STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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VIA ELECTRONIC MAIL

August 9, 2017

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

RE: **PETITION NO. 1313** – DWW Solar II, LLC petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 26.4 megawatt AC solar photovoltaic electric generating facility on approximately 289 acres comprised of 5 separate and abutting privately-owned parcels located generally west of Hopmeadow Street (US 202/CT 10), north and south of Hoskins Road, and north and east of County Road and associated electrical interconnection to Eversource Energy's North Simsbury Substation west of Hopmeadow Street in Simsbury, Connecticut.

Dear Attorney Hoffman:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than August 28, 2017. 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.

Yours very truly,

Melanie A. Bachman
Executive Director

c: Aileen Kenney, Deepwater Wind, LLC
Council Members

MB/RDM/lm

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Petition No. 1313
Interrogatories - DWW Solar II
August 9, 2017

Project Development

1. When was the petitioner's proposed project submitted as a proposal for the Tri-State Clean Energy RFP? When was the proposed project selected?

2. Was the petitioner's Power Purchase Agreement (PPA) approved by PURA? When? Are there provisions for any extension of time in the PPA?

3. What is the length of the PPA? Is there an option to renew?

Proposed Site

4. Has the State of Connecticut Department of Agriculture purchased any development rights for the proposed site as part of the State Program for the Preservation of Agricultural Land?

5. Are any portions of the project site enrolled within the State of Connecticut Department of Agriculture's Public Act 490 Program? If so, how does the town land use code classify the parcel(s)? Would portions of the parcel(s) outside of the Project limits remain in the Program?

6. Referring to petition Exhibit I, p. 2, what areas are currently in productive agricultural use? How many acres and is it used by the property owner or is it leased to a third party? Could the project qualify under the Agricultural Virtual Net Metering Program or other agriculturally-friendly renewable energy program?

7. Does the proposed site contain any Connecticut Prime Farmland and/or Important Agricultural Soils? If so, what acreage of prime and important soils would the solar panels and associated equipment be located on?

8. For land disturbance, please provide the following:
   a) Acres of tree clearing requiring stumping/grubbing;
   b) Acres of tree clearing without stumping/grubbing;
   c) Square feet of disturbance for pole/post installation for solar racking and fencing in prime farmland soil, important agricultural soils, and non-prime farmland soils;
   d) Acres of disturbance for site grading in prime farmland soil, important agricultural soils, and non-prime farmland soils;
   e) Square feet of disturbance for installation of 20-foot wide access roads in prime farmland soil, important agricultural soils, and non-prime farmland soils; and
   f) Square feet of disturbance for installation of electrical equipment pads and underground electric cables in in prime farmland soil, important agricultural soils, and non-prime farmland soils.

9. Where is the nearest off-site residence located from the two potential construction access points and from each solar field area? Provide distance, direction and address of such off-site residences.

Energy Production

10. What is the output of the facility in megawatts, direct current (DC)?

11. On page 19 of ISO-New England, Inc.'s (ISO-NE) Final 2017 Solar PV Forecast, ISO-NE utilizes an AC MW to DC MW (AC/DC Ratio) of 0.83. Is it correct to say that the actual AC/DC Ratio can vary from one solar PV project to the next? Generally, which design considerations were used to determine the AC/DC Ratio of the proposed project?

12. What are the percent losses associated with the inverters?

13. Explain why a solar panel orientation to the south with an angle at 25 degrees above the horizontal was selected for this facility. Is the project designed to maximize annual energy production or peak load shaving?

14. How many photovoltaic panels are proposed for the Project? What is the efficiency of the photovoltaic panel technology of the proposed project?

15. Is a battery or other type of energy storage system proposed? If yes, describe the function of lithium-ion battery or other type of storage system. What prediction methods and reports has the petitioner used to assess total capacity 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? Are the batteries or other type of energy storage used to "even out" the energy production, charging during the day and discharging at night, or are they charged during off-peak hours to grant more output during peak hours? Are they simply used to function as a power supply backup?

16. What parameters are used to determine the capacity factor of the project? Are there baseline capacity factors for different regions of the country based on historical weather patterns and geographic coordinates?

17. Would voltage and current be impacted by soft shading of the solar panels, such as air pollution, or hard shading of the solar panels, such as an accumulated solid? If so, is this factored into the capacity factor for the project?

18. Would the impact of bird droppings, bird feeding habits (ex. Dropping food items such as clams or other prey on the solar panels) or weather events (ex. Snow or ice accumulation, hail, dust, pollen, etc.) reduce the energy production of the proposed project? If so, approximately how much and for how long? Would any of these expose the solar panels to ballistic or other damage? Has the petitioner assumed a certain percent loss of energy production for these issues on an annual basis? If applicable, what type of methods would be employed to clear the panels of the bird droppings or prey waste, snow and ice accumulation, hail, dust or pollen?

19. Did the Petitioner conduct a Shade Study Analysis? Would shading present any challenges for the proposed project? Is most of the tree clearing to accommodate the project itself, or is some percentage of the tree clearing (e.g. to the south) associated with minimizing shading of the panels? Explain.

Site Components and Solar Equipment

20. Provide the specification sheets for a) proposed inverters and b) solar photovoltaic panels.

21. What is the length of the solar racking support posts and to what depth would the posts be driven into the ground to provide structural stability?

22. Referring to petition p. 9, will two different types of racking foundations be used on this project (H-piles and concrete)? If so, what conditions would determine the type of rack support system? Which type of installation would result in more soil disturbance?

23. What is the design wind speed of the solar panels with the fixed vertical post foundations? What prevents the solar panels from separating from either the racking or the foundation during high winds?

24. What is the total length of all of the access roads combined in miles?

25. Why is a post-construction road width of 20 feet required for all roads within the project area? What is the minimum road width required for post-construction use?

26. What is the color of the solar panels? Are other colors available? Is the glass casing reflective? Are there solar panels available with non-reflective glass? If so, what are the costs and benefits of each type?

Public Safety

27. Would the solar facility have an internal protection system to automatically shut the facility down in the event of a fault or automatically isolate the facility during abnormal grid disturbances or during other power outage events?

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

29. Would glare from the solar arrays have any impact on air navigation? Is a solar panel glare analysis required by the Federal Aviation Administration (FAA)? If so, has an analysis been performed?

30. Would a crane be required for any portion of construction, e.g. to set the Project Transformer in place? If yes, would that necessitate construction notice to FAA for the height(s) of such temporary crane equipment?

31. Would the proximity of any existing or proposed outbuildings, structures, etc. present a fire safety or other hazard to facility components?

32. What affect would a brush fire have on the solar facility? 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?

33. Is barbed-wire proposed for the top of the chain-link fence enclosing the solar fields?

34. Referring to petition p. 7, please specify what solar facility equipment must be surrounded by a 7-foot tall fence.

35. Provide the cost per linear foot, with labor, for the installation of the 7-foot tall chain link fence and 10-foot tall vinyl fence.

Interconnection

36. If applicable, since the proposed project would connect to the 23-kV side of the electric system, but within a substation with existing transmission, would the petitioner have to obtain a determination of no significant adverse impact to the transmission system from the ISO-NE Reliability Committee?

37. Referring to petition p. 10, what is the estimated cost of each interconnection alternative?

38. What, if any, upgrades would be necessary at North Simsbury Substation in order to accommodate the interconnection of the proposed project? If substation upgrades are required, would that be a separate petition filing to the Council from Eversource?

39. Would all of the power produced go to the grid or would any be for internal use? Would the power produced by the project be used regionally, locally or both?

Environmental

40. Referring to petition Exhibit I, p. 6, were the most recent studies concerning PV installations and bird collisions limited to waterbirds or were other types of birds included?

41. Referring to petition Exhibit I, p. 11, is the proposed tree clearing restriction specific only to the Northern Long-eared bat or does it include other types of bats?

42. Will development of the project require a DEEP General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities?

43. Can the project be phased so that construction would avoid the disturbance of over five acres at a time? Please detail how phasing would be accomplished and what activities were to occur in each phase.

44. Explain when temporary sediment traps would be established and how/when grading and project installation in the area of the traps would be accomplished.

45. Would the stormwater design be installed in phases to control stormwater flows onto adjacent properties during construction?

46. Referring to Petition Exhibit L, p. 16. Are there established protocols to immediately correct issues identified by the stormwater inspector?

47. Referring to petition Exhibit N, does the Acoustic Analysis account for multiple inverters operating at the same time? How was the noise from multiple inverters factored into each receptor location?

48. Referring to petition Exhibit O, p. 21. Did the petitioner request information from the landowner about the monitoring wells in parcel 5, south of Hoskins Road?

49. Referring to petition Exhibit O, p. 23. Has there been any assessment for the potential of pesticide residues to be within the project area soils? If pesticide residues are present, would development of the project contaminate deep soil layers or cause an environmental hazard due to exposed soils and re-grading activities?

50. Referring to petition Exhibit O, p. 24. Has GZA received any additional information regarding the "significant data gap" in land use at the site? Has the petitioner requested further information?

51. Would the solar panels "heat" rainwater and potentially thermally pollute wetlands?

Project Visibility

52. Referring to petition Exhibit G, p. 8. What type of school is the Squadron Line School? Are the school fields used for recreational purposes?

53. Referring to petition Exhibit G, p. 11 and Figure 4. Does the petitioner expect visibility of the project from Knollwood Circle (beyond point 69) and Howard Street? If so, describe or depict expected visibility without proposed vegetative mitigation.

54. Describe the effects of reflective glare on adjacent properties.

Construction Questions

55. Referring to petition p. 61, clarify road construction procedures for this project – is any top soil being removed prior to the installation of geotextile fabric and gravel? If so, in what location and to what depth? Is compaction required for the gravel roads prior to use? If so, how will compaction be accomplished and to what standard?

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

57. Describe the potential route of construction traffic from main roads to the project access points. Estimate the number of construction vehicles entering and exiting the site per day and provide a breakdown per construction activity if traffic variation exists. What access roads would be used for each type of activity?

58. What entity/subcontractor will be constructing the facility? Has this entity/subcontractor constructed other solar projects 5 MW or greater in the Northeast? If so, list similar projects.

59. What kind of equipment will drive the solar racking support posts into the ground? In the event that ledge is encountered, what methods would be utilized (ex. mechanical chipping or blasting) or would relocation of the posts be utilized instead of chipping or blasting?

60. List the recommended construction-related environmental restrictions for birds/bats, and other species. How would the petitioner sequence construction of the project to account for these restrictions?

Maintenance Questions

61. Does the petitioner intend to clear snow/ice that settles on the panels and is not dislodged for a number of days? If so, how would the petitioner accomplish this task?

62. Has any analysis been conducted to determine structural limits of snow/ice accumulation on the solar panels and steel support structures? Is the angle of the solar arrays conducive to retaining heavy-wet snow? If so, what snow accumulation would reach structural capacity of the racking system? Would the Petitioner clear snow from the panels when it approached the limit?

63. Would the petitioner adhere to any seasonal restrictions on post-construction mowing/vegetative maintenance due to the presence of protected species?

64. Once the facility is operational, estimate the number and frequency of vehicles visiting the site for operation and maintenance.