**STATE OF CONNECTICUT**
**CONNECTICUT SITING COUNCIL**

**524 NLR 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 3.99-megawatt AC solar photovoltaic electric generating facility located at 524 New London Road, Colchester, Connecticut, and associated electrical interconnection.**

**Petition No. 1562**

**May 22, 2023**

Petitioner 524 NLR LLC ("524 NLR") hereby submits the following responses to the Interrogatories that were directed to 524 NLR by the Connecticut Siting Council on May 1, 2023.

**Project Development**

1. Has the Town of Colchester (Town), the Town of Salem and/or any abutters provided comments to the Petitioner since the Petition was submitted to the Council? If yes, summarize the comments and how these comments were addressed.

**Neither the Town of Colchester nor the Town of Salem or any abutters have provided comments to the Petitioner since the application was submitted to the Council on March 21, 2023.**

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

**The following permits are necessary for the construction and/or operation of the Project:**

- **Town of Colchester, Building Permit;**
- **Town of Colchester, Electrical Permit;**
- **The General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities issued by CT DEEP;**
- **Federal Aviation Administration ("FAA") Notice of Proposed Construction and Determinations of No Hazard; and**
- **CT Siting Council (CSC or Council) approval.**

**524 NLR LLC will be the entity that holds these permits**.

3. What is the estimated cost of the Project?

**The estimated cost of the Project will range between eight to nine million dollars.**

4. If the facility operates beyond the terms of the SCEF Agreement, will Petitioner decommission the facility or seek other revenue mechanisms for the power produced by the facility?

**524 NLR would expect the facility to seek other revenue mechanisms at the end of the 20-year SCEF tariff with Eversource.**

5. Is the project, or any portion of the project, proposed to be undertaken by state departments, institutions or agencies, or to be funded in whole or in part by the state through any contract or grant?

**No.**

**Proposed Site**

6. Referencing Petition page 2, it states, "The Project will be located on a 35.56-acre property on the west side of New London Road… ("Site"). Referencing Petition page 4, it states, "The Project will occupy ±16.49 acres in the eastern portion of the Site ("Project Area")." Referencing Figure 1 on Application page 3 and the regulatory definition of "site" in the next interrogatory, is the "Site" depicted as the host parcel and the "Project Area" depicted as the site throughout the Petition?

**The Site has been consistently treated as the host parcel and the Project Area as a portion of the Site throughout the Petition. The Site is depicted in Sheet OP-1, as discussed in the response to Interrogatory Number 7.**

7. Submit a map clearly depicting the boundaries of the solar facility site and the boundaries of the host parcel(s). Under Regulations of Connecticut State Agencies (RCSA) §16-50j-2a(29), **"Site"** means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located.

**In the Petition, Appendix A, Sheet OP-1 depicts the boundaries of the Site, as required under the Council's regulations, as well as the boundaries of the host parcel(s).**

8. In the lease agreement with the host property owner, 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.

**The Solar Lease for the Project, dated as of June 8, 2021, contains the following provision (Section 17) related to decommissioning: "At the end of the Operations Period, Tenant shall Decommission the Solar Facility within the Decommissioning Period. If Tenant has failed to Decommission the Solar Facility by the end of the Decommissioning Period, as required hereunder, Landlord shall have the immediate right to re-entry (to the extent permitted by law) and may cause the Solar Facility and all other property belonging to Tenant to be removed from the Leased Property and stored all without service or notice or resort to legal process (all of which Tenant expressly waives) and without being deemed guilty of trespass or becoming liable for any loss or damage which may be occasioned thereby."**

9. Provide the distance, direction and address of the nearest property line and nearest off-site residence from the solar field perimeter fence.

**The nearest property line from the solar field perimeter fence is approximately 32 feet to the north. The nearest off-site residence from the solar field perimeter fence is approximately 180 feet to the south (536 New London Road).**

10. Referencing Existing Photo 1 in the Visibility Analysis, could the ranch gate at the entrance to the host parcel be retained?

**The ranch gate cannot be retained at its current location but could be relocated to a similar position above the new perimeter fence line.**

## Energy Output

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 SCEF Agreement.

**No battery storage system is currently contemplated for this project. Depending on state or federal programs encouraging battery storage systems in the future, the site plan could be amended to accommodate such systems.**

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

**At this time, the Project does not anticipate that it will be participating in the ISO-NE Forward Capacity Auction. The Project reserves the right to participate in the Forward Capacity Auction in the future. As of this writing, the Project has no capacity commitments.**

13. What is the anticipated capacity factor of the project? Would the capacity of the system decline over time? If yes, estimate annual losses.

**The anticipated capacity factor for the project is approximately 22% in the first year of operations. The output of the project is expected to decline on average 0.5% per year, which is relatively standard for solar PV projects.**

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? By what mechanism are sections electrically isolated from each other?

**If one section of the solar array experiences electrical problems that causes that specific section to shut down, other sections comprising the system could still operate and transmit power to the grid. The solar facility will have an internal protection system to shut down, as appropriate, the affected portion(s) of the solar facility (including the entirety thereof), should a fault occur.**

## Site Components and Solar Equipment

15. Identify the anticipated location(s) of the 24 inverters proposed for the site.

**The inverters are located at the north end of certain rows of trackers; they are depicted by a small dash on Sheet SP-1 of the Plans in Appendix A of the Petition.**

16. Referencing Site Plan SP-1, list the equipment that would be installed on each electrical pad.

**Electrical Pad #1 (45' x 10')**

- **25 kV Recloser (Qty 1)**
- **2000 kVA Transformer (Qty 1)**
- **600V Switchboard (Qty 1)**

- **Grounding Transformer (Qty 1)**
- **Monitoring System Enclosure and Meter (Qty 1)**
- **Auxiliary Loads Mini-Power Center (Qty 1)**

**Electrical Pad #2 (35' x 10')**

- **2000 kVA Transformer (Qty 1)**
- **600V Switchboard (Qty 1)**
- **Grounding Transformer (Qty 1)**
- **Monitoring System Enclosure and Meter (Qty 1)**
- **Auxiliary Loads Mini-Power Center (Qty 1)**

17. 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 chewing animals?

**Yes, the wiring is installed on the racking (secured in steel purlins or CAB cable management systems) and transitioned underground. All wiring is safe to touch, complies with electrical code and is UV-rated for outdoor use and direct bury, if utilized.**

18. Would the single axis tracker system move along the east-west or north-south axis? Submit a specification sheet of the tracking system.

**The single axis tracker system will move along the north-south axis. See attached sample specification sheet, attached as Exhibit A, pending selection of the final OEM vendor.**

## Interconnection

19. Referencing Site Plan SP-1, what is the height of the utility poles above ground level after installation? Can the number of poles be reduced by consolidating equipment?

**Typically, the height of the utility poles above ground level is approximately 39', however the height will be determined by Eversource in its discretion. Eversource will likely match the height of the existing utility poles along New London Road. The proposed configuration with 4 poles is typical for Eversource's connection of a solar generation facility and is based on their design requirements for electrical service.**

## Public Safety

20. Would the project comply with the current Connecticut State Building Code, National Electrical Code, the National Electrical Safety Code and any applicable National Fire Protection Association codes and standards including, but not limited to, NFPA Code Section 11.12.3?

**Yes, the Project will comply with all applicable codes and requirements.**

21. In the event of a fire or emergency, describe procedures that will allow emergency responders to shut down the facility.

**The solar facility's design includes a main shut off switch for the 23-kV connection to the utility grid. The shut off switch is located at the front entrance outside of the fenced area so it can be accessed by emergency responders at any time without having to enter the fence. When the main switch is opened, power to the entire solar facility (including, the transformer, switchgear, and inverters) will shut off, and all of the inverters will cease operations within two (2) seconds of the switch opening. It should be noted that the solar panels remain energized if sunlight is present, but this only represents a hazard if there is damage to the panel-level wiring.**

22. In the event of a brush or electrical fire, how are potential electric hazards that could be encountered by emergency response personnel mitigated? What type media and/or specialized equipment would be necessary to extinguish a solar panel/electrical component fire?

**To mitigate potential electric hazards that could be encountered by emergency response personnel, the project will have comprehensive signage—with clear warnings relating to the equipment location(s) and hazards associated therewith—throughout the project area, including at the main entrance gate, on the exterior fencing, and on the solar equipment. In addition, a main shutoff switch for the electrical feed for the entire solar facility will be located next to the main gate entrance to the facility with identifying signage, that should be opened if any emergency responders need to enter the facility. Generally, fire personnel have an understanding of their preferred means to extinguish electrical fires associated with solar equipment. Give that the solar panels for this project will not be affixed or integrated with another structure, typically fire personnel do not actively try to extinguish fires within a solar array, instead the responders typically observe the situation and allow the component (i.e., a solar panel, inverter, etc.) to burn itself out while looking to contain any spread outside of the array.**

23. Are there any water wells on the site or in the vicinity of the site? If so, would the installation of racking posts affect well water quality from construction impacts, such as vibrations and sedimentation? Approximately to what depth would the racking posts be installed?

**As stated on page 13 of Appendix B, the Project will have no adverse environmental effect on ground water quality. No public water system serves the area that includes the Site and surroundings and therefore it is presumed that developed properties in the area are served by wells. Typical construction techniques for installation of the Facility do not require blasting or other similar measures.**

**With respect to the racking posts, the typical embedment depth is between 5 feet and 12 feet for the foundation posts, which are either screwed or driven into the ground. The post depth would be determined upon selection of the tracker system OEM and final tracker design engineering.**

24. What noise-generating equipment would be installed at the site? Would operation of the proposed facility meet the applicable Department of Energy and Environmental Protection (DEEP) Noise Standards at the nearest property boundary?

**Once operational, noise from the Facility will be minimal and generated from inverters (daytime only), transformers and tracker motors. The highest source of noise from the Facility is the inverters, which will be located at the northern end of certain of the module rows. The inverters will generate a maximum sound level of approximately 73 dBA measured at 1-meter (3.281 feet) away. The Facility would, conservatively, be considered a Class C (Industrial) noise emitter. The nearest property line from the northern end of the rows is ±50 feet to the north, an undeveloped property on New London Road. That property is within the Town's Rural zoning district, which allows for activities within the Class B noise zone; noise standards of 66 dBA apply to the Class B receptor. The nearest residence to the northern end of the rows is at 504 New London Road, ±347 feet to the north. The residentially developed property would be considered a Class A noise zone; noise standards of 61 dBA during the daytime and 51 dBA at night apply to the Class A receptor. The Town of Colchester does not have a municipal noise ordinance.**

**In light of the above, the project's inverters and transformers would be the primary sources of noise from the project, with some additional noise from the operation of the tracking motors. Based on analysis of daytime noise standards (the inverters do not operate at night), operation of the facility is predicted to meet the applicable DEEP Noise Standards at the nearest property boundary.**

25. Referencing Petition p. 29, does the noise analysis consider the collective noise of the inverters at the nearest property line? Explain.

**The noise analysis in the Petition does not consider collective noise of the inverters, which are spread out along the north end of the rows of panels. Petitioner is willing to have a noise analysis report provided prior to construction, after final selection of the inverter model is made.**

26. Would the Petitioner conduct outreach/training to local emergency responders regarding safety, fire control and other emergencies that could occur at the site?

**Yes, Petitioner will contact local emergency responders to provide training and information regarding the Project that will be useful to emergency response personnel in the event of a fire or other emergency at the site.**

## Environmental

27. Referring to Petition Attachment A - Property Survey/Topographic Map, Sheet 2, what does the shaded area at contour 510 feet amsl represent?

**The shaded area represents an array of stones excavated from the site, which appears to be a means of dissipating surface water. Project development will require moving these stones to accommodate the proposed temporary sediment traps. The stones will be permanently placed at the edge of the Project's western limit of disturbance.**

28. Referring to Petition Attachment B- Environmental Assessment, p. 16, the existing soils are described as disturbed, nutrient-poor, and compacted. How does the Petitioner intend on establishing soils that are not compacted and contain nutrients to establish re-vegetation? Would topsoil be imported into the site?

**Soil restoration and amendment details are provided on Sheet No. DN-2 of the project plans. In order to establish suitable soils for the permanent establishment of vegetation, a combination of soil amendments including compost, slow release or organic fertilizers, and lime would be applied and incorporated into the existing nutrient-poor soil. A variety of seed mixes have been selected to first quickly establish vegetation for erosion protection and a biodiverse mix of grasses, legumes, and forbs that are well suited to nutrient-poor soils. In particular, the legume species are well suited to nitrogen-deficient soils as they have the ability to capture atmospheric nitrogen gas converting it to ammonia and making it available to the plant through a symbiotic relationship with Rhizobia bacteria. Legume seeds would be inoculated with the bacteria prior to planting; although naturally occurring in soil it is typically at too low a concentration to develop the plants' nitrogen-fixing capabilities. With use of these soil amendment techniques and selected seed mixes the Petitioner does not anticipate the need for importing topsoil into the site.**

29. 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?

**Runoff from the panel drip edges is not anticipated to create significant dripline erosion. The proposed tracker system panel configuration will shed runoff to the east and west with changing aspect throughout the day. As a result, channelization below the drip edge is not expected.**

30. 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.

***The requested photographic documentation is attached as Exhibit B.***

31. Referring to Petition Appendix B- Environmental Assessment p. 21, has the US Fish and Wildlife Service provided further guidance regarding the consultation process for the Northern Long-eared bat (NLEB)? If yes, has the Petitioner re-filed for a NLEB determination?

**With the re-classification of Northern Long-eared Bat (NLEB) from threatened to endangered, the USFWS has provided a NLEB Rangewide Determination Key (DKey), published March 6, 2023 and available in the Information for Planning and Consultation (IPaC) tool. The Project has been evaluated for NLEB through the new DKey and a "No Effect" determination was issued. Please see attached the NLEB determination letter from USFWS, dated May 9, 2023 attached as Exhibit C.**

## Facility Construction

32. Petition Site Plans EC-3 shows the outfalls for the temporary sediment traps directing water into perimeter silt fence. How will outflows be controlled to avoid silt fence overtopping or breaching during heavy rain events?

**The outfalls from the proposed overflow weir on each of the sediment traps will be controlled with the installation of a proposed riprap apron prior to the proposed perimeter silt fence. In addition, baffles within each sediment trap will control the rate of outflow through the overflow weir.**

33. Referring to Petition Site Plan EC-1, Final Grading and Drainage Plan, describe procedures for removal of the temporary sediment traps.

**Removal of the four temporary sediment traps will involve removing existing baffles. The traps will be cleaned of all deposited sediment. The area will then be regraded (filled in using existing soils) and stabilized.**

34. Referring to Petition pp. 30 - 31, it states "*the Petitioner confirmed with DEEP staff that no testing or remediation would be required for the installation of racking, panels, inverters, and associated equipment. If however, Petitioner wishes to excavate soil at the Site, testing of the soil, depending on where it is located may be required under applicable DEEP regulations."* Was the excavation of soils to construct the temporary sediment basins or site grading discussed at the meeting? What specific actions are necessary, if any, to excavate soils and/or grade the site so that potential contaminated soils are not disturbed?

**The construction of the temporary sedimentation basins was discussed, and pursuant to discussions with DEEP during the meeting, because the basins are temporary and designed for impoundment of less than three acre-feet of water, a Dam Safety Construction permit is not required, and temporary basins do not need to be registered with the DEEP.**

**If material is to be excavated and/or graded, but will remain on site, such as for the sedimentation basins, pursuant to applicable regulations for soil excavation, that soil will be stored separately and vegetated temporarily. Once the sedimentation basins are no longer required, the soil will be replaced in those basins. Should contaminated soil be encountered on the site, such soil shall be handled in accordance with Section 5 of the general permit for contaminated soil and/or sediment management (staging and transfer) that was issued on September 20, 2013 by CT DEEP, which can be found at: HTTPS://PORTAL.CT.GOV/-/MEDIA/DEEP/PERMITS_AND_LICENSES/WASTE_GENERAL_PERMITS/SOILSTAGINGGPPDF.PDF. Although the general permit is now expired, CT DEEP has instructed all parties that may encounter contaminated soil on a job site to handle such soil in accordance with Section 5. In the event excavated soil is scheduled to be removed from the site, it will be tested to ascertain whether it contains any hazardous constituents. If the soil meets the definition of "clean fill," as provided for in RCSA § 22a-209-1, then the soil may be placed offsite without further consideration. If however, the soil tests as impacted, then the project will transmit the soil to an appropriate disposal facility in accordance with applicable regulations.**

**Maintenance/Decommissioning**

35. Referencing Petition Sheet GN-2, Environmental Notes – Resources Protection Measures, under what circumstances would pesticides or herbicides be used at the solar facility site?

**Petitioner does not plan to use pesticides or herbicides at the solar facility site and does not currently foresee a circumstance where there would be a need to use them.**

36. Would the Petitioner store any replacement modules on-site in the event solar panels are damaged or are not functioning properly? If yes, in what location?

**Petitioner might store a few solar panels (not more than 10) on one of the equipment pads in case just a few spares were needed during a regular inspection visit. Any larger quantity of spare panels would be kept in an off-site location.**

37. Submit an Operation and Maintenance Plan for the facility that includes provisions for inspections and maintenance of facility components, fencing and vegetation.

**The requested Operation and Maintenance Plan is attached as Exhibit D**.