



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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VIA ELECTRONIC MAIL

September 26, 2017

David W. Bogan, Esq.
Locke Lord LLP
20 Church Street
Hartford, CT 06103

RE: **PETITION NO. 1310** - Quinebaug Solar, LLC petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 50 megawatt AC solar photovoltaic electric generating facility on approximately 561 acres comprised of 29 separate and abutting privately-owned parcels located generally north of Wauregan Road in Canterbury, Connecticut and south of Rukstela Road and Allen Hill Road in Brooklyn, Connecticut.

Dear Attorney Bogan:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than October 10, 2017. To help expedite the Council's review, please file individual responses as soon as they are available.

Please forward an original and 15 copies to this office, as well as a copy via electronic mail. In accordance with the State Solid Waste Management Plan, the Council is requesting that all filings be submitted on recyclable paper, primarily regular weight white office paper. Please avoid using heavy stock paper, colored paper, and metal or plastic binders and separators. Fewer copies of bulk material may be provided as appropriate.

Any request for an extension of time to submit responses to interrogatories shall be submitted to the Council in writing pursuant to §16-50j-22a of the Regulations of Connecticut State Agencies.

Yours very truly,

Melanie A. Bachman
Executive Director

MB/MP/lm

c: Aaron Svedlow, Project Director – Solar Development, Quinebaug Solar, LLC
Council Members

**Petition No. 1310
Interrogatories
Set Two
September 26, 2017**

Notice and Outreach

78. On August 28, 2017, Quinebaug Solar, LLC (QS) provided the location of the signs that were installed by QS pursuant to Section 16-50j-21 of the Regulations of Connecticut State Agencies. What information was on such signs? On which date(s) were the signs installed?
79. Is it correct to say that, even though the proposed facility is a generating facility with a capacity of over 10 MW, it is exempt from Connecticut General Statutes Section 22a-20a (Environmental Justice Act) because it is a solar facility?

Flood Zones

80. At the evidentiary hearing held on September 19, 2017, there was testimony that there are no 100-year flood zones within the proposed project footprint, but some areas on the western side of the project would be located within the 500-year flood zone. Superimpose the 500-year flood zones areas on a map or drawing of the proposed project (e.g. Figure 4 – Proposed Conditions or Sheet C-055), and provide a copy of such drawing or map.

Carbon Debt Analysis

81. In QS' response to Council interrogatory number 51, QS utilized an equivalent natural gas plant in its carbon debt analysis. Is the "equivalent natural gas plant" a simple cycle combustion turbine or a combined cycle facility?
82. Neglecting the equivalent natural gas plant, provide a simple carbon debt payback period by first computing the loss of carbon dioxide sequestration over the life of the facility due to tree clearing and then adding in the carbon dioxide used to manufacture the solar equipment. This would represent the "debt" to be paid back. Then divide by the annual carbon dioxide emission reductions due to the Class I renewable energy displacing the traditional grid generation to arrive at an approximate "payback period." Is it also correct to note that this is a simplified analysis and a rough approximation because grid emissions may decrease over time due to retirement of fossil fueled-generation and growth of renewables that are expected to occur in the future?

Solar Array Design

83. Referencing Sheet G-001 – Solar Racking System Detail, there appears to be 15 feet of horizontal spacing between rows of solar panels. Is this to prevent or minimize the effects of one row of panels casting a shadow on an adjacent row of panels and blocking the sunlight?

Codes

84. Does the 2017 National Electric Code require fencing for the solar facility itself or only the substation?

Electric Markets

85. At the public hearing, QS testified that it is not participating in the ISO-NE Forward Capacity Auction (FCA) at this time, but must qualify for the FCA. Does QS have any plans to participate in future FCAs?

Electrical Interconnection

86. Is it correct to say that the existing 115-kV corridor consists of one row of double-circuit structures? Would QS (via Eversource) connect to one 115-kV circuit located closer to the substation?
87. How many square feet is the substation?
88. Will just one 34.5-kV circuit (referred to as the "Gen-Tie Line" on page 3-8 of the Petition) supply the substation?
89. Is it correct to say that the 34.5-kV lines from the solar facility to the substation would be overhead? Approximately how tall would the 34.5-kV structures be?
90. Would the transformers have containment measures to protect accidental leakage of dielectric fluids, e.g. insulating oil?

Vernal Pools

91. How much time in total was spent assessing each potential vernal pool? Please provide a table with the amount of time spent per pool and dates sampled from the Connecticut Association of Wetland Scientists (CAWS) data sheets in the record.
92. Please elaborate on the role of CAWS in this study beyond the use of their data sheets.
93. Were any pools re-sampled to ensure that a complete assessment of all species occurred?
94. Was the presence of cryptic vernal pools (i.e., pools embedded within larger wetland complexes) assessed?
95. Were pools assessed using minnow traps?
96. Were pools assessed by cover searching within the vernal pool envelope (0-100 feet from the high water mark of the pool)?
97. Were dry pools examined in autumn to detect brooding adult marbled salamanders?
98. Were pools investigated for marbled salamander larvae in the spring time? If so by what methodologies (i.e., larvae traps or dip netting). If these methodologies were used, please quantify the number of traps or dip net sweeps per pool.
99. At the evidentiary hearing held on September 19, 2017, there was testimony that "man-made" wetlands were excluded from the vernal pool study. Please elaborate on the scientific justification for not considering "man-made" wetlands as having vernal pool function.

100. At the evidentiary hearing held on September 19, 2017, a statement was made about vernal pool definitions. What is Connecticut's definition of a vernal pool?
101. What is the biological definition of a vernal pool as per Calhoun and Klemens (2002)?
102. If one uses a biological definition does it matter whether the pool has an inlet or outlet, has been altered by human activities, or is embedded within a larger wetland complex?
103. Reference is made to Calhoun and Klemens (2002) Best Development Practices for Conserving Pool-Breeding Amphibians in Residential and Commercial Developments in the Northeastern United States (BDP), but has the Petitioner complied with the BDP standard of this manual that states that no development occur in the vernal pool envelope (0-100 feet from the high water mark) and 25% development on the critical upland habitat zone (100-750 feet) around the pool? Provide a table with the pre-development areas and post-development areas as percentages of the respective Critical Terrestrial Habitats (CTHs) areas.

Blue-spotted Salamander Pure Diploid Population - State-listed Endangered Species

104. Please discuss specifically how searches were conducted for this species? What methodologies were employed (e.g. minnow trapping) cover searching within the vernal pool envelope or wetland buffer (i.e. 0-100 feet from the wetland edge). If these searches were conducted, please quantify over what period of time? How much effort was expended per wetland, e.g., number of trap nights, number of cover objects examined?
105. What types of wetlands were searched for these species? Vernal pools, cryptic vernal pools, wooded swamps, and riparian swamps and marshes?
106. Is any portion of the subject property a historical glacial lake basin? If so, which wetlands on the subject property lie within or partially within a historical glacial lake basin.

Spadefoot Toad – State-listed Endangered Species

107. At the evidentiary hearing held on September 19, 2017, there was testimony that no spadefoot toads were observed during the wetland delineations and vernal pool assessments. Based on the ecology and cryptic habits of this fossorial desert species, is such an assessment adequate to determine with any confidence that this species does not occur on this site?
108. At the evidentiary hearing held on September 19, 2017, there was testimony that approximately 15-20% of the site lies atop Hinckley soils. Please provide a map of those soils on the site, and quantify the percentage of the site that is underlain by Hinckley soils.
109. Are you aware of the spadefoot toad predictive models based on soils types that were prepared by Kate Moran of DEEP as well as the earlier model for the Lillibridge-metapopulation (Plainfield/Canterbury/Griswold) based on soils prepared for DEEP by Klemens as part of the Lowes distribution center permitting process?
110. Are you aware of the strong correlation of this species to occur within this portion of the Quinebaug Valley in habitats, including gravel pits and agricultural fields, in and near Hinckley soils?

111. Was the property studied during nighttime summer rains, especially heavy thunderstorms on warm nights, to determine the presence of this species which is often active under such conditions on the ground surface?
112. Were pit fall traps employed in transects across sandy areas of the site, and near wetland edges, to determine use of the habitat by spadefoot toads?
113. Was any effort made to visit the site after heavy summer rains to determine breeding of spadefoot toads, not only in wetlands and vernal pools, but in non-wetland habitats that have ponded water such as agricultural fields?
114. The DEEP has required that applicants for large development projects in contiguous areas of the Quinebaug Valley (Loves) and gravel extraction projects (O and G) conduct detailed assessment of a site for this species prior to permitting of activities. In QS' opinion, should a lesser evidentiary standard be employed on this proposed use and if so why?
115. At the evidentiary hearing held on September 19, 2017, a statement was made to the effect that wildlife flourishes in solar fields near wetlands. Can you provide any scientific study that supports the statement that these solar arrays, many within 100 feet or less of a wetland would not adversely impact wetland dependent species that have upland habitat use?

Ribbon Snake – State-listed Species of Special Concern:

116. Describe the terrestrial use of this wetland species?
117. Is the terrestrial use of this species limited to 50 feet from the wetland edge?
118. What would the impacts be to this species' terrestrial activity by the construction of this project?
119. What measures would you employ to reduce the incidental take of this species during the construction and operation of the facility?