



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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VIA ELECTRONIC MAIL

September 29, 2020

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

RE: **PETITION NO. 1425** – Gaylord Mountain Solar Project 2019, 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 1.9-megawatt AC solar photovoltaic electric generating facility located at 360 Gaylord Mountain Road in Hamden, Connecticut, and associated electrical interconnection.

Dear Attorney Baldwin:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than October 20, 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/FC/lm

c: Service List dated August 10, 2020

Petition No. 1425
Interrogatories
Set One
September 29, 2020

Project Development

1. If the project is approved, identify all permits necessary for construction and operation and which entity will hold the permit(s)?
2. Was the project selected through a RFP process? If so, which RFP?
3. Was the project selected for the LREC/ZREC Program? If yes, indicate which utilities and the percentage of the renewable energy credits (RECs) that would be sold to each utility.
4. Petition p. 4 states “Energy produced by the project will be sold to **Southern Connecticut State University**”. The May 14, 2020 correspondence to Mayor Leng behind Exhibit C states, “This solar facility will utilize ground-mounted solar arrays that generate 3 MW DC/±1.7 MW AC of clean renewable energy for use in the State of Connecticut at **Gateway Community College in New Haven.**” Exhibit H p. 8 indicates, “In addition, the off-taker for the energy generated by the project is **Central Connecticut State University.**” (Emphasis added).
 - a. To which entity or entities is the energy produced by the project to be sold?
 - b. Is the project subject to a virtual net metering (VNM) agreement?
 - c. If so, what is the length of this agreement?
 - d. Would all 1.9 megawatts AC be dedicated to virtual net metering?
5. If the VNM agreement expires and is not renewed and the solar facility has not reached the end of its lifespan, will the Petitioner decommission the facility or seek other revenue mechanisms for the power produced by the facility?
6. Would the petitioner participate in the ISO-NE Forward Capacity Auction? If yes, which auction(s) and capacity commitment period(s)?

Proposed Site

7. In the lease agreement with the landowner, are there any provisions related to decommissioning or site restoration at the end of the project's useful life? If so, please describe and/or provide any such provisions.
8. 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?
9. 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?
10. Provide photographic simulations of the proposed project prepared from area vantage points (i.e. at the location of the permanent access road from Gaylord Mountain Road and from the end of Hunting Ridge Road.
11. Referencing footnote 2 on Petition p. 4 and footnote 4 on Petition p. 12, what is the status of any agreements between the Petitioner, Eversource and the property owner for access to the project area from the north for construction purposes only?
12. Figure 1A behind Exhibit C and Figure 3 behind Exhibit H on p. 6 depicts the "site" to include the existing telecommunications facility and Eversource right-of-way, as well as undeveloped portions of the parcel further west. "Site" is defined under Regulations of Connecticut State Agencies §16-50j-2a(29) as "a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located, or is proposed to be located." Are these areas of the parcel, or any portions thereof, part of the "site" as that term is defined under the Regulations? Could solar panels be relocated to these areas of the parcel?
13. What is the operational life of the facility?
14. 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?
15. Provide the distance, direction and address of the nearest property line and nearest off-site residence from the solar field perimeter fence.
16. Petition p. 4 states a 6-foot tall farm fence with 4-6 inch opening at base of fence for wildlife movement, however, the space at the base of the fence is not shown on Exhibit H Site Plan DN-1. Provide revised Site Plan DN-1.

17. Would the Petitioner consider a 7-foot high farm fence consistent with Section 691.4(2) of the National Electrical Code (NEC), 2020 Edition notes that, “Access to PV electric supply stations shall be restricted by fencing or other adequate means in accordance with 110.31...” Section 110.31 notes that for over 1,000 Volts, “...a wall, screen, or fence shall be used...A fence shall not be less than 7 feet in height or a combination of 6 feet or more of fence fabric and a 1 foot or more...utilizing barbed wire or equivalent.”

Energy Output

18. Provide the megawatt output in alternating current (AC) and direct current (DC).
19. Have electrical loss assumptions been factored in to the output of the facility? What is the output (MW AC) at the point of interconnection?
20. 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?
21. What is the efficiency of the photovoltaic module technology of the proposed project?
22. 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 VNM agreement.
23. 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?
24. Could the project be designed to serve as a microgrid?
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. Different values for the number of 400W solar panels were presented in the petition (i.e., 2,292, 6292, and 11,492) Please identify the number of panels.
28. Will the Project solar panels be mounted in a portrait or landscape fashion?
29. Provide the following information regarding the Project solar panel rack system:
- What is the length of the driven posts and to what depth would the posts be driven into the ground to provide the required structural stability?
 - How many panels will each rack hold?

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. What is the length and width (in feet) of the existing, proposed temporary and permanent access routes? Does the existing access road on the subject parcel require any upgrades? If so, describe the improvements.
32. What is the aisle width between the solar panel rows from panel edge to panel edge? What is the minimum aisle width at which the solar panel rows could be installed?

Interconnection

33. Is the project interconnection required to be reviewed by ISO-NE?
34. Petition p. 11 indicates “the inverter step-up transformers located at each equipment pad will use biodegradable oil for cooling.” Explain “biodegradable.”
35. At what point will the underground electrical connection transition to an overhead progression to connect to the distribution system?
36. Referring to Petition p. 5, what is the height above grade of the proposed utility poles?

Public Safety

37. Would the project comply with the National Electrical Code, the National Electrical Safety Code and any applicable National Fire Protection Association codes and standards, including, but not limited to, NFPA Code Section 11.12.3?
38. Where is the nearest federally-obligated airport? Is a glare analysis required to comply with FAA policy?
39. With regard to emergency response:
 - a. How would site access be ensured for emergency responders?
 - b. In the event of a brush or electrical fire, how would the Petitioner mitigate potential electric hazards that could be encountered by emergency response personnel?
 - c. Could the entire facility be shut down and de-energized in the event of a fire? If so, how?

Environmental

40. Petition Exhibit H p. 25 Table 4 express values that are not listed elsewhere in the petition. Please provide a corrected table.

Table 4: Farmland Soils Assessment and Impacts Table

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Farmland Soil Classification	Total Area On-Site (+/- ac.)	Area within Project Limits (+/- ac.)
Prime Farmland Soil Area	54.3	0.0
Unique Farmland Soil Area	n/a	n/a
Statewide Important Farmland Soils Area	160624.6	94582.02

41. Petition Exhibit H, page 3, states “Ground elevations range from approximately 452 feet AMSL in the west to 716 feet AMSL in the east.” Should 452 feet be on the east side of the subject parcel and 716 feet on the west of the subject parcel?
42. Is tree clearing required for the proposed project? If so, please provide the following:
- Acreage of tree clearing only;
 - Acreage of tree clearing and grubbing;
 - Acreage of tree clearing in wetlands; and
 - What methods would be used to clear trees in wetlands?
43. Did the Petitioner 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?
44. Are there any wells on the site or in the vicinity of the site? If so, how would the petitioner protect the wells and/or water quality from construction impacts?
45. What effect would runoff from the drip edge of each row of solar panels have on the site drainage patterns? Would channelization below the drip edge be expected? Are energy dissipators, as depicted in DEEP’s draft Appendix I, Stormwater Management at Solar Array Construction Projects-Figure 2, proposed for this Project? If not, why not?
46. Petition Exhibit H Appendix A Project Plans reference upland wetland review area distances of 50 and 100 feet. What is the host municipality’s setback regulation from wetlands?
47. Petition p. 16 under “Wetlands” states, “None of these wetland areas will not be adversely impacted by ant project development activity.” Explain.
48. 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?

49. Has the Petitioner received a response from the State Historic Preservation Office? If so, provide such response.
50. 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?
51. Provide response/comment to the Connecticut of Department of Health letter dated September 8, 2020.
52. Provide response/comment to the Town of Hamden Planning and Zoning Commission letter dated September 9, 2020 and the Hamden Inland Wetland Commission letter dated August 28, 2020.
53. Provide response/comment to the Connecticut Council on Environmental Quality letter dated September 18, 2020.
54. 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. utility pads/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

Facility Construction

55. Has the petitioner submitted an application for a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities from the Department of Energy and Environmental Protection? If so, when?
56. Referencing pages 9 and 10 of the Petition, the Petitioner met with DEEP Stormwater Division on May 10, 2020 and a follow-up field visit on June 10, 2020. Were any subsequent meetings with DEEP Stormwater held? Please describe any recommendations, comments or concerns about the project provided by the Stormwater Division.
57. DEEP's proposed revisions to the General Permit, including draft Appendix I, Stormwater Management at Solar Array Construction Projects specifies a 100 foot buffer between the solar array and on-site wetlands. Given that the proposed solar array is within 100 feet of wetlands, has the DEEP Stormwater Division offered any comments as to the proposed site design?
58. 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. 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 temporary and permanent access road(s)
 - f. Estimate the amounts of cut and fill in cubic yards for solar field grading.
59. Petition Exhibit H, p. 65 states the temporary access road would be decommissioned upon Project completion. Describe decommissioning and land restoration procedures.
60. Referring to Site Plan EC-3, what is the purpose of the proposed riprap drainage swale in the western portion of the property, isolated from the main project area?
61. Referring to Site Plan EC-3, how will Wetland 5 be protected for sedimentation or accidental vehicle disturbance during clearing/grubbing activities? If clearing of this wetland and the surrounding area is only necessary for Project shading mitigation, can a no grub upland buffer be established around the wetland?
62. 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 Petitioner anticipated and designed the Project with assumed subsurface conditions? What are these assumed conditions?
63. How will the proposed stormwater swales and basins be installed if shallow or exposed bedrock is encountered?

64. The Site Plans show the outlet and emergency overflow of the single Stormwater Basin discharging towards Gaylord Mountain Road. What is the distance from the outlet structure end points to the Gaylord Mountain Road? What are the grades after the point of discharge? Will basin discharge flow onto Gaylord Mountain Road? Describe further mitigation to minimize overflow.

Maintenance Questions

65. Would the installed solar panels require regular cleaning or other, similar, maintenance and how often? If so, describe cleaning procedures including substances used. Would this maintenance activity have any impacts to water quality?
66. 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?
67. How will sediment be removed and transported from stormwater features? Where would removed sediment be disposed of?
68. Does the petitioner intend to establish a Habitat Enhancement Area around the periphery of the facility, as described in Petition Exhibit H, Section 3.1.3? If so, at what time of year would mowing be conducted to reduce the impact to nesting birds and other wildlife?