

PETITION NO. 1443A - SR North Stonington, 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 9.9-megawatt AC solar photovoltaic electric generating facility on five parcels located north and south of Providence New London Turnpike (State Route 184), west of Boombridge Road and north of Interstate 95 in North Stonington, Connecticut, and associated electrical interconnection. Reopening of this petition based on changed conditions pursuant to Connecticut General Statutes §4-181a(b).	}	Connecticut
	}	Siting
	}	Council
		May 6, 2022

DRAFT Opinion

Introduction

On February 25, 2021, SR North Stonington, LLC (SRNS or Petitioner) submitted a petition (Petition 1443) 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 9.9-megawatt AC solar photovoltaic electric generating facility located on five parcels north and south of Providence New London Turnpike (State Route 184), west of Boombridge Road and north of Interstate 95 in North Stonington, Connecticut, and associated electrical interconnection (Original Project).

In addition to the Petitioner, one party, the Town of North Stonington (Town) participated in the proceeding.

As a result of comments from abutters and the Town, SRNS revised its Original Project (hereinafter referred to as the Revised Project) including, but not limited to, reductions in limits of disturbance and tree clearing areas; reductions in grading; increased setbacks from wetlands and watercourses; and reduction in the quantity of solar panels located north of Route 184.

At a public meeting held on September 9, 2021, the Council did not issue a declaratory ruling for the Revised Project.

Jurisdiction

As it applies to this petition,¹ 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 Modified Project is a "grid-side distributed resources" facility, as defined in CGS §16-1(a)(37) and has a capacity of approximately 8.35 MW².

On March 9, 2016, pursuant to Section 1(b) and 1(c) of Public Act (PA) 15-107, the Department of Energy and Environmental Protection (DEEP) issued notice for a Request For Proposals (RFP) for Class I renewable energy sources with a nameplate capacity rating of more than 2 MW and less than 20 MW (Small Scale RFP). On June 27, 2017, DEEP issued its final determination in the Small Scale RFP and selected 25 out of 107 proposed projects to enter into long-term power purchase agreements (PPAs) with the electric

¹ The project was selected by DEEP in a solicitation before July 1, 2017; thus, the project is expressly exempt from the requirement set forth in CGS §16-50k(a) regarding written representation from DEEP that the project will not materially affect core forest or written representation from DOAg that the project will not materially affect prime farmland.

² The Original Project and the Revised Project both had a capacity of 9.9 MW AC. The Modified Project has a capacity of 8.35 MW AC.

distribution companies for a combination of energy and environmental attributes. The proposed Project is one of the 25 projects selected. SRNS entered into 20-year PPAs with The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) and The United Illuminating Company (UI) for the sale of electricity and renewable energy credits.

Changed Conditions

On December 1, 2021, pursuant to CGS §4-181a(b), SRNS filed a Motion to Reopen and Modify (Motion to Reopen) the Council's decision not to issue a declaratory ruling for the Revised Project. In its Motion to Reopen, SRNS noted several changed conditions and modifications to the Revised Project. This proposed project configuration (hereinafter referred to as the Modified Project) includes, but is not limited to, the following changed conditions:

- a) Eliminate any solar arrays north of Providence New London Turnpike, i.e. install all solar arrays south of Providence New London Turnpike;
- b) Increase solar panel wattage from 475 Watts to 480 Watts;
- c) Reduce the number of solar panels by approximately 4,550;
- d) Reduce the total limits of disturbance;
- e) Reduce the number of trees to be cleared by approximately 684;
- f) Reduce the amount of cut and fill;
- g) Reduce impacts to wetland and increase certain wetland buffers;
- h) Increase the setback from the abutting property boundary at 476 Providence New London Turnpike; and
- i) Install a wooden fence for visual screening along a portion of the abutting property line at 476 Providence New London Turnpike.

On December 2, 2021, the Council issued a memorandum to the service list for the original Petition 1443 proceeding requesting comments or statements of position in writing with respect to whether the Motion to Reopen should be granted or denied and whether a public hearing should be held on this request by December 14, 2021. On December 14, 2021, the Town submitted comments to the Council indicating the Board of Selectmen voted to support SRNS' Motion to Reopen and that the Town did not request a public hearing on the Modified Project. At a public meeting held on December 16, 2021, the Council voted to grant SRNS' Motion to Reopen and to schedule a public hearing on the Modified Project.

Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a remote public hearing on February 15, 2022, beginning with the evidentiary session at 2:00 p.m. and continuing with the public comment session at 6:30 p.m. via Zoom conferencing.

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. This project was selected in DEEP's Small Scale RFP.

SRNS acquired the project from Renewable Ventures, LLC (RV) in 2017.

SRNS did not participate in Independent System Operator – New England (ISO-NE) Forward Capacity Auction (FCA) #15 held in 2021 or FCA #16 held in 2022. SRNS has no plans to participate in FCAs at this time but would evaluate the possibility of future participation on an annual basis.

Proposed Modified Project

The proposed Modified Project site is located on four contiguous parcels totaling approximately 126 acres south of Providence New London Turnpike (Route 184) and north of Interstate 95. All of the site parcels are owned by Silicon Ranch Corporation (SRC)³ and are located within the R-60 Medium-density Residential District in North Stonington. The subject parcels contain former agricultural land, a former sand and gravel mining operation, a small family cemetery and forested uplands and wetland areas.

The surrounding land uses include low density residential, two dog kennels, a dog breeder, Route 184 and I-95.

For the Modified Project, SRNS would utilize two fenced array areas known as the Western Array Area (f/k/a Area 3) and the Eastern Array Area (f/k/a Area 4). Both array areas would be surrounded by a 7-foot tall chain link fence with a foot of barbed wire on top and a two-inch gap at the bottom to allow for small wildlife passage. The Modified Project would reduce the amount of fencing from 13,967 to 7,058 linear feet as compared to the Revised Project. Within the two array areas, SRNS would install a total of 25,125 fixed bifacial solar panels rated at approximately 480 Watts DC each. This would be a decrease in panel quantity and an increase in panel wattage as compared to the 29,675 fixed bifacial solar panels rated at approximately 475 Watts DC each for the Revised Project. The solar panels for the Modified Project would be oriented facing the south at a 25 degree angle and would reach a height of 8 feet above grade.

Access to the solar arrays would be via two individual 16-foot wide gravel access drives. A new approximately 1,483-foot long access drive would be constructed for the Western Array Area off of Route 184. An existing approximately 2,228-foot long farm access drive would be upgraded for the Eastern Array Area off of Boombridge Road. Total access road length would decrease from 5,091 feet for the Revised Project (because it proposed four array areas) to 3,711 feet for the Modified Project (because it proposes two array areas).

For the Revised Project, the nearest property line was located approximately 6 inches north of the fence line of the Eastern Array and the nearest residence was located approximately 104 feet north of the fence line of the Eastern Array Area. For the Modified Project, the distance to the nearest residence from the Eastern Array Area fence would remain the same at approximately 104 feet, and the distance to the nearest property line from the fence of the Eastern Array Area would increase from approximately 0.5 feet to 14 feet.

While the Modified Project is about 16 percent smaller in total AC capacity than the Revised Project, (i.e. 8.35 MW versus 9.90 MW), the Council notes that the Modified Project requires approximately 20 percent less tree clearing area and 27 percent less access road length, at a cost in the range of \$12M to \$25M, which is still comparable to the cost of the Revised Project. This more compact design for the Modified Project is due, in part, to the increased panel wattage. The Modified Project is also consistent with the Town's preference for locating the entire solar facility south of Route 184.

³ SRNS is a wholly owned subsidiary of Silicon Ranch Corporation (SRC).

Electrical Interconnection

The intra-connection of the Western Array Area and the Eastern Array Area would run underground in an east-west direction and would require a crossing of Wetland E. This could be accomplished by boring under the wetland or via an overhead connection spanning the wetland to avoid impacts. The Council will require that the final design plans for intra-connection of the Western Array Area and the Eastern Array Area that crosses Wetland E be included in the Development and Management (D&M) Plan.

The project would have a single, independently-metered electrical interconnection to a new 13.8-kV distribution feeder that Eversource would construct from Shunock Substation. SRNS' point of interconnection would be located off of Route 184 and within the Western Array Area near its access drive. An underground feeder would exit the solar facility and transition to overhead along Route 184 while utilizing three new 50-foot tall utility poles. SRNS completed a distribution System Impact Study which determined that the project is compliant with Eversource technical standards. A modified distribution impact study is not required due to the reduction in capacity associated with the Modified Project.

Project Alternatives

SRNS' predecessor in interest, RV, selected the site based on the following factors:

- a. Size, grading and topography;
- b. Availability for lease or purchase;
- c. Proximity to electrical grid; and
- d. Local land use considerations.

Subsequent to selection of the project in the DEEP Small Scale RFP and acquisition of the project from RV, SRNS did not consider alternative locations.

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 facility⁴.

Public Safety

The project would comply with the National Electrical Code (NEC), the National Electrical Safety Code (NESC) and the National Fire Protection Association (NFPA) code.

SRNS would remotely monitor the facility on a 24/7 basis. In the event of a fire, SRNS would remotely disconnect the facility from the Eversource grid, cease inverter operation and de-energize the project.

Emergency responders would be provided access to the site via a "knox box" or its equivalent to allow access through the site gates. SRNS would conduct a site tour and provide training to local emergency responders.

Most of the site is located within Federal Emergency Management Agency (FEMA) designated Zone X, an area outside of the 500-year flood zone. The southwestern portion of the site is located within FEMA designated Zone A, a high flood risk area, but no development is proposed in that area.

Noise generated during facility operations would comply with the DEEP Noise Control Standards. The Original Project had a maximum predicted sound level at surrounding receptors of 44.9 dBA. The Modified Project is expected to have lower noise levels than the Original Project due to changes in the inverter

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

configuration. Noise resulting from construction of the facility is exempt from DEEP Noise Control Standards.

SRNS had discussions with DEEP regarding the potential need for a dam permit or registration. The stormwater basin storage volumes and embankment heights appear to be well under the threshold for a dam permit or registration. Notwithstanding, DEEP would review this again when SRNS applies for its stormwater permit.

The solar panels are projected to have a service life of at least 40 years. SNRS has no plans at this time to replace the panels at the end of their service life. Project components that cannot be recycled will be decommissioned and removed. The site would be restored to its original condition, with the exception of any access roads and fencing, which may remain for future use.

SRNS provided Toxicity Characteristic Leaching Procedure (TCLP) results from the solar panel manufacturer for the panels to be utilized for the Modified Project. Based on the results, the solar panels would not be characterized as hazardous waste at the time of disposal.

Construction hours would be Monday through Saturday from 7:00 AM to 7:00 PM and Sunday, if necessary. Approximately 60 to 70 construction vehicles would visit the site daily. Due to the amount of truck traffic necessary for construction, the Council will require SRNS to develop a traffic control plan in consultation with the Town and Department of Transportation, as applicable, to be submitted as part of the D&M Plan.

Environmental

Historic and Archaeological Resources

North Stonington Village Historic District is listed on the State Register of Historic Places and is located approximately 3 miles west of the proposed site.

Approximately 57 acres considered to possess moderate to high sensitivity for containing archaeological resources were subjected to subsurface testing via shovel tests. The yielded materials from a total of 202 test pits are identified as field debris and are not consistent with a potentially significant archaeological site; therefore, no additional surveys were recommended. SHPO determined no additional testing of the project area is warranted; and no historic properties would be affected by the solar facility.

A small cemetery is located southwest of the Western Array Area. SRNS would maintain a 100-foot buffer between the project development area and the cemetery.

Remnant stone walls are located within several wooded areas of the proposed site. Stone walls and piles located outside of the project fence lines would be maintained to the fullest extent possible. SRNS is exploring the possibility of reconstructing existing stone walls and/or constructing new stone walls using material from on-site to further mitigate views of the facility.

Visibility

A majority of the solar facility would be shielded from view due to existing landscaping and topography. Most of the project would be set back from adjoining roadways and behind vegetative buffers.

SRNS has been in discussions with the abutter at 476 Providence New London Turnpike. Specifically, SRNS initially proposed a six-foot tall wood stockade fence (about 470 feet long) to provide visual screening from 476 Providence New London Turnpike. Upon further discussions with the property owner, SNRS proposes to increase the length of the fence to about 640 feet and increase the height of the fence to eight feet for additional screening. The wooden fence would be installed on the outside of the chain link security fence.

Year-round views of the Revised Project were expected from a total of seven homes. Year-round views of the Modified Project were initially expected from approximately four homes. However, due to visual screening/mitigation proposed for the abutting property at 476 Providence New London Turnpike, the total number of homes with year-round views of the Modified Project would be reduced to three. The Council will require that the D&M Plan include final plans for an aesthetic fence design for visual screening at 454 and 476 Providence New London Turnpike.

The electrical interconnection would transition from underground to overhead after exiting the solar facility and would require three new 50-foot tall utility poles along Route 184. The Council recommends SRNS consult with Eversource to minimize visibility of the electrical interconnections and submit the final design plans in the D&M Plan.

The nearest publicly accessible recreational resource is the Samuel Cote Preserve (SCP), located approximately 0.9-mile from the Modified Project area. The Modified Project would not be visible from the SCP.

Agriculture

Approximately 0.5-acre of the Modified Project limits of disturbance is located on Prime Farmland Soils. The amount of disturbance area remains unchanged from the Revised Project.

For vegetation maintenance, SRNS would implement a sheep grazing program at the site. The sheep grazing program is not an integral part of the project, but it would reduce the need for motorized landscaping vehicles/equipment and operational costs. Sheep would be located at the site during the months of June through October and would be rotated through subdivided portions of the array areas. The Council will require submission of any sheep grazing plan that does not include rotational grazing in proximity to any dog kennel(s).

The solar facility would utilize a suitable seed mix to achieve soil stabilization, meet habitat and pollinator support goals and be compatible with hosting livestock. The Council will require that the final seed mix be included in the D&M Plan.

Forest and Parks

The Modified Project would reduce the total tree clearing area from approximately 44 acres to 35 acres as compared to the Revised Project. Core forest impacts would be eliminated for the Modified Project.

Wildlife

SRNS performed field surveys between 2017 and 2021. A final eastern spadefoot toad report was issued in November 2021. No eastern spadefoots were detected on the subject property. Although suitable habitat exists in the southern portion of the subject property, that area is inundated with invasive species such as autumn olive and multiflora rose. The presence of invasive species reduces the availability of suitable habitat.

The March 7, 2022 Final NDDB Determination indicated 21 state-listed species occur on or near the site. Based on field surveys for these species, DEEP recommended mitigation measures to reduce potential impacts to the state-listed species, including, but not limited to, protection measures for plant species; 100-foot vernal pool buffers; 50-foot to 100-foot buffers for other wetlands; seasonal restrictions on tree clearing to protect bat species; and invasive species plant removal to enhance habitat for the eastern spadefoot toad, eastern box turtle and the spotted turtle.

Air Quality

The project would meet DEEP air quality standards. Site operation would not produce air emissions of regulated pollutants or greenhouse gases. Thus, no air permit would be required.

A combined-cycle natural gas-fueled electric generating facility of equivalent size would produce a median value of about 256,714 metric tons of carbon dioxide equivalent (MT CO₂eq) over an equivalent 40-year service life. The Modified Project would have an estimated median carbon debt of 5,549 MT CO₂eq. Thus, the solar facility would result in a 97.8 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 but within the Town's Aquifer Protection Zone. Groundwater is classified as "GA" which indicates it is presumed suitable for human consumption without treatment; however, no impacts on water quality are anticipated to result from the project.

There are no drinking water wells at the site. Impacts to surrounding wells are not expected because, although well construction specifics are not known, it is likely that any potable drinking water wells installed within the bedrock aquifer are at depths far below the construction zone. Thus, no disruptions to well water flows or water quality is anticipated, and no specific precautions are warranted.

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*.

Twenty two wetlands were delineated at the site. Of the 22 wetlands, 19 are located on the subject parcels for the Modified Project located to the south of Providence New London Turnpike.

The Modified Project has wetland buffers of at least 100 feet to the nearest fence lines, except for Wetlands C and E in order to accommodate stormwater basins. SRNS would still maintain a 100-foot minimum buffer from Wetlands C and E to the nearest solar panels. 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.

Total direct wetland impact areas associated with the access drive crossings for the Eastern Array Area and formerly proposed Area 1 (located north of Route 184) were approximately 2,720 square feet (sf) for the Revised Project. The Modified Project, which eliminates any array areas north of Route 184, results in the total wetland impact area being reduced by 23 percent to 2,092 sf. This 2,092 sf wetland impact area would be associated with access to the Eastern Array Area only.

Vernal Pools

Eleven vernal pools were identified at the site. Of the eleven vernal pools, 10 are located on the subject parcels for the Modified Project⁵.

For the Modified Project, no construction would occur within the 100-foot vernal pool envelopes of any vernal pools.

For the Modified Project, all but three vernal pools would have less than 25 percent post-construction development of the 100-foot to 750-foot Critical Terrestrial Habitat (CTH) areas. The percent post-construction development areas of the CTHs for VP-E, VP-C, and VP-I would exceed 25 percent for the Modified Project. However, consistent with the US Army Corps of Engineers Best Management Practices for Vernal Pools, directional corridors and optimal CTH habitat for these three pools would be conserved.

Stormwater

Pursuant to CGS §22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater discharges. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices. The DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General Permit) requires 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. In its discretion, DEEP could require an Individual Permit for discharges and hold a public hearing prior to approving or denying any General or Individual Permit (Stormwater Permit) application. 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 (Stormwater 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) and the 2004 Stormwater Manual. The Modified Project has been designed to comply with the 2004 Stormwater Manual, 2002 E&S Guidelines and Appendix I of the Stormwater Permit.

Stormwater calculations were performed for 2, 10, 25, 50, and 100-year storms. The engineered stormwater management system for the Modified Project would result in a drainage pattern that mimics existing conditions.

As of February 8, 2022, the DEEP Stormwater Permit had not yet been issued. The Council will require submission of a DEEP-issued Stormwater Permit prior to the commencement of construction and

⁵ VP-I is located to the north of Providence New London Turnpike and on a parcel that is not associated with the Modified Project.

consultation with DEEP Stormwater Division regarding the potential impacts of sheep grazing on the site, including, but not limited to, water quality impacts from animal waste.

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 8.35 MW solar photovoltaic electric generating facility and an associated electrical interconnection located south of Providence New London Turnpike (State Route 184), west of Boombridge Road and north of Interstate 95 in North Stonington, 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 through the DEEP Small Scale RFP, 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 Modified Project.