



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

September 21, 2020

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

RE: **PETITION NO. 1422** - 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 4.99-megawatt AC solar photovoltaic electric generating facility to be located at Mulnite Farms, Inc. off Barber Hill Road west of the intersection with Rockville Road, 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 5, 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. 1422
Interrogatories
Set One
September 21, 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. Is the project subject to a virtual net metering (VNM) agreement? If yes, with which entities? Would such VNM agreement(s) be for the full 4.99 MW AC output?
3. Would Greenskies Clean Energy LLC (Petitioner) participate in the ISO-NE Forward Capacity Auction? If yes, which auction(s) and capacity commitment period(s)?

Proposed Site

4. 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.
5. 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?
6. Has the State of Connecticut Department of Agriculture (DOAg) 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?
7. Referencing the August 27, 2020 letter from DOAg, page 2, second paragraph, DOAg references multiple considerations for the proposed agricultural co-use of rotational sheep grazing on the site. Please respond to such considerations as noted by DOAg.
8. 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?
9. Provide the distance, direction and address of the nearest property line and nearest off-site residence from the solar field perimeter fence.

Energy Output

10. Have electrical loss assumptions been factored into the output of the facility? What is the output (MW AC) at the point of interconnection?
11. 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?
12. Would the power output of the solar panels decline as the panels age? If so, estimate the percent per year.
13. 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 low emission renewable energy credit (LREC) contract.
14. Would the impact of soft or hard shading reduce the energy production of the proposed project? If so, was this included in the proposed project's capacity factor?
15. Could the project be designed to serve as a microgrid?
16. 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?
17. 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

18. What are the minimum and maximum overall heights of the solar panels above grade?
19. 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?
20. How many panels will each rack hold?
21. 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, e.g. sheep?
22. Referencing Appendix A, Drawing C-3.1, would the aisle width (or spacing from panel edge to panel edge) be a uniform 14.6 feet for the entire project? What is the minimum aisle width at which the solar panel rows could be installed?
23. Referencing Appendix G of the Petition, Stormwater Report, page 9, the Petitioner states, "No portions of the Site lie within the Federal Emergency Management Agency (FEMA) mapped 1% annual chance flood A/AE flood zones..." Are any portions of the proposed project area located within a 500-year flood zone? If yes, how would that affect the proposed project?

Interconnection

24. What is the line voltage of the electrical interconnection? Would the proposed electrical interconnection route remain underground west of the proposed riser pole on Drawing C-3.2 and then turn to overhead east of the riser pole? How tall would the riser pole be? Would that be the only pole on the subject property?
25. Is existing electrical distribution on Barber Hill Road single-phase or three-phase?
26. Would any required off-site upgrades to electrical distribution from the proposed site to Barbour Hill Substation be the responsibility of Eversource to secure permitting? Where would the demarcation point (of change of control/responsibility from Petitioner to Eversource) be located on the electrical interconnection?

Public Safety

27. 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?
28. Referencing pages 20 and 21 of the Petition, the Petitioner notes the Town of Stonington's Nuisance Ordinance. Please provide the applicable information relative to the Town of East Windsor, and indicate how it may affect the proposed project construction.
29. Would the proposed project meet the applicable Department of Energy and Environmental Protection noise standards at the property boundaries?
30. Where is the nearest federally-obligated airport? Is a glare analysis required to comply with FAA policy?
31. Would the proposed project require a review/determination from the FAA regarding any potential hazard to air navigation?
32. 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

33. Referencing the Wetland Delineation Map in Figure 11 of the Petition, why is the proposed project area depicted in the Wetland Delineation map in red different from the Proposed Project Layout in Figure 7 and in Appendix A of the Petition? Explain.

34. Referencing Appendix F of the Petition, Phase 1 Environmental Site Assessment (ESA), page 65 includes information on radon. How does the radon information that is presented affect the proposed project?
35. The ESA also discusses the presence of pesticide/herbicide/fungicide residue in the soils. What methods would be used during project construction to protect workers, mitigate the residues from becoming airborne and mitigate residues from migrating, particularly with regard to surface storm water runoff and groundwater discharge, when soils are disturbed and/or stockpiled?
36. 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?
37. Referencing page 23 of the Petition, the Petitioner notes that “[T]he property in its entirety is prime farmland,” and page 4 of the Petition notes that the project development area is approximately 28.7 acres. Estimate the total prime farmland soil impact area of the project. Referencing the letter from DOAg dated August 27, 2020, “[T]he solar project footprint is planned to contain approximately 24 acres of mapped prime farmland.” Would the total disturbance area of prime farmland soils be about 24 of the 28.7 acres of the development area? Explain.
38. Referencing page 25 of the Petition, please provide the results of any surveys and/or habitat assessments for the state-listed animal and plant species identified by DEEP on the August 20, 2019 Natural Diversity Database (NDDDB) letter including any recommended protective measures and/or seasonal restrictions. Were such results submitted to DEEP? If yes, please provide a copy of any response from DEEP regarding the results.
39. 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?
40. Would any fuels be stored on site during construction? If so, provide fuel storage/spill prevention control details.
41. 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?
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. Referencing Appendix M of the Petition, Drawing L-1.1 and visual simulations are included. Please respond to the following:
 - a) Drawing L-1.1. says “6’ Chain Link Fence with Privacy Slats.” Would this section of fence be six feet tall and the remainder of the fence be seven feet tall per page 10 of the Petition? Please correct Drawing L-1.1 and photosimulations (if necessary) if all fencing is seven feet tall.
 - b) Please indicate on a map the location(s) that the photos were taken from.

- c) Is Photosimulation 1.4 intended to depict the proposed landscaping noted on Drawing L-1.1?
44. Where is the nearest parcel used for publicly accessible recreational purposes? Describe the visibility of the proposed project from this parcel.
45. 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.
46. 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

47. Has the Petitioner submitted an application for a Stormwater Permit from the Department of Energy and Environmental Protection?
48. Referencing pages 17 and 18 of the Petition, the Petitioner met with DEEP Stormwater Division on June 3, 2020 and planned to have a site visit with DEEP. When was the site visit with DEEP Stormwater held? Were any subsequent meetings with DEEP Stormwater held? Please describe any recommendations, comments or concerns about the project provided by the Stormwater Division.

49. Has the Petitioner consulted with the DEEP Dam Safety program regarding permitting requirements, if any, for the proposed stormwater basins?
50. 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 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?
51. 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?
52. 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?
53. What is the minimum road width required for post-construction use?
54. 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?
55. Does the proposed construction schedule/sequence account for possible seasonal construction restrictions due to the presence of protected species?

Maintenance Questions

56. 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.
57. 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.
58. Would the installed solar panels require regular cleaning or other, similar, maintenance? If so, describe cleaning procedures including substances used. Would this maintenance activity have any impacts to water quality?
59. If applicable, what type of methods would be employed to clean the panels and how often?
60. 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?