revise solar facility access road width from 20 feet to 16 feet; and
3. Submission of a detailed construction phasing plan.

Figure 1- D&M Plan Site Layout

(from Council Interrogatories Set 1, App. B)