



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

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### VIA ELECTRONIC MAIL

December 17, 2019

Kathryn E. Boucher, Esq.  
Locke Lord LLP  
20 Church Street  
Hartford, CT 06103

RE: **PETITION NO. 1310A** - Quinebaug Solar, 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 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 and south of Rukstela Road and Allen Hill Road in Brooklyn, Connecticut. Reopening of this petition based on changed conditions pursuant to Connecticut General Statutes §4-181a(b).

Dear Attorney Boucher:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than January 7, 2020. 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.

**Please be advised that the original and 15 copies are required to be submitted to the Council's office on or before the January 7, 2020 deadline.**

Copies of your responses shall be provided to all parties and intervenors listed on the service list, which can be found on the Council's website under the "Pending Matters" link.

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.

Sincerely,

  
Melanie A. Bachman  
Executive Director

MB/MP

c: Parties and Intervenors

**Petition No. 1310A  
Interrogatories  
Set One  
December 17, 2019**

**Project Development**

1. Referencing Findings of Fact #49 and #50 of Petition No. 1310, has Quinebaug Solar LLC (Petitioner) sought to qualify and participate in the ISO-NE Forward Capacity Auction? If yes, which auction(s) and capacity commitment period(s)? Did the Petitioner receive a capacity supply obligation? If yes, please indicate which auction(s) and capacity commitment period(s)? If not, please explain.

**Proposed Site**

2. Page 3-4 of the Petition notes that, "Some of the Project Site parcels are currently classified under the Public Act 490 Program." Please identify such parcels and whether they are classified as forest or farmland.
3. Referencing Findings of Fact #97 through #100 in Petition No. 1310, please update these Findings of Fact based on the updated distances to residences and land acreages.

**Energy Output**

4. Provide the megawatt output of the facility in direct current (DC).
5. Have electrical loss assumptions been factored in to the output of the facility? What is the output (MW AC) at the point of interconnection?
6. Do solar facilities present a challenge for the independent system operator for balancing loads and generation (to maintain the system frequency) due to the changing (but not controlled) MW output of a solar facility? What technology or operational protocols could be employed to mitigate any challenges?
7. What is the projected capacity factor (expressed as a percentage) for the proposed project? For clarity, is this capacity factor based on a ratio of AC MWh to AC MWh, or a ratio of AC MWh to DC MWh?
8. Would the power output of the solar panels decline as the panels age? If so, estimate the percent per year.
9. Is the project being designed to accommodate a potential future battery storage system? If so, please indicate the anticipated size of the system, where it may be located on the site, and the impact it may have on the power purchase agreements (PPAs).
10. Could the project be designed to serve as a microgrid?

11. If one section of the solar facility experiences electrical problems causing the section to shut down, could certain other sections of the system (e.g. solar arrays) still operate and transmit power to the grid?

### **Site Components and Solar Equipment**

12. Referencing Tab O of the Petition – Revised Acoustic Analysis, was the proposed facility modeled as a Class B noise emitter and the abutting residences modeled as Class A noise receptors? Explain.
13. Page 3-7 of the Petition notes that there would be 24 inverter/transformer skids. Tab O of the Petition – Revised Acoustic Analysis notes that, “[E]quipment pads will house 25 inverters...” Were the transformers connected to each inverter also considered in the acoustic analysis, or would the inverters be the dominant noise source for each inverter/transformer pair? Please clarify the correct number of inverter/transformer pairs. If 24 is the correct number, is the acoustic analysis based on 25 conservative?
14. With each proposed inverter having an AC power output of about 920 kW (or 0.92 MW), how would the Petitioner achieve 49.36 MW AC with about 24 to 25 inverters?
15. Estimate the maximum height of the inverter/transformer pairs in feet above grade.
16. Would the proposed solar panels be mounted in a portrait or landscape fashion?
17. Is the wiring from the panels to the inverters installed on the racking? If wiring is external, how would it be protected from potential damage from weather exposure, vegetation maintenance, or animals?
18. Would any wiring need to cross public roads? If yes, identify such locations, whether underground or overhead, and if DC solar panel wiring or 34.5-kV AC feeders.

### **Interconnection**

19. Estimate the height (above grade) of the tallest piece of equipment to be located within the proposed Collector Substation, e.g. terminal structure.

### **Public Safety**

20. Would the project comply with the National Electrical Code, the National Electrical Safety Code and any applicable National Fire Protection Association codes and standards?
21. Where is the nearest federally-obligated airport? Provide the distance and direction from the proposed solar facility.
22. Referencing Exhibit P (FAA Correspondence) of the Petition, is it correct to say that there are 17 points that were evaluated by the FAA, not 16?

## Environmental

23. The Study Area now covers approximately 516 acres, an increase from the initial 451 acres. Beyond the increase due to Blackwell Brook and Cold Spring Brook, what areas were specifically added to the revised Study Area? Please provide a drawing indicating the Initial Study Area versus the Revised Study Area?
24. Referencing Finding of Fact #131 in Petition No. 1310, please update the number of acres of vegetation clearing to minimize shading impacts.
25. Referencing Figure 1 of the Pre-filed Testimony of Katelin Nickerson and Dr. Kevin Ryan, please provide a larger scale drawing, e.g. 11" x 17" of Figure 1.
26. Referencing page 3 of the Motion to Reopen Petition No. 1310, the proposed project increases wetland and watercourse buffers by 300%, while maintaining the original capacity of the project. Please describe how this was accomplished, and indicate where the displaced solar panels are relocated.
27. Referencing Findings of Fact #215 through #218 in Petition No. 1310, please respond to the following:
  - a) Would the proposed project impact any identified resources within The Last Green Valley National Heritage Corridor?
  - b) Would the proposed project be visible from any nationally-designated, state-designated or locally-designated scenic roads? If yes, describe the visibility.
  - c) Describe the visibility of the facility from the Quinebaug River Wildlife Management Area, the nearest recreational area as referenced on page 6-7 of the Petition.
28. Where is the nearest national, state and/or locally-designated historic area from the proposed site? Describe the visibility of the proposed project from the nearby historic area(s).
29. Referencing page 4 of the Pre-filed Testimony of Katelin Nickerson and Dr. Kevin Ryan, it states, "Formal vernal pool surveys were conducted in 2016 and again in 2018. Informal checks on select pools were done during the spring of 2019." Explain why only certain "select pools" were informally checked in 2019?
30. Referencing page 45 of the Phase 1A Cultural Resources Assessment Survey under Tab Q of the Petition, it notes, "A construction buffer of 5m (16.4 ft) is recommended around the town line boundary marker, and a buffer of 15 m (50 ft) is recommended around the Bennett/Taylor/Gallagher Cemetery. No construction should be planned in the buffered areas so that these two cultural resources may be protected in place." Would the Petitioner be able to accommodate such recommendations?
31. What is the length of the posts and to what depth would the posts be driven into the ground to provide structural stability? Are any impacts to groundwater quality anticipated? If so, how would the petitioner manage and/or mitigate these impacts?
32. Referencing page 3 of the Pre-filed Testimony of Hagen Lee, it states, "We are working to obtain Final State Historic Preservation Office Concurrence and will provide it to the Council upon receipt." Has the Petitioner received a response from the State Historic Preservation Office? If yes, provide a copy of such correspondence.

33. Referencing page 7 of the Pre-filed Testimony of Katelin Nickerson and Dr. Kevin Ryan, it states, "The Petitioner continues to promote an open dialogue, answer questions, provide additional information and work with Department of Energy and Environmental Protection (DEEP) Natural Diversity Database (NDDB) to secure a Final Determination that will be provided to the Council upon receipt." Has the Petitioner received a final determination from DEEP NDDB? If yes, provide a copy of such correspondence.

#### **Traffic**

34. Please update Findings of Fact #143 through #145 with regard to traffic.

#### **Facility Construction**

35. Referencing Finding of Fact #117 from Petition No. 1310. Provide the updated estimated cost of the proposed project.
36. Referencing page 5 of the Pre-filed Testimony of Katelin Nickerson and Dr. Kevin Ryan, it states, "A comprehensive erosion and sedimentation control plan is being developed for the Project. This plan will be included as part of the Stormwater Management Report to be submitted to DEEP for the Stormwater General Permit (General Permit)." What types of erosion and sedimentation control measures are being considered for this project? Explain.
37. With regard to earthwork required to develop the site, provide the following:
- a) Will the site be graded? If so, in what areas?
  - b) What is the desired slope within the solar array areas?
  - c) Estimate the amounts of cut and fill in cubic yards for the access road(s)
  - d) Estimate the amounts of cut and fill in cubic yards for solar field grading.
  - e) If there is excess cut, will this material be removed from the site property or deposited on the site property?

#### **Maintenance Questions**

38. Referencing Tab H of the Petition – Operations and Maintenance Plan, Snow Maintenance, has snow accumulation on the solar panels been modeled into the predictions for annual electrical energy output? Was the angle of the panels and spacing under the panels chosen to facilitate the melting and sliding off of snow from the panels?
39. Would the petitioner store any replacement modules on-site in the event solar panels are damaged or are not functioning properly? If so, where? How would damaged panels be detected?