STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
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VIA ELECTRONIC MAIL

July 1, 2020

Carrie Larson Ortolano, Esq.
Associate General Counsel
Lodestar Energy LLC
40 Tower Lane, Suite 201
Avon, CT 06001

RE: **PETITION NO. 1412** – LSE Phoenix, 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 1.99-megawatt AC solar photovoltaic electric generating facility on an approximately 23-acre parcel located at 100 Sand Road, North Canaan, Connecticut and associated electrical interconnection.

Dear Attorney Ortolano:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than July 21, 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 A. Bachman

Melanie Bachman
Executive Director

MB/MP

c: Jeffrey J. Macel, Principal, Lodestar Energy LLC

Petition No. 1412
Interrogatories
Set One
July 1, 2020

Notice

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. Referencing page 3 of the Petition, LSE Phoenix LLC (Lodestar or Petitioner) notes that, "The VNM agreements related to the Project are currently being negotiated with several municipalities including South Windsor." As an update, what is the status of such virtual net metering (VNM) agreements?

3. Referencing page 3 of the Petition, would all 1.99 megawatts (MW) alternating current (AC) be dedicated to VNM?

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

Proposed Site

5. Page 5 of the Petition notes, "Exhibit 1 includes the vicinity and land use maps which depicts the surrounding land uses within one-half mile of the Project site…" Which map in Exhibit 1 provides this information? If it was inadvertently omitted, please submit the map.

6. Is any portion of the site currently in productive agricultural use? If so, how many acres and is it used by the property owner or is it leased to a third party?

7. 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?

8. Referencing Page 15 of the Petition, Lodestar notes that, "The nearest potentially sensitive visual receptor to the Project was determined to be a residential structure one hundred (100) feet to the north." Is this the nearest off-site residence? If yes, provide the address of such residence and indicate what the 100-foot dimension represents, e.g, the distance from the proposed solar facility fence to the structure. If no, please provide the distance, direction and address of the nearest off-site residence from the solar field perimeter fence.

Energy Output

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

10. 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?

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 VNM and/or LREC agreements.

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 project's 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. Referencing Exhibit 1 of the Petition, Sheets SP-1 and SP-2, is it correct to say that all electrical connections from the solar panels to the inverters would be underground in trenched conduits?

17. Referencing Exhibit 1 of the Petition, Sheet SP-2, there is a note that states, "Remove existing electrical equipment as required. See electrical plans." Identify the existing electrical equipment that would be removed.

18. How many panels will each rack hold?

19. 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?

20. What is the length (in feet) of the existing access drive from Sand Road that would be utilized for this project? Are any upgrades, such as gravel, required to make it suitable for this proposed solar facility?

21. What is the length (in feet) of the proposed access drive from Ryan Avenue? How many feet of this would be existing access?

22. Referencing page 5 of the Petition and Sheet SP-2, if the proposed access drive from Ryan Avenue is "temporary construction access" and the proposed access from Sand Road is permanent, why

does the Ryan Avenue entrance have a permanent chain link gate and the access from Sand Road does not have a gate?

23. What is the minimum aisle width (between the solar panel rows from panel edge to panel edge) at which the solar panel rows could be installed?

24. Referencing Exhibit 1 of the Petition, Figure 2 – Existing Conditions, the proposed site is located outside of the 100-year flood zone. Referencing Exhibit 1 of the Petition, the Federal Emergency Management Agency (FEMA) flood zone map, is the proposed project located in the FEMA unshaded Zone X, an area outside of the 500-year flood zone?

Interconnection

25. Is the project interconnection required to be reviewed by ISO-NE?

26. Referencing page 6 of the Petition, Lodestar notes the "…installation of a transmission line and associated transmission line tap…" Referencing page 9 of the Petition, given the proposed interconnection to a 13.2-kV overhead circuit, would it be correct to say that Lodestar proposes the "…installation of a distribution line…?"

27. Referencing page 9 of the Petition, how tall would the three proposed utility poles be (above grade)?

28. Is the existing 13.2-kV distribution on Ryan Avenue three-phase or would it have to be upgraded from single-phase to three-phase?

Public Safety

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

30. Referencing Exhibit 1 of the Petition, Sheet DN-1, would the proposed fence have a wire mesh with six-inch spacing? Referencing page 6 of the Petition, Lodestar notes that the project would include a "…seven and one half (7.5) foot chain-link fence…" Would it be a seven-foot tall (nominal size) fence with a six-inch gap at the bottom of the fence for wildlife passage? Explain.

31. Referencing Exhibit 12 of the Petition, Noise Evaluation, the noise analysis takes into account the proposed inverters. Would the project transformer also need to be included, or would the inverters be the dominant source of noise on the equipment pad?

32. Where is the nearest federally-obligated airport? Is a glare analysis required to comply with Federal Aviation Administration policy?

33. 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. 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

34. Referencing Exhibit 1 of the Petition, Figure 2 – Existing Conditions, can a similar figure be provided as Proposed Conditions, i.e. Figure 2 with the proposed project depicted?

35. Referencing page 6 of the Petition, Lodestar notes that, "Inverters will be mounted on a concrete pad to the northwest of the array." Would the pad be poured on-site? If yes, what are the plans for washing out the cement truck?

36. Referencing page 7 of the Petition, the project would require approximately 6.39 acres of clearing. Referencing Exhibit 1 of the Petition, Sheet EC-1, the sum of the Phase 1 clearing and grubbing area (2.17-acre) and the Phase 2 clearing and grubbing area (4.22 acres) is correctly 6.39 acres. However, there is identified clearing and grubbing associated with the proposed swale and basin (in the northeastern corner of the project area) that totals 1.39 acres. Is the 1.39 acres a sub-area (i.e. subset) of the 2.17 acres? Explain.

37. Under Connecticut General Statutes §16-50k, "Core forest" means unfragmented forest land that is three hundred feet or greater from the boundary between forest land and nonforest land, as determined by the Commissioner of Energy and Environmental Protection." Would any tree clearing occur within core forest? If so, how many acres? How would tree clearing affect the acreage of core forest and core forest edge? Provide an aerial photograph that depicts pre- and post-construction acreage of core and edge forest.

38. Did the Petitioner conduct a Shade Study Analysis? Would shading present any challenges for the proposed project? If so, provide acreage of trees (of the 6.39-acre total) that would be removed to mitigate for shading. How were the limits of tree shading determined?

39. How many acres of Prime Farmland Soils are located on the subject property? How many acres of Prime Farmland Soils would be impacted by the proposed project?

40. Referencing Exhibit 11 of the Petition, page 6, Lodestar states, "[I]t would be prudent to conduct breeding season bird surveys in concert with plant surveys from late May through early July to determine the presence/absence of alder flycatcher at the Site." Were such bird and plant surveys performed? What is the status?

41. 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?

42. Would any fuels be stored on site during construction? If so, provide fuel storage/spill prevention control details.

43. 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?

44. 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?

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

46. 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.

47. 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

48. Has the Petitioner submitted an application for a stormwater permit from the Department of Energy and Environmental Protection (DEEP)?

49. Has the Petitioner met with the DEEP Stormwater Division? If yes, when? Please describe any recommendations, comments or concerns about the project provided by the Stormwater Division.

50. 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?

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 anticipated sequence of construction account for possible seasonal construction restrictions due to the presence of protected species, e.g. the smooth green snake as noted on page 4 of Exhibit 11 of the Petition?

Maintenance Questions

56. Referencing Exhibit 3 of the Petition, Operations and Maintenance Plan (O&M Plan), Module Washing and Snow Removal, 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. Referencing Exhibit 3 of the Petition, O&M Plan, Vegetative Maintenance, would such vegetative maintenance that would be performed three times annually include mowing? Explain.

58. Referencing Exhibit 3 of the Petition, O&M Plan, Vegetative Maintenance, describe the type and frequency of anticipated vegetation management for the permanent grass-lined stormwater management basin?

59. 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?