

<p><b>PETITION NO. 1042</b> – Somers Solar Center, LLC Petition for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction and operation of a 5.0 MW AC Solar Photovoltaic Project located at 458 &amp; 488 South Road, Somers, Connecticut.</p>	<p>} } }</p>	<p>Connecticut  Siting  Council</p>
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March 21, 2013

**Findings of Fact**

Administrative Procedures

1. Somers Solar Center, LLC (SSC), in accordance with provisions of Connecticut General Statutes (CGS) § 16-50k and § 4-176(a), submitted a petition (Petition) to the Connecticut Siting Council (Council) on October 31, 2012 for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need (Certificate) is required for the construction and operation of a 5.0 megawatt (MW) Alternating Current (AC) Solar Photovoltaic Generating facility located at 458 and 488 South Road in Somers, Connecticut. (SSC 1, p. 1)
2. SSC is a Delaware limited liability company with an office at 117 4<sup>th</sup> Street, SE, Suite B, Charlottesville, VA 22902. It was organized in 2012 for the purposes of developing, constructing and operating a 5 MW solar photovoltaic project in the Town of Somers. (SSC 1, p. 2)
3. SSC is developing the proposed project in association with HelioSage, LLC (HelioSage), a developer of solar energy projects based in Charlottesville, Virginia, and with CleanPath Ventures (CleanPath), a solar project investment firm based in San Francisco, California. (SSC 1, p. 2)
4. SSC is the party in this proceeding. (Transcript, January 15, 2013, 3:00 p.m. [Tr. 1], p. 3)
5. SSC’s project was submitted in response to a Request for Proposal (RFP) for zero emission Class I renewable energy source generation facilities issued by Connecticut’s Department of Energy and Environmental Protection (DEEP) in December, 2011. DEEP’s RFP was issued in accordance with the requirements of Section 127 of Public Act 11-80, *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut’s Energy Future*. SSC’s proposal was one of two projects selected out of 21 proposals through DEEP’s RFP process. (SSC 1, p. 4; Letter from DEEP dated January 11, 2013)
6. SSC provided notice of its intent to file a petition with the Council to abutting property owners. (SSC 1, p. 10; Exhibit B)
7. SSC received return receipts from all abutting property owners to whom it sent notice of its petition filing via certified mail. (SSC 3, Response 1)
8. SSC sent copies of its petition to the Somers First Selectman, the Somers Town Engineer, and the Somers Building Official. (SSC 1, pp. 10-11)

9. SSC provided notice of its application to all federal, state and local officials and agencies identified in CGS § 16-50l (b). (SSC 2, Certification of Notification, 11/30/12)
10. SSC had a sign posted at the site access driveway along Route 83. The sign measured four feet by six feet and gave the date of the public hearing and contact information for the Council. (SSC 7 – Sign Posting Affidavit)
11. The Council and its staff conducted an inspection of the proposed site on January 15, 2013, beginning at 2:00 p.m. (CSC Petition 1042 Field Review Notice; Tr. 1, p. 9)
12. Pursuant to CGS § 16-50m, the Council, after giving due notice thereof, held a public hearing on January 15, 2013, beginning at 3:00 p.m. and continuing at 7:00 p.m. in the Auditorium in the Somers Town Hall at 600 Main Street in Somers, Connecticut. (Tr. 1, p. 2; Tr. 2, p. 2)

#### State Agency Comments

13. Pursuant to C.G.S. § 16-50j(h) and RCSA 16-50j-12, the Council solicited written comments and consultations from all the state agencies identified therein. (CSC Hearing Package for Petition 1042)
14. In response to the Council's solicitation, the Department of Transportation (ConnDOT) submitted comments stating the need for SSC to receive a state Highway Encroachment Permit for its proposed project. (ConnDOT comments, January 7, 2013)
15. In response to the Council's solicitation, DEEP submitted comments on January 11, 2013. In its comments, DEEP reviewed the project's potential for impacts to wetlands, wildlife and water quality. It also raised questions about the project's visibility and possible environmental impacts from maintenance procedures. (DEEP Letter dated January 11, 2013)
16. The Council did not receive comments from any other state agencies. (Record)

#### Municipal Consultation

17. Prior to filing its petition with the Council, SSC conducted numerous meetings with local officials and public briefings to inform them of its plans. These meetings included: regular briefings with local officials regarding site layout and project development; a presentation to the Somers Rotary Club on April 11, 2012; an informational filing submitted to the Town of Somers on May 29, 2012; a meeting with the town's Zoning Commission on June 4, 2012; a meeting with the town's Planning Commission on June 28, 2012; a public information meeting conducted on July 2, 2012 at the Somers town hall; and a meeting with the town's fire and rescue officials on September 11, 2012. (SSC 1, p. 10; SSC 3, Response 5)
18. SSC also met with the Town Planner and Assistant Town Planner of the Town of Ellington due to the proximity of its project to the Ellington town line. This meeting was held on September 11, 2012. (SSC 1, p. 10)

19. SSC provided notice of its petition filing to Town of Ellington municipal officials. (SSC 3, Response 2)

#### Site Search

20. SSC used various mapping and modeling programs such as Google Earth and Geographic Information Systems (GIS) to identify potential sites for a solar energy project. (SSC 3, Response 6)
21. The selection of the site for SSC's project was based on: site suitability (solar resource size, grade and surrounding topography); site availability (ability to lease or purchase the property); and proximity and access to the electrical grid. (SSC 1, p. 4)
22. SSC reviewed and screened approximately 20 sites across Connecticut. Of the sites screened, only three were deemed suitable for a solar energy project: (1) the Pleasant View Farms property (the proposed site); (2) the Pratt & Whitney Solar Center in East Hartford, and (3) the Goshen Solar Center on North Street in Goshen. SSC submitted solar projects at all three of these sites in response to DEEP's RFP. Of the three sites submitted, DEEP selected only the project at the Pleasant View Farms property. (SSC 3, Response 7)
23. The Pleasant View Farms property was considered suitable for a solar energy project because it was previously disturbed, cleared, and on relatively level ground with ideal soil conditions for a project installation. The location of the property and the surrounding area provide for limited visual impacts of a project installation and 23 kV distribution line, the voltage of which is ideal for a 5 MW AC solar project, is located in close proximity to the property. (SSC 3, Response 8)

#### Solar Assessment

24. According to the National Renewable Energy Laboratory's PVWatts calculator, SSC's proposed project would be capable of generating 7,578,926 kilowatt hours per year for an annual energy value of \$1,307,213.10 per year (assuming an electricity cost of 17.2 ¢/kWh). (SSC 3, Responses 10 and 11; Exhibit A)
25. The Direct Current (DC)-to-Alternating Current (AC) derate factor for the proposed project would be expected to be approximately 0.7407 (6.75MWdc = 5MWac). (SSC 3, Response 13)
26. On behalf of SSC, Kleinfelder, a consulting engineering firm, conducted a Shade Study Analysis to determine the potential effects of shading on the proposed project. The equipment used to conduct this analysis was the Solmetric Suneye optical data collector. The information gathered from this study was used to locate the solar panels so that the project would receive an annual solar access of at least 90%. (SSC 3, Exhibit B; Tr. 1, p. 7)
27. SSC's project would be designed to harvest most of its production (85.9%) during the hours of 9:00 a.m. and 5:00 p.m. during the spring, summer, and fall months. (SSC 3, Response 22)

28. Should SSC elect to install its solar panels on a fixed tilt, the project's estimated capacity factor would be 14.38%. Should SSC install the panels on a single access tracker, the estimated capacity factor would be 17.29%. (SSC 3, Response 18)
29. Either of SSC's estimated capacity factors would allow the project to be economically feasible. (SSC 3, Response 19)

#### Site Description

30. SSC's proposed project is located on two parcels of property that, together, comprise 106 acres. The parcels are owned by The Pleasant View Farms Realty Company, which uses them for agricultural production (open hay and corn fields). SSC, in accordance with the wishes of town officials, will file a lot line revision to consolidate the two separate properties into one property to be known as 488 South Road (Property). If SSC were to install its maximum number of solar panels, it would utilize approximately 95 acres of the Pleasant View Farms property. (SSC 1, pp. 1, 5; Tr. 1, pp. 27, 61)
31. The Property is located in an Agricultural Zone A-1. (SSC 1, p. 5)
32. Land use in the surrounding vicinity is primarily agricultural, with some low density residential development. A golf course is located to the north of the Property. The town's landfill is located to the west of the Property. (SSC 1, pp. 5-6; Exhibit C – pp. 5-6)
33. The Connecticut Department of Agriculture has not purchased any development rights for the property on which the proposed project would be located. (Tr. 1, p. 10)

#### Project Description

34. The project would be a "grid-side distributed resources" facility, as defined in CGS § 16-1(a)(43), as it involves "the generation of electricity from a unit with a rating of not more than sixty-five megawatts that is connected to the transmission or distribution system. . . ." (SSC 1, p. 21)
35. SSC's project would consist of the installation of up to 31,000 solar photovoltaic (PV) panels and associated ground equipment. The solar panels would be divided into four separate arrays. The project equipment would represent a ground cover ratio of 40 to 45 percent. (SSC 1, p. 6)
36. The 31,000 panels would be the maximum number that would be installed. The final number of panels would depend on SSC's decision to install some tracking panels or to rely only on fixed tilt panels. Should SSC decide to install only fixed tilt panels, the final number of solar panels would be approximately 20% less than the 31,000 maximum. (Tr. 1, pp. 9-10)
37. If SSC decides not to utilize tracking panels, it would install panels only in Arrays A and B (see Figure 2). If it were to utilize tracking panels, it would install panels in Arrays A, B, C, and D. (Tr. 1, p. 10)
38. SSC would install either 240W or 315W PV panels for its proposed project. The 240W panels would be 14.50% efficient, and the 315W panels would be 14.35% efficient. (SSC 3, Response 20)

39. The project would have a design life of 30 years and would have an efficiency loss of 0.5 % per year. (SSC 1, p. 6; Tr. 1, p. 25)
40. Grading on the project site would be confined to the limits of the access road. (Tr. 2, p. 8)
41. The project would require the installation of a main access road and perimeter maintenance/access roads. The main access road would be 22 feet wide and approximately 3,000 feet long. The perimeter maintenance/access road would be 15 feet wide and approximately 10,800 linear feet long. (SSC 1, p. 6)
42. The access/maintenance roads would have gravel surfaces. (SSC 1, Exhibit J – Stormwater Management Report, p. 3)
43. SSC would use mowers to control vegetation around the solar panels and would not use herbicides or pesticides. (Tr. 1, p. 12)
44. SSC would anticipate cleaning the solar panels once or twice a year with water, depending on the amount of rain that falls. (Tr. 1, p. 11)
45. Heat generated by the operation of the solar panels would melt most normal snowfalls. For large snowfalls, SSC would contemplate removing snow by hand. (Tr. 1, p. 12)
46. The project would include an electrical collector yard. At the point where the collector yard is connected with The Connecticut Light and Power Company (CL&P) distribution network, there would be a utility class circuit breaker or recloser equipped with a multifunctional relay to serve as an Interconnection Interruption Device. Revenue metering would be provided on the utility side of the breaker and a disconnect switch would be provided on the utility side of the meter. (SSC 1, p. 6)
47. The project would include additional equipment, as needed, to monitor circuit voltage and to disconnect from the grid to protect the project's system during outages. (SSC 1, pp. 6-7)
48. The project would be enclosed by a six-foot high chain link fence. (SSC 1, p. 7)
49. The project would be interconnected to the CL&P distribution network at an existing 23kV distribution feeder located along South Road in Somers. The interconnection would be made in accordance with CL&P technical standards and the requirements of the State of Connecticut, ISO-New England (ISO-NE), and the Federal Energy Regulatory Commission (FERC). It would consist of an approximately 500-foot distribution line to be strung at spans of approximately 100 feet on wooden poles approximately 50 feet high or to run underground along the access road, which would require a single new 50-foot high wooden pole. A switchyard with a SCADA room, inverters and their associated pads, and other related electrical equipment would be contained on an approximately 100-foot by 100-foot graded pad. (SSC 1, p. 7; Tr. 1, pp. 50-51)
50. Per the conditions of the DEEP RFP, SSC has entered into a power purchase agreement with CL&P to sell the energy, capacity, and renewable energy credits generated by the project. (SSC 3, Response 23)

51. The estimated cost of the proposed project is:

Solar PV panels	\$ 8.1 million
Balance of Plant	\$ 10.8 million
Associated/Ancillary equipment costs	\$ 0.25 million
<u>Miscellaneous costs</u>	<u>\$ 0.765 million</u>
Total estimated cost	\$19,915,000

(SSC 3, Response 9)

52. The construction of SSC's proposed project would take an estimated six to seven months. (SSC 3, Response 26)

53. According to the terms of its lease, SSC would be required to remove its project and return the site to its original condition when the solar plant is decommissioned. In order to fulfill its requirements, SSC would:

- Remove all equipment (e.g., PV panels, racking systems and posts, wiring, fencing, concrete pads, combiner boxes, inverters, transformers, and switchgear), sell usable components, recycle all recyclable materials, and dispose of non-recyclable components; and
- Backfill depressions, voids, and excavation areas and grade them to their proper elevations and re-vegetate the property to as close to its previous state as possible.

(SSC 3, Response 27)

#### Environmental Considerations

54. During operation, the project would not produce air emissions of regulated air pollutants or greenhouse gases (e.g. PM10, PM2.5, VOCs, GHG, or Ozone). (SSC 1, p. 14)

55. Over a 20-year period, the project would result in the elimination of approximately 102,000 metric tons of CO<sub>2</sub> equivalent. (SSC 1, p. 14)

56. The project would not generate any appreciable noise during its construction or operation. (SSC 1, p. 13)

57. Prior to 2000, southwestern and northwestern portions of the site were used for sand and gravel pit operations. Between 2000 and 2010, sand and gravel pit operations were moved to the southeastern portion of the site. (SSC 1, Attachment C, p. 5)

58. The project has a very low potential to affect any intact archaeological resource, and it should not affect any historic properties. (SSC 1, Exhibit E – Letter from State Historic Preservation Office, dated October 18, 2012)

59. No negative impacts to State-listed species are anticipated to result from the proposed project. (SSC 1, Exhibit H – Letter from DEEP Wildlife Division, dated October 17, 2012)
60. The project is located in a Flood Zone X, an area outside any 500-year floodplain, with a minimal risk for flooding. (SSC 1, p. 18; SSC 8, FEMA Flood Map)
61. There are no public water-supply wells or aquifer protection areas within a one-half mile radius of the project site. (SSC 1, p. 18)
62. The project would not use any water during its electricity-generating operations and would not have any impacts on water quality or supply in the state. (SSC 1, p. 18)
63. A small watercourse flows in a southerly direction through the middle of the project property, between array areas A and B and to the east of array area D. It is an unnamed tributary of Abbey Brook and is fed by groundwater discharge as well as runoff and drainage from the surrounding agricultural fields. (SSC 1, p. 18; Exhibit G – Wetlands Delineation Summary Report)
64. A small wetland area has begun to form on the western edge of the project site. The soil in this area has been compacted by historic activities and is fed by groundwater discharge. Although this area has not developed the characteristic morphology of wetland soil, hydrology and vegetation indicate the soil here is wet for a significant portion of the growing season. (SSC 1, p. 18; Exhibit G – Wetlands Delineation Summary Report)
65. No project-related development would occur within these wetlands or within the 100-foot setbacks observed under the Town of Somers' inland wetland regulations. (SSC 1, p. 19)
66. SSC may have to remove no more than ten trees with a diameter at breast height of six inches or more for its project. (SSC 3, Response 24)
67. SSC's proposed project is not located near any Important Bird Areas designated by the Connecticut Audubon Society. (SSC 3, Response 25)
68. SSC would establish and maintain appropriate soil erosion and sedimentation control measures, in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control established by the Connecticut Council for Soil and Water Conservation, in cooperation with the DEEP, throughout the construction period of the proposed project. (SSC 1, p. 20)
69. Development of the proposed project should result in only modest changes in peak stormwater discharges during the 2-, 25- and 100-year storm events. (SSC 1, p. 19)
70. Any minor increases in the amount of stormwater generated by the Project would be attributable to slightly less pervious gravel roadways—the maintenance access roadways around each of the arrays—and the impermeability of the concrete foundations for the panel systems. (Tr. 1, p. 54)

**Visibility**

71. Visibility of the project would be limited during leaf-off periods and would be constrained during leaf-on periods. Topographic screening would help to minimize the project's visibility. (Tr. 1, p. 16)
72. Glare from the solar panels would be comparable to the glare associated with a lake. (Tr. 1, p. 15)
73. Immediate foreground threshold views into the project and visual impacts on adjacent residential areas would be limited by existing topographic and vegetative screening and by the project's low profile components. (SSC 1, pp. 14-16; Exhibit D)
74. No scenic roadways or hiking trails in the vicinity of the project would be visually impacted. (SSC 1, p. 16)



**Figure 1: Site Location Map**



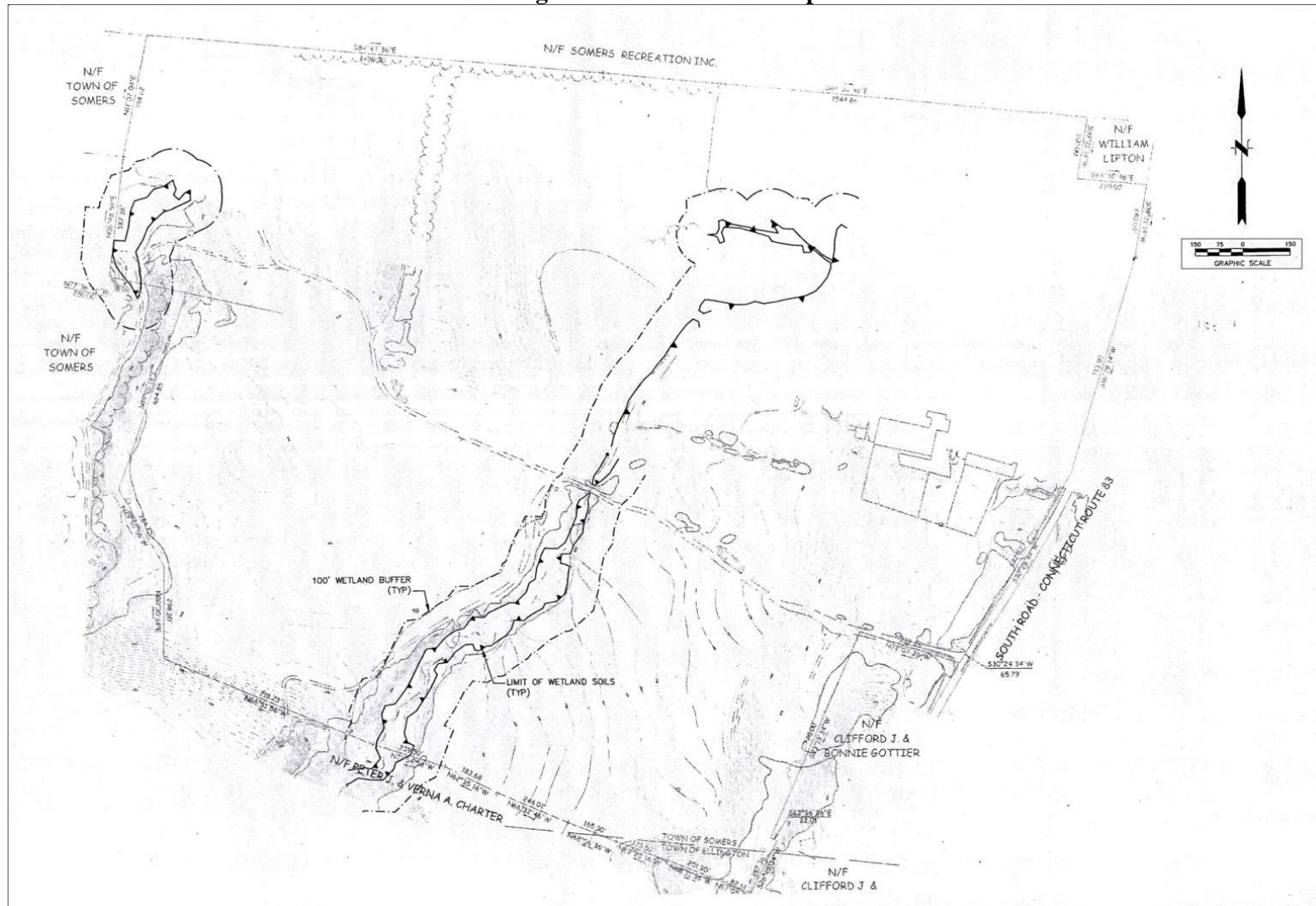
(SSC 1, Attachment E – Fuss & O’Neill Request for Archaeological Review, Figure 1)

**Figure 2: Layout of Proposed Solar Panel Arrays**



(SSC 1, Attachment E – Fuss & O’Neill Request for Archaeological Review, Figure 2)

Figure 3: Site Wetlands Map



(SSC 1, Attachment I – Wetland Map)