STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
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VIA ELECTRONIC MAIL

May 11, 2018

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

RE: **PETITION NO. 1342** – GRE GACRUX 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 4.98-megawatt AC solar photovoltaic electric generating facility located at 232 Rimmon Road and 700 Middletown Avenue, North Haven, Connecticut.

Dear Attorney Hoffman:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than May 25, 2018. 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.

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/lm

c: Council Members
Jean-Paul La Marche, Development Manager, Clean Focus Renewables, Inc.

Petition No. 1342
Interrogatories
Set One
May 11, 2018

Notice and Municipal Consultation

1. Referencing the notification package dated April 18, 2018, was a copy of the Petition served on the Town of North Haven Conservation Commission?

2. Have any written comments been received from the Town of North Haven? Have any comments been received from abutters/neighbors to the proposed project?

Project Development

3. If the project is approved, identify all permits necessary for construction and operation and which entity will hold the permit(s).

4. Does the Petitioner have a contract to sell the electricity and renewable energy certificates (RECs) it expects to generate with the proposed project to The United Illuminating Company (UI) and Eversource? Provide the percentage (of the energy and RECs) to be sold to each public utility.

5. What authority will approve a power purchase agreement (PPA) for the facility? When?

6. What is the length of the power purchase agreement? Are there provisions for any extension of time in the PPA? Is there an option to renew?

7. Is the alternating current megawatt capacity of the facility fixed at a certain amount per the PPA and/or the RFP?

8. Would the petitioner participate in the ISO-NE Forward Capacity Auction? If yes, which auction(s) and capacity commitment period(s)?

Proposed Site

9. What is the current land use of the host property?

10. 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)? For example, is/are the parcel(s) classified as "Tillable D – good to fair"? How would the project affect the use classification?

11. 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?

12. Where is the nearest recreational area from the proposed site? Describe the visibility of the proposed project from this recreational area.

13. The buffer from the proposed fence line to the Alfonso Camara property to the east is about 36 feet. Could the footprint project footprint be modified to increase the distance to that property?

14. On Sheet CS-1, the Petitioner provided site lines to the four closest abutting property owners and landscape plans on Sheets LL-1 and LL-2 to mitigate such impacts. Would the remaining abutting residential property owners have their views of the facility screened by existing vegetation?

15. Page 4 of the Phase 1A Cultural Resources Assessment Survey (Phase 1A Survey) indicates that the site contains Windsor Soils. However, pages 14 and 15 of the Petition indicate that the site contains Ellington and Manchester Soils. Explain why Windsor Soils are referenced in the Phase 1A Survey. How many acres of each soil type would the project be located on? What impacts, if any, would the proposed project have on the soil productivity of the site?

16. Has the project developer discussed any potential restoration methods to be employed at the end of the project's useful life with the property owner?

17. Reference pages 19 and 20 of the Phase 1A Survey. Provide the distance and describe the visibility of the proposed project from The Rising Sun Tavern, a National Register of Historic Places resource.

18. An existing dirt path that originates off of Old Velvet Street and travels roughly northwest would be covered, in large part, by the proposed project footprint. Are there any known existing easements associated with the use of this dirt path?

Energy Production

19. Identify the loss assumption(s) for the proposed project. For example, would the proposed facility provide 4.98 MW AC at the point of interconnection?

20. What is the AC/DC ratio of the proposed project? What design considerations were used to determine the AC/DC ratio of the proposed project?

21. Explain why a solar panel orientation to the south with an angle of 30 degrees above the horizontal was selected for this facility. Is the project designed to maximize annual energy production or peak load shaving?

22. Page 16 of the Petition notes that, "The panels will be tilted toward the southern sky at an approximate angle of 10 degrees." However, Sheets SP-1 and DN-1 depict a 30 degree angle. Clarify which angle is correct. If 30 degrees is not correct, please revise Sheets SP-1 and DN-1 accordingly.

23. What is the projected capacity factor (expressed as a percentage) for the proposed project?

24. What is the efficiency of the photovoltaic module technology of the proposed project?

25. What is the efficiency of the inverters?

26. Would the power output of the solar panels decline as the panels age? If so, estimate the percent per year.

27. Page 11 notes a 35-year design life. However, the Decommissioning and Restoration Plan (DRP) notes an expected operational life of at least 30 years. Is the "operational life" conservatively less than the "design life?" Explain.

28. Can the project be designed to accommodate future potential battery storage? If so, please describe the function of the battery or other type of storage system? What prediction methods and reports has the petitioner used to assess total capacity in megawatts and annual energy production in kilowatt-hours for this project, and how are the proposed batteries or other type of energy storage incorporated into those predictions?

29. Could the project be designed to serve a microgrid?

30. Would the impact of soft shading, such as air pollution or hard shading, such as bird droppings or weather events, such as snow or ice accumulation, hail, dust, pollen, etc. reduce the energy production of the proposed project? If so, was this included in the proposed projects capacity factor and/or loss assumptions? Would any of these expose the solar panels to damage? If applicable, what type of methods would be employed to clear the panels of the bird droppings, prey shells, and ice accumulation, hail, dust or pollen and at what intervals?

Site Components and Solar Equipment

31. Provide the specifications sheets for a) proposed inverters and b) solar photovoltaic panels.

32. Sheet DN-1 depicts an aisle width of about 15 feet between rows of solar panels. Would this aisle width be expected to remain roughly uniform, or would it vary because the site slopes from roughly south to north?

Interconnection

33. What is the status of the Interconnection Application that has been submitted to UI?

Public Safety

34. Would the project comply with the National Electrical Code, the National Electrical Safety Code and any applicable National Fire Protection Association codes and standards?

35. On March 29, 2018, the Federal Aviation Administration (FAA) received the Petitioner's request for a "No Hazard Determination." What is the status of such FAA review?

36. Where is the nearest airport and/or airfield? Would glare from the solar arrays have any impact on air navigation? Has a glare analysis been conducted? If not, under what circumstances would a FAA glare analysis be required?

37. Would the proximity of any existing or proposed outbuildings, structures, etc. present a fire safety or other hazard (ex. Lightning strike)? Would the proximity of any existing or proposed outbuildings, structures, etc. present a hazard in relation to the electric generating equipment?

38. Would the disconnect switches referenced on page 16 of the Petition be used in lieu of an emergency key box so that first responders can shut down the facility in the event of a fire, or would there be a separate key box? Explain.

Environmental

39. Page 4 of the Petition notes that tree removal is not required. Page 12 of the Petition notes that, "[T]here will be a limited need for tree clearing..." Is it correct to say that during the field review on May 3, 2018, approximately one tree was identified to be removed? If no, please provide the correct tree clearing area in acres (or number of trees six inches or greater in diameter if the number is small). Would all tree removal be performed in upland areas? If no, approximately how many acres of tree clearing in wetland areas are expected? How would clearing in wetlands be accomplished?

40. Did the Petitioner conduct a Shade Study Analysis? Would shading present any challenges for the proposed project? If so, how many trees will be removed to mitigate for shading?

41. What is the current status of the NDDB Surveys for the two Species of Special Concern: eastern box turtle and ground beetle?

42. If applicable, would the Petitioner comply with any DEEP recommended seasonal construction restrictions due to the presence of any protected species on the site?

43. Would construction of the proposed facility involve disturbance of one or more total acres of land area? If yes, has the Petitioner submitted an application for a General Permit to the Department of Energy and Environmental Protection?

44. The Wetland Delineation Maps on page 21 and Tab H of the Petition indicate that the eastern portion of Wetland 2 would be located under the solar panels. However, the Site Plan Sheet SP-1 shows that the project footprint would avoid Wetland 2. Also, the Wetland Delineation Maps show a different solar array and access drive configuration, particularly to the west. Please confirm which one is correct.

45. What is the status of the vernal pool study? Were any vernal pools or potential vernal pools identified on the proposed site? Are any wetland and/or vernal pool protective measures proposed?

46. Has the Petitioner considered a larger wetland buffer than 50 feet? Explain.

47. 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.

48. Sheet EC-1 depicts a construction wash pit on the west side of the Old Velvet Street entrance near the wetland. Could this pit be moved to the east side of the entrance, farther away from the wetland?

49. 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?

50. On page 4, Appendix B (Stormwater Report), the Petitioner notes that, "The proposed improvements for the project do impact these delineated wetland areas but due to the change in land use, the impact will reduce stormwater runoff and improve the quality of the runoff entering each wetland area." How would this impact the integrity of the wetlands (especially to the east)?

51. 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? If geotechnical review has been performed, what is the approximate groundwater depth at the site?

52. Would glare from the solar panels attract birds (ex. Appear as water) and create a collision hazard?

Construction Questions

53. Would the proposed access off of Old Velvet Street be the primary construction access, and would the access off of Rimmon Road be the secondary construction access? Explain. Would this remain to be the project access configuration? Explain. Would the Rimmon Road access be improved with gravel (and to the same width as the access off Old Velvet Street)?

54. Would all laydown areas be on-site? Explain.

55. Will grading be required? (The Grading Plan on Sheet SD-1 does not appear to have grading.) What is the desired slope within the solar array area? If so, is it possible to install the facility with minimal alteration to existing slopes?

56. Estimate the amounts of cut and fill in cubic yards for a) access roads and b) general site grading, if applicable.

57. Would silt fence work with the existing soils? Would the soil particles be too fine (i.e. small in size) for the silt fence to be effective? If yes, has the Petitioner considered using a silt sock as an alternative?

58. 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?

59. Sheet EC-3 and others list permanent stone check dams (and temporary ones) with a maximum height of approximately three feet. How would that impact the panel layout as the bottom of the panels would be about three feet above grade per Sheet SP-1?

60. Pages 5 through 8 of Appendix B (Stormwater Report) provide the construction sequencing from Phase 1 to Phase 5. During roughly what time of year would these five phases of construction occur?

61. Has the petitioner considered provisions to handle stormwater during/following a rain event during construction? Are temporary swales and/or basins proposed? Describe the methods to control stormwater flows, including, but not limited to, phasing, basins, etc.

62. What are the impacts of planting low maintenance seed mix on stormwater retention?

63. Would the site be hydro-seeded upon completion of construction activities?

Maintenance Questions

64. Would snow accumulation on the solar panels affect the output of the facility? If yes, have the effects of snow cover been included in the projected approximately 8,000 MW-hours per year of AC output? While the Petitioner notes that performing snow removal would be rare, describe the snow removal methods that would be employed.

65. Would any mowing be required under or around the proposed solar panels/modules, and if so, approximately how often would mowing occur? Would the Petitioner adhere to any seasonal restrictions on mowing due to the presence of state species?

66. Describe the type and frequency of vegetation management for the site. Include areas inside and outside of the perimeter fence.

67. Page 11 of the Petition notes that, "Module washing is performed on both a scheduled basis as well as a corrective measure if there is a major soiling event." What would constitute a "major soiling event?" How would this be accomplished? Would any chemicals be used or only water? Would this maintenance activity have any impacts to water quality?

68. Page 9 of the Petition notes that, "Restoration of the Project Area is proposed to include new low-maintenance ground cover within the solar array field and adjacent to the perimeter fencing." Specifically, would grass be planted in the fenced solar array area (and adjacent to the fencing)? If so, what types? How would the grass/vegetative growth be controlled to keep the solar panels clear? Describe the maintenance of the grass/vegetative surface in the fenced solar field area.