



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

VIA ELECTRONIC MAIL

August 3, 2020

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

RE: **PETITION NO. 1415** – Greenskies Clean Energy, 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 5.0-megawatt-AC solar photovoltaic electric generating facility on approximately 27 acres comprised of 3 abutting parcels located generally northeast of the intersection of Boom Bridge Road and Anthony Road and south of Interstate 95 in North Stonington, Connecticut and associated electrical interconnection.

Dear Attorney Hoffman:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than August 17, 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.

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: Christopher Ross, Project Developer, Greenskies Clean Energy LLC

Petition No. 1415
Interrogatories
Set One
August 3, 2020

Project Development

1. If Greenskies Clean Energy LLC's (GCE or Petitioner) project is approved, identify all permits necessary for construction and operation, and indicate which entity will hold the permit(s).
2. Is the sale of the facility output to Connecticut State Colleges and Universities (CSCU) through a bilateral contract or a tariff mechanism offered through the electrical distribution company? Or does the Petitioner have virtual net metering (VNM) agreement(s) with CSCU? If so, would all 5 megawatts (MW) alternating current (AC) be dedicated to VNM? Explain.
3. Would the Petitioner participate in the ISO-NE Forward Capacity Auction? If yes, which auction(s) and capacity commitment period(s)?
4. Pursuant to Connecticut General Statutes §16-50k(a), has the Petitioner obtained a letter from the Connecticut Department of Energy and Environmental Protection (DEEP) that the proposed facility will not materially affect the status of core forest? Please submit any correspondence submitted to and/or received from DEEP relative to the proposed facility.

Proposed Site

5. Referencing page 5 of the Petition, the Petitioner states, "Until 2016, the site consisted of forestland. It was cleared at that time by the landowner for potential farming purposes but has not been used as such." Referencing Appendix H of the Petition, Phase 1A Cultural Resources Assessment Survey, page 23, the Petitioner notes that, "At the time of survey, an area located at the northwest portion of the project area contained an agricultural field planted with corn (Figure 14)." Please clarify if any portion of the proposed project area is currently used for agricultural purposes and if it is used by the property owner or if it is leased to a third party.
6. 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?

Energy Output

7. Have electrical loss assumptions been factored into the output of the facility? What is the output (MW AC) at the point of interconnection?

8. 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?
9. What is the efficiency of the photovoltaic module technology of the proposed project?
10. Would the power output of the solar panels decline as the panels age? If so, estimate the percent per year.
11. 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 zero emission renewable energy credit (ZREC) and/or VNM agreements, as applicable.
12. 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?
13. Could the project be designed to serve as a microgrid?
14. 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?
15. 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

16. Provide the following information regarding the Project solar panels:
 - a) Will the panels be mounted in a portrait or landscape fashion?
 - b) What is the proposed height from grade to the bottom edge of the solar panels? Referencing Drawing E300, Racking Detail, would the top edge of the solar panels be about 6'7" higher than the bottom edge?
17. How many panels will each rack hold?
18. 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?
19. Referencing page 9 of the Petition, would the existing access be improved with gravel as necessary? What, if any, improvements would be performed where the existing access crosses Wetland 4?
20. Referencing Appendix A of the Petition, Drawing C-3.1, the proposed aisle width between solar panel rows is 15 feet. What is the minimum aisle width at which the solar panel rows could be installed?
21. Referencing Appendix G of the Petition, Stormwater Report, page 9, the Petitioner states, "The entire portion of the Site is within Zone X (0.2% annual chance flood) according to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map..." Referencing the FEMA

Flood Insurance Rate Map under Appendix A of the Stormwater Report, is it correct to say that the site is located within the unshaded Zone X, an area outside of the 100-year and 500-year flood zones?

Interconnection

22. What is the line voltage of the proposed electrical interconnection?
23. Is the project interconnection required to be reviewed by ISO-NE?
24. Referencing page 10 of the Petition, it states, “The scope and Facility Study Agreement were received in May 2020 and are pending review.” What is the status of the Facility Study Agreement? Has Eversource confirmed that the interconnection to Shunock Substation could accommodate the 5 MW output from the proposed solar facility?
25. Referencing page 10 of the Petition, it states, “Eversource will provide GCE with interconnection agreements upon completion of the Facility Study.” What is the status of the interconnection agreements?
26. Referencing page 10 of the Petition, it states, “The proposed project...will not require a dedicated feeder.” Is the existing distribution that connects to Shunock Substation three-phase, or would it have to be upgraded from single-phase to three-phase?

Public Safety

27. Would the project comply with the National Electrical Code, the National Electrical Safety Code and any applicable National Fire Protection Association codes and standards?
28. Would the proposed project meet the applicable Department of Energy and Environmental Protection noise standards at the property boundaries?
29. Where is the nearest federally-obligated airport? Is a glare analysis required to comply with Federal Aviation Administration (FAA) policy?
30. Would the proposed project require a review/determination from the FAA regarding any potential hazard to air navigation?
31. With regard to emergency response:
 - a. Is outreach and/or training necessary for local emergency responders in the event of a fire or other emergency at the site?
 - b. How would site access be ensured for emergency responders?
 - c. 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?
 - d. Could the entire facility be shut down and de-energized in the event of a fire? If so, how?

Environmental

32. Page 5 of the Petition notes that, “[T]he site has grown to be covered with low lying brush and smaller-sized saplings.” Page 26 of the Petition notes that, “No tree clearing is proposed...” Is it correct to say that no trees greater than six inches diameter would be removed to construct the facility? If no, explain.

33. 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. Referencing Appendix E of this Petition, 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?
34. Referencing page 26 and Appendix J of the Petition, the Petitioner notes that a survey for the eastern spadefoot and three state-listed plant species will be performed between May 2020 and June 2020, and a report will be submitted to DEEP Wildlife Division for review and final determination. Provide an update on the status of such report. Include a copy of such report and any DEEP response(s) to the report if available.
35. Please respond to the Council on Environmental Quality comments dated July 22, 2020.
36. 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?
37. Provide a Spill Prevention, Control and Countermeasure Plan.
38. 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? If not, why not?
39. Would the proposed project be consistent with the 2015 U.S. Army Corps of Engineers Vernal Pool Best Management Practices?
40. Provide an updated vernal pool assessment map showing the solar panels and other developed site features with a table quantifying pre- and post-construction development area percentages for the vernal pool envelope and critical terrestrial habitat.
41. What is the host municipality's setback regulation from wetlands?
42. 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?
43. Where is the nearest recreational area from the proposed site? Describe the visibility of the proposed project from this recreational area.
44. 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.
45. 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 in terms of sequence.

Facility Construction

46. Referencing page 17 of the Petition, has GCE submitted its application to DEEP for a Stormwater Permit? What is the status?
47. 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?
48. 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?
49. 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?
50. What is the minimum road width required for post-construction use?

51. Referencing page 11 of the Petition, based on any geotechnical investigation performed, would the existing site conditions support the overall project design?
52. Referencing Figure 8 of the Petition, Construction Schedule, would the schedule be affected by any potential seasonal restrictions as determined by the results of the wildlife/plant survey of protected species?

Maintenance Questions

53. Would the Petitioner remove snow that accumulates on the panels? Would snow accumulation on the solar panels affect the output of the facility? Under what circumstances would snow be removed? Describe snow removal methods.
54. Describe the type and frequency of anticipated vegetation management for the site. Include areas inside and outside of the perimeter fence, as well as detention basins and swales.
55. Would the installed solar panels require regular cleaning or other, similar, maintenance? If so, how often and please describe cleaning procedures including substances used. Would this maintenance activity have any impacts to water quality?
56. 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?