



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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VIA ELECTRONIC MAIL

October 7, 2020

Lee D. Hoffman, Esq.
Pullman & Comley, LLC
90 State House Square
Hartford, CT 06103-3702

RE: **DOCKET NO. 492** - Gravel Pit Solar application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a 120-megawatt-AC solar photovoltaic electric generating facility on eight parcels generally located to the east and west of the Amtrak and Connecticut Rail Line, south of Apothecaries Hall Road and north of the South Windsor town boundary in East Windsor, Connecticut and associated electrical interconnection.

Dear Attorney Hoffman:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than October 28, 2020. To help expedite the Council's review, please file individual responses as soon as they are available. At this time, consistent with the Council's policy to prevent the spread of Coronavirus, please submit an electronic copy only to siting.council@ct.gov. However, please be advised that the Council may later request one or more hard copies for records retention purposes.

Copies of your responses shall be provided to all parties and intervenors listed in 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,

s/Melanie Bachman

Melanie Bachman
Executive Director

MB/MP

c: Service List dated August 7, 2020

Docket No. 492
Pre-Hearing Questions
October 7, 2020
Set One

Notice

1. Of the letters sent to abutting property owners, how many certified mail receipts were received by Gravel Pit Solar (Applicant or GPS)? If any receipts were not returned, which owners did not receive their notice? Were any additional attempts made to contact those property owners?

Project Development

2. If the project is approved, identify all permits necessary for construction and operation and which entity will hold the permit(s).
3. Referencing pages 5 and 6 of the Application, a portion of the proposed project was bid into the Zero Carbon Request for Proposals (Zero Carbon RFP) and selected by the Department of Energy and Environmental Protection (DEEP); a portion of the project's generation was subsequently approved by the Public Utilities Regulatory Authority (PURA); a portion of the project's generation was selected by Rhode Island Long-Term Contracting Standard RFP and subsequently approved by the Rhode Island Public Utilities Commission; and the balance of the project's capacity would be used for New England municipal light departments and/or commercial off-takers. Provide a table showing the breakdown of the total 120 MW AC capacity of the project by each entity and include the dates of RFP selections and public utility commission approvals of generation and/or power purchase agreements (PPAs), as applicable.
4. Page 7 of the Application notes that, "GPS will participate in FCAs over the term of its Power Purchase Agreements (PPAs) and is expected to clear each year." Which is the first Forward Capacity Auction (FCA) that GPS plans to participate in? If it is FCA #15, has or would the Applicant participate in the pre-qualification process?
5. Provide the estimated total cost for the proposed project. Does this total include the Applicant's substation? What would the total cost be if the entire project had fixed solar panels?
6. Explain why portions of the project footprint near Plantation Road were selected for tracking panels, and other areas were selected for fixed panels.

Proposed Site

7. Would the site be leased or, for example, subject to a purchase option? If the site would be leased, in the lease agreement with property owner, are there any provisions related to decommissioning and/or site restoration at the end of the project's useful life? If so, please provide any such provisions.
8. Provide a copy of any lease agreements per Connecticut General Statutes §16-50o.

9. Is the site parcel, or any portion thereof, part of the Public Act 490 Program? If so, how does the municipal land use code classify the parcel(s)? How would the project affect the use classification?
10. Has the State of Connecticut Department of Agriculture purchased any development rights for the project site or any portion of the project site as part of the State Program for the Preservation of Agricultural Land?
11. Referencing page 25 of the Application, it states, "Currently the site is used for active sand and gravel mining and tobacco farming operations." How many acres are used for the active farming operations, and is it used by the property owner or is it leased to a third party?
12. Would all components of the solar photovoltaic panels be recyclable? Could components of panels be reused to make photovoltaic cells or whole panels be used to make new solar panels at the end of the life of this project? Could the solar panels and/or associated components be repurposed for a different use or product?
13. Provide the distance, direction and address of the nearest property line and nearest off-site residence from the solar field perimeter fence.

Energy Output

14. Referencing page 12 of the Application, the Applicant notes that the proposed solar panels are likely to be between 400 to 550 Watts DC each. Has the Applicant determined the wattage of the solar panels? Would the Applicant utilize a different wattage for the fixed panes as opposed to the tracking panels?
15. What factors were used to determine the capacity of the proposed project?
16. Please provide a breakdown of the products (ex. Energy, Renewable Energy Credits, ancillary services, etc.) to be sold from the facility and contracted parties.
17. Have electrical loss assumptions been factored into the output of the facility? What is the output (MW AC) at the point of interconnection?
18. Referencing Tab O of the Application, Carbon Debt Analysis, page 2, the project would generate about 253,000 MWh of electrical energy in the first year of operation. Would this number be affected by the final selection of solar panel capacity, e.g. 400 W to 550 W?
19. What is the overall projected capacity factor (expressed as a percentage) for the proposed project (taking into account the proposed mix of fixed and tracking panels)? 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?
20. As a comparison, estimate what the project capacity factor would be if only fixed panels were utilized. For clarity, also indicate if this capacity factor is based on a ratio of AC MWh to AC MWh, or a ratio of AC MWh to DC MWh?

21. What is the efficiency (or range of efficiency) of the photovoltaic module technology of the proposed project?
22. Would the power output of the solar panels decline as the panels age? If so, estimate the percent per year.
23. 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 any RFP awards or PPAs.
24. Would the impact of soft or hard shading reduce the energy production of the proposed project? If so, was this included in the proposed projects capacity factor?
25. If one section of the solar array experiences electrical problems causing the section to shut down, could other sections of the system still operate and transmit power to the grid?
26. 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) megawatt output of a solar facility? What technology or operational protocols could be employed to mitigate any challenges?

Site Components and Solar Equipment

27. Provide the specifications sheets for a) proposed inverters and b) solar photovoltaic panels if such specifications have been determined.
28. Indicate if the proposed fixed and tracking panels would be mounted in a portrait or landscape fashion.
29. Which angle (or range of angles if not yet determined) would the fixed and tracking panels be above the horizontal?
30. 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?
31. Referencing Tab A of the Application, Project Layout Map, what is the total length (in linear miles) of the proposed access roads that would serve the solar arrays located south of Plantation Road? What is the total length (in linear miles) of the proposed access roads that would serve the solar arrays located north of Plantation Road and west of the railroad corridor? What is the total length (in linear miles) of the proposed access roads that would serve the substation, switchyard and solar arrays east of the railroad corridor (and including the crossing of the railroad corridor)? For each of those three numbers, indicate how much would be existing access (to be improved) versus new access.
32. Referencing page 12 of the Application, it states, “Spacing between panels will be approximately 8.8 feet for fixed-tilt and 15.2 feet for single-axis trackers.” What are the minimum panel spacing distances or “aisle widths” at which the fixed and the tracking panels could be installed?
33. Identify the height (e.g. six inches) and locations of wildlife gaps at the bottom of the proposed fencing if applicable.

Interconnection

34. Where would the demarcation point (or point of change of control/responsibility) between the Applicant and The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) be located? For example, would it be the 115-kV side of the generator step-up transformer (GSU) inside the Applicant's substation?
35. Has the Applicant received a determination of no adverse impact to the transmission system from the ISO-NE Reliability Committee? If yes, please submit such determination letter. If not, when is a determination anticipated?

Public Safety

36. Would the project comply with the National Electrical Code, the National Electrical Safety Code and any applicable National Fire Protection Association (NFPA) codes and standards, including, but not limited to, NFPA Code Section 11.12.3?
37. Referencing page 41 of the Application, of the three airports listed, which is the nearest federally-obligated airport? Is a glare analysis required to comply with Federal Aviation Administration (FAA) policy?
38. Referencing Tab Q of the Application, the FAA No Hazard Determinations for the solar facility are attached. Would the Applicant need to apply to FAA for any temporary structures such as cranes?
39. What is the proximity of any existing or proposed outbuildings, structures, etc.? Would this proximity present a fire safety or other hazard?
40. Referencing page 51 of the Application, has there been any assessment for the potential of pesticide residues to be within the project area soils? If pesticide residues are present, would development of the project contaminate deep soil layers or cause an environmental hazard due to exposed soils and re-grading activities?
41. Referencing Tab A of the Application, Project Layout Map and Floodplain, Surface & Groundwater Resources Map, the proposed project is located outside of the 100-year flood zone, except for a portion of the Ketch Brook Crossing Cable. Would any of the proposed project be located within a 500-year flood zone? If yes, how would that impact the project?

Environmental

42. Referencing page 14 of the Application, Ketch Brook Crossing Cable Route, has it been determined whether jack and bore or horizontal directional drill (HDD) would be utilized for crossing Ketch Brook? Explain.
43. Referencing Tab A of the Application, Wetland Delineation Map, please superimpose the proposed solar arrays, wetland buffers distances, distances to watercourses, vernal pool envelopes, and critical terrestrial habitats.
44. Provide a table of the distances from each wetland/watercourse (except Wetland 10) to the nearest project limits of disturbance.

45. Referencing page 2 of the comments of the Council on Environmental Quality dated October 1, 2020, could the elimination of Wetland 10 be avoided or mitigated? Explain.
46. Referencing page 28 of the Application, it notes that Wetland 10 "...does not show connectivity to Waters of the United States and therefore is not jurisdictional to the United States Army Corps of Engineers." Please explain.
47. Referencing Tab J of the Application, provide an update on the Applicant's consultation with DEEP's Natural Diversity Database (NDDDB) Program. Has the Applicant received any follow-up correspondence from DEEP NDDDB? Please include any such correspondence.
48. Did the Applicant conduct a Shade Study Analysis? Would shading present any challenges for the proposed project? If so, provide acreage of trees that would be removed to mitigate for shading? How were the limits of tree shading determined?
49. The Greenhouse Gas (GHG) Assessment in Appendix M of Council Petition No. 1352 compared the life cycle GHG emissions from a solar project to a scenario where the solar project is avoided and an equivalent amount of natural gas-fired electric generation operated for the estimated life of the solar facility. For the proposed project, how would the net GHG emissions (or reduction) over the life of the solar facility and carbon debt payback be affected under this natural gas-fired generation versus proposed solar generation scenario? Would this analysis be materially impacted by the final selection of solar panels e.g. 400 W to 550 W?
50. Are there any wells on the site or in the vicinity of the site? If so, how would the Applicant protect the wells and/or water quality from construction impacts?
51. Would any fuels be stored on site during construction? Please provide a Spill Prevention, Control and Countermeasure Plan.
52. What effect would runoff from the drip edge of each row of solar panels have on site drainage patterns? Would channelization below the drip edge be expected? If not, why not?
53. 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 Applicant manage and/or mitigate these impacts?
54. Where is the nearest parcel used for publicly accessible recreational purposes? Describe the visibility of the proposed project from this parcel.
55. Referencing Tab A of the Application, Wetland Delineation Map. Please submit a revised Wetland Delineation Map that includes Vernal Pool #6.
56. Would the proposed project be consistent with the 2015 U.S. Army Corps of Engineers Vernal Pool Best Management Practices?
57. Referencing Tab K of the Application, Vernal Pool Survey, page 3, Table 2 – Land Use Calculations for Upland Vernal Pool Habitats. This table provides pre-construction conditions. Please provide a similar table with post-construction conditions.

58. Referencing page 41 of the Application, the Applicant notes that, “Cultural surveys and consultation with CT SHPO in regard to investigation and potential mitigation methods are on-going.” Please provide an update on the cultural resource surveys and consultation with SHPO. Provide a copy of any cultural resource surveys e.g. Phase 1B Survey and any correspondence received from SHPO if available.
59. Where is the nearest national, state and/or locally-designated scenic road from the proposed site? Describe the visibility of the proposed project from the nearby scenic road.
60. Referencing pages 10 and 11 of the visibility analysis, about 3.9 percent of the two-mile radius study area would have some level of visibility. This is based on the proposed configuration including about 15.5 feet of height for tracking panels and about 9 feet of height for fixed panels. As a comparison, what percentage of the two-mile study area would have visibility if the proposed project had fixed panels (e.g. ~9 feet tall) only?
61. Please submit photographic site documentation with notations linked to the site plans or a detailed aerial image that identify locations of site-specific and representative site features. The submission should include photographs of the site from public road(s) or publicly accessible area(s) as well as Site-specific locations depicting site features including, but not necessarily limited to, the following locations as applicable:

For each photo, please indicate the photo viewpoint direction and stake or flag the locations of site-specific and representative site features. Site-specific and representative site features include, but are not limited to, as applicable:

1. wetlands, watercourses and vernal pools;
2. forest/forest edge areas;
3. agricultural soil areas;
4. sloping terrain;
5. proposed stormwater control features;
6. nearest residences;
7. Site access and interior access road(s);
8. substation/switchyard site/electrical interconnection(s);
9. clearing limits/property lines;
10. mitigation areas; and
11. any other noteworthy features relative to the Project.

A photolog graphic must accompany the submission, using a site plan or a detailed aerial image, depicting each numbered photograph for reference. For each photo, indicate the photo location number and viewpoint direction, and clearly identify the locations of site-specific and representative site features show (e.g., physical staking/flagging or other means of marking the subject area).

The submission shall be delivered electronically in a legible portable document format (PDF) with a maximum file size of <20MB. If necessary, multiple files may be submitted and clearly marked in terms of sequence.

Facility Construction

62. Has the Applicant submitted an application for a Stormwater Permit from DEEP?

63. Referencing page 22 of the Application, the Applicant met with DEEP Stormwater Division during a site walk held on July 28, 2020. Have any additional meetings with DEEP Stormwater Division been held subsequent to the site walk? Please describe any recommendations, comments or concerns about the project provided by the Stormwater Division.
64. Has the Applicant consulted with DEEP Dam Safety program regarding permitting requirements, if any, for the proposed stormwater basins?
65. With regard to earthwork required to developed 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) Could the solar field areas be installed with minimal alteration to existing slopes?
 - d) If minimal alteration of slopes are proposed, can existing vegetation be maintained to provide ground cover during construction?
 - e) Estimate the amounts of cut and fill in cubic yards for the access road(s)
 - f) Estimate the amounts of cut and fill in cubic yards for solar field grading.
 - g) If there is excess cut, will this material be removed from the site property or deposited on the site property?
66. Would topsoil be stripped from the site prior to grading? If so, would the topsoil be spread over the disturbed areas once grading is complete? If not, how would growth of new vegetation/grasses be promoted within the graded areas if nutrient rich soils are not present?
67. How would the posts (that support the racking system) be driven into the ground? In the event that ledge is encountered, what methods would be utilized for installation?
68. What is the minimum road width required for post-construction use?
69. Has a comprehensive geotechnical study been completed for the site to determine if site conditions support the overall Project design? If so, summarize the results. If not, has the Applicant anticipated and designed the Project with assumed subsurface conditions? What are these assumed conditions?
70. Provide the estimated typical construction hours and days of the week (e.g. Monday through Friday 8 AM to 5 PM)?

Maintenance Questions

71. Referencing Tab P – Operations and Maintenance Plan, p. 4, would snow accumulation on the solar panels affect the output of the facility? Under what circumstances would snow be removed? Describe snow removal methods.
72. Would the Applicant 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?