

**STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL**

**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 1.0-megawatt (MW) AC solar photovoltaic electric generating facility to be located at Mulnite Farms, Inc. parcel off Wapping Road, and a 4.0 MW AC solar photovoltaic electric generating facility located at Mulnite Farms, Inc. parcel off Miller Road, East Windsor, Connecticut and associated electrical interconnection.**

**Petition No. 1463**

**November 12, 2021**

**GREENSKIES CLEAN ENERGY, LLC'S RESPONSES TO THE OCTOBER 25, 2021  
FIRST SET OF INTERROGATORIES DIRECTED TO GREENSKIES CLEAN  
ENERGY, LLC FROM THE CONNECTICUT SITING COUNCIL**

Petitioner Greenskies Clean Energy, LLC ("GCE" or "Petitioner") hereby submits the following responses to the Interrogatories that were directed to GCE by the Connecticut Siting Council on October 25, 2021

**Notice**

- 1. Of the letters sent to abutting property owners, how many certified mail receipts were received? If any receipts were not returned, which owners did not receive their notice? Were any additional attempts made to contact those property owners?**

With two exceptions discussed in greater detail below, representatives for GCE sent out formal notification letters on July 19, 2021 to all required municipal officials and all abutters, based on Town of East Windsor GIS maps and tax assessor records. All of the certified mail receipts were received back signed by August 2, 2021. A mailing log showing all of the abutters and the mailing history is attached.

As mentioned above, there were two exceptions. Joseph Kazmir of 25 Miller Road, East Windsor was sent a mailing, but has yet to respond. A review of the town assessment records shows Mr. Kazmir is the current owner of the property with contact information at the same address. He has

owned the property since 2004. The property card is attached along with the original letter that was sent to him with proof of mailing, via certified mail. A subsequent attempt to contact Mr. Kazmir has been made, with this letter being mailed to him on October 26, 2021. That letter, and the subsequent proof of mailing via certified mail, is also attached. If GCE receives a mail receipt from Mr. Kazmir, it will promptly notify the Council and supplement this interrogatory response.

The other exception stems from the Council's notice to GCE that John F. Gilson, who owns 33 Wapping Road, was not included in the notifications that were transmitted on July 19, 2021. Mr. Gilson was subsequently notified. That notice letter went out to his West Hartford address on September 7, 2021 and the certified mail receipt was received on September 10, 2021. The Council's letter, the letter to Mr. Gilson, and the certified mail receipts are also attached.

**2. Since the filing of notice to abutters, did Greenskies Clean Energy, LLC (GCE or Petitioner) receive any abutter or neighbor comments on the proposal? If so, provide a summary of the comments received.**

On July 22, 2021, GCE spoke with Chris Corkum of 37 Miller Road by telephone in response to the voice message he left after receiving the abutter letter. During the conversation, he indicated that he would review the visual impact study when the petition was posted online and would call GCE when he would like to meet on his property. GCE contacted Mr. Corkum in August to set up such an appointment and left a voice message with him. No further contact has been made.

On July 27, 2021, GCE spoke with Inah Chambers of 25 Lindsay Lane by telephone after several attempts to contact her. Ms. Chambers had left voice messages for GCE after receiving the abutter letter. During the conversation, Ms. Chambers stated that she did not want to view solar panels next to her home. GCE offered to arrange a visit to their home to review the visual impact study of the solar facility and discuss any viewshed concerns. Ms. Chambers indicated that she would send GCE an email describing her concerns and would provide potential dates for a property visit. GCE never received an email describing those concerns and potential dates for a site visit. On August 2, 2021, GCE attempted to contact Ms. Chambers by telephone, and a voice message was left. GCE has had no further contact with Ms. Chambers.

In addition to the official abutter notification letters that were discussed above in the response to Interrogatory 1, GCE sent out informal letters to area residents. These informal letters were sent out prior to the formal abutter letters. Julia Riordan of 24 Barber Hill Road left a voice mail message for GCE in response to this information letter, and on July 23, 2021, GCE spoke with her by telephone in response to her voice message. During the conversation, it became apparent that Ms. Riordan was unaware that the array moved, and she expressed concerns regarding the proximity of the Miller Road solar array to her house after she reviewed the map of the project which was included with GCE's letter. Specifically, her concerns included the view from her swimming pool and house which sits above grade, reflective glare, and noise.

Ms. Riordan was aware of the Mulnite project that was previously approved by the Siting Council. GCE informed her that this project would be a new project, and the application for this proposed new project had not yet been submitted to Siting Council at the time of GCE's conversation with Ms. Riordan. GCE also informed her that GCE would be giving an informal presentation for this

new solar project at the Planning Zoning Commission meeting on July 27<sup>th</sup> and the petition would also be posted online when it was submitted to Siting Council. During the conversation, GCE offered to meet with her and her husband at their home, but she declined the visit. She indicated that her husband would send GCE an email outlining their concerns and schedule a visit if needed. GCE called again on August 2, 2021 and left a voice message. No further contact has been made.

On July 7, 2021, GCE spoke with George Gilson of 57 Wapping Road by telephone. He had general questions and indicated that he would review the petition when it was posted online.

**3. What is the estimated cost of the project?**

The estimated cost of the Miller Road array is approximately 8 million. The estimated cost of the Wapping Road array is approximately 2.5 million.

**Project Development**

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

Permits required for the proposed Project are the Connecticut Department of Energy and Environmental Protection (the “DEEP”) General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (the “General Permit”), as well as building and electrical permits from the Town of East Windsor Building Department. It is anticipated that GCE will hold the General Permit, and the Project’s contractor will hold the building and electrical permits.

**5. For the 1 MW Wapping Road array and the 4 MW Miller Road arrays, does the Petitioner have contract(s) to sell the electricity and renewable energy certificates (RECs) it expects to generate? If so, to which public utility? If the electricity is to be sold to more than one public utility, provide the percentages to be sold to each public utility.**

Petitioner respectfully objects to this interrogatory as it exceeds the scope of review for a petition under General Statutes § 16-50k. Subject to this objection, Petitioner responds as follows:

For the 1 MW Wapping Road portion of the project, GCE has an agreement with The Connecticut Light and Power Company d/b/a Eversource (“Eversource”) to sell Eversource the RECs. GCE will sell power from this array to a third party through the Virtual Net Metering Program.

For the 4 MW Miller Road array, GCE was a successful bidder into the Shared Clean Energy Facility (“SCEF”) Statewide Program administered by the State’s Electric Distribution Companies

and overseen by DEEP and the Public Utilities Regulatory Authority (“PURA”). GCE will be selling power to Eversource through the SCEF program. *See* Public Act 18-50 and PURA Docket No. 19-07-01. The SCEF Program represents a commitment by the State to meet ambitious goals for greater greenhouse gas emission reductions through the promotion of grid-scale renewable energy. Pursuant to its successful bid into the SCEF Program, Petitioner has executed a long term SCEF Tariff Terms Agreement (“Agreement”) with Eversource for a twenty-year term. Pursuant to the Agreement, Petitioner would sell to Eversource the project’s installed capacity of four megawatts (“MW”) alternating current (“AC”), along with the environmental attributes, i.e., the Renewable Energy Credits (RECs) associated with that output.

**6. For the Miller Road arrays, is the entire output enrolled in the Shared Clean Energy Facilities (SCEF) Program?**

Yes, the entire output for the Miller Road array is enrolled in the SCEF Program.

**7. If the power purchase agreement (PPA), as applicable, or SCEF Program expires and is not renewed and the solar facility has not reached the end of its lifespan, will the Petitioner decommission the facility or seek other revenue mechanisms for the power produced by the facility?**

Petitioner respectfully objects to this interrogatory as it exceeds the scope of review for a petition under General Statutes § 16-50k. Subject to this objection, Petitioner responds as follows:

The Petitioner has secured land control of the project site for a longer time period than the duration of the SCEF agreement. It is GCE’s expectation that the project will operate longer than the SCEF program and have an extended useful life generating electricity. This is currently the expectation of GCE as to how the project will operate after the termination of the SCEF agreement. However, the exact use of the site after expiration of SCEF will depend on energy market conditions at the time. If continued energy sales are not viable, the project will be properly decommissioned at that time.

**8. Would the Petitioner participate in the ISO-NE Forward Capacity Auction? If yes, which auction(s) and capacity commitment period(s)? Would this apply to both the Wapping Road array and the Miller Road arrays?**

GCE does not intend to participate in the ISO-NE Forward Capacity Auction at this time.

## Proposed Site

- 9. Are the site parcels, or any portions 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?**

Petitioner respectfully objects to this interrogatory as it exceeds the scope of a petition under General Statutes § 16-50k. Moreover, this interrogatory solicits a legal conclusion to which no response is required. Subject to this objection, Petitioner responds as follows:

The site parcels are currently part of the Public Act 490 program, and the Town of East Windsor currently classifies the use of the parcels as “vacant.” As the Council is aware, GCE is proposing agricultural uses at the project, even after the project is generating electricity. To GCE’s knowledge, the issue of whether agricultural operations at a renewable energy facility are sufficient to maintain a parcel’s status under Public Act 490 has never been determined.

- 10. 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?**

No.

- 11. Please submit a map clearly depicting the boundaries of the solar facility sites, including the boundaries of the Mulnite Farms I facility (Petition 1422) and the boundaries of the host parcel(s). Under 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.**

The requested map is included with this response as Exhibit A.

- 12. Would the construction, maintenance and operation of the solar facility interfere with the property owner’s continued agricultural activities that are currently conducted on the host parcel?**

No. The agricultural operations that are currently taking place outside of the project’s boundaries can continue on the host parcel without interference due to the project’s construction, maintenance or operation. As the project is currently designed, it will also not have any impacts on the existing farm roads located on the host parcel.

- 13. Referencing page 5 of the Petition, GCE states, “The parcels are currently active farmland with existing farm roads and tobacco barns...” Would all tobacco barns on the subject property remain with the use and control of the property owner? Or would any of the tobacco barns be incorporated in the proposed solar facility for use by GCE? If yes, identify such barns and indicate what the barns would be used by GCE for.**

All of the tobacco barns on the subject property will remain with the use and control of the property owner. None of the tobacco barns will be incorporated into the proposed solar facility for use by GCE.

- 14. Provide the distance, direction and address of the nearest property line and nearest off-site residence from the solar field perimeter fence for the Miller Road arrays and the Wapping Road array.**

The nearest property line to the Wapping Road array perimeter fence not associated with the Project is 44 Rockville Road, approximately 76 feet to the east. The nearest off-site residence to the Wapping Road array perimeter fence is 38 Rockville Road, approximately 720 feet to the east.

The nearest property line to the Miller Road array perimeter fence not associated with the Project is 25 Miller Road, approximately 25 feet to the north. The nearest off-site residence to the Miller Road array perimeter fence is 41 Miller Road, approximately 197 feet to the south.

### **Energy Output**

- 15. Have electrical loss assumptions been factored into the output of the facility? What is the output (MW AC) at the point of each interconnection?**

Electrical loss assumptions have been factored into the expected energy production calculations. The Point of Interconnection (“POI”) is located on the project site. Under the expected interconnection agreements, the combined project is allowed to export a maximum of 4.9985 MW AC. No substantial power loss is expected between the inverters and POI.

- 16. What is the projected capacity factor (expressed as a percentage) for the Wapping Road array and the Miller Road arrays? 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?**

The projected capacity factor for the proposed project is 15.2 percent. This is based on AC MWh to DC MWh and expressed as:

$$\text{Capacity factor (\%)} = (\text{production in kWh}) / (\text{system size kWdc} * 8760) * (100)$$

- 17. What is the efficiency of the photovoltaic module technology of the proposed project taking into account bifacial effects as applicable?**

The proposed modules have an efficiency of 20.7 %

- 18. Could the project be 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 PPA/SCEFP.**

The current system could not be retrofitted with batteries for two reasons. First, the inverters to be used are not designed to handle DC coupled energy storage. Second, the interconnection agreements do not allow for AC coupled energy storage. However, if batteries are desired in the future, a separate interconnection application for AC-coupled batteries and co-located energy storage system could be developed. In addition, the current PPA/SCEF agreements do not have any inclusion of batteries. Thus, there would need to be new revenue agreements in place for the co-located project.

- 19. Could the project be designed to serve as a microgrid?**

No. A micro grid requires a combination of energy storage, generation and load. The current project does not have either load or energy storage available. If a microgrid of storage and load was to be developed in the area, then it is possible that the energy output from this project could serve as a generator to that microgrid.

- 20. If one section of the solar arrays 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?**

Yes. Sections of modules throughout the array are connected to multiple inverters. An inoperable inverter does not impede the functionality of other inverters.

### **Site Components and Solar Equipment**

- 21. Referencing Appendix B of the Petition, Mulnite-Miller Site Plan and Mulnite-Wapping Site Plan, both the Miller Road Arrays and the Wapping Road Array have a 3-foot minimum ground clearance and reach a maximum height of 10.5 feet. Is the ground clearance for the Wapping Road Array expected to be sufficient to allow for crop production under the panels?**

As the project is currently designed, it is not anticipated that crops will be growing under the panels. However, depending on the crops being grown, and the resources of the farmer selected for farming the site, some farmers may choose to also grow crops under the panels in the future. For now, however, the plan for the project is to have agricultural growth only between the panels and not to have crop production under the panels. The design of the Wapping Road array is sufficient to allow for this planned co-use of agriculture.

**22. Provide the approximate overall dimensions of the proposed equipment pads.**

It is currently anticipated that the equipment pad in the northwest portion of the Miller Road array will be approximately 15 feet by 45 feet, and that the equipment pad in the northeast portion of the Miller Road array will be approximately 15 feet by 92 feet. It is currently anticipated that the equipment pad in the southeastern portion of the Wapping Road array will be approximately 15 feet by 45 feet. All electrical infrastructure is subject to change pending final interconnection agreement with Eversource, and the Petitioner intends to provide the Council with final electrical layout drawings if a Development & Management (D&M) Plan is required.

**23. 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**

Photovoltaic wire is typically run on, and supported by, the racking. The specified wiring is typically UV-rated to protect from degradation from sun exposure. If a jumper is required (*e.g.*, when DC wiring must go from one row to the next) or when a run must go from the racking to the inverter, or row to row, the wire is typically run through conduit. Such conduit is buried and comprised of PVC.

**24. Referencing page 10 of the Petition, GCE notes that approximately 900 linear feet of access would be constructed within the project area. Provide the total access road length for the Wapping Road array and also for the Miller Road arrays.**

It is currently anticipated that the Wapping Road array will have approximately 0 feet of improved access road within the perimeter fence, and that the Miller Road array will have approximately 900 feet of improved access road within the perimeter fence. All road layouts are subject to change pending final interconnection agreement with Eversource and CTDEEP Stormwater General Permit application process, and the Petitioner intends to provide the Council with final layout drawings in the event that a D&M Plan is required.



**25. What is the minimum aisle width at both solar array areas?**

It is currently proposed to have approximately 16.5 feet clear width between banks of panels for both the Wapping Road array and the Miller Road array. The Site Plan sheets C-3.0, C-3.1, C-3.2, C-3.3, and C-6.1 have been revised to correctly display this information and copies are included as Exhibit B. Final aisle widths are subject to change pending final electrical design as part of the interconnection agreement consultation process, and the Petitioner intends to provide the Council with final layout drawings in the event that a D&M Plan is required.

**Interconnection**

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

The Petitioner has filed interconnection applications and conducted the necessary interconnection studies through Eversource and is now negotiating an interconnection agreement with Eversource. ISO-NE has reviewed the project and concluded that it will have no negative impact to the transmission system and no transmission level studies are required.

**27. Referencing page 11 of the Petition, what is the current status of the PSCAD modeling being conducted by Eversource? If completed, what is the outcome?**

Eversource has completed its impact study and has concluded that the project will not have any negative impacts to either the existing distribution grid or transmission grid, and interconnection is allowed. The petitioner is currently negotiating the interconnection agreement with Eversource.

**28. What is the line voltage of the electrical interconnections? Referencing Appendix B of the Petition, Drawing E100, six new utility poles are proposed. How tall would each pole be? Pole #6 would contain a “ZREC Meter.” However, page 4 of the Petition notes that this is associated with the SCEF, not the ZREC program. Explain.**

The existing distribution feeder has a voltage of 23 KV. The pole design shown in the E100 drawings is not correct, however, this was done as a boiler plate design/placeholder prior to results of Eversource’s detailed studies. Additionally, showing the ZREC meter for the Miller Road SCEF portion of the project is inaccurate, as there will be no ZREC meter associated with the SCEF 4 MW interconnection. The poles are expected to be standard utility poles in the range of 40’.

Separately, the remaining five poles may be reduced in quantity. Eversource has notified GCE that the GOAB pole #1 can likely be removed. GCE will work with its engineer and Eversource to reduce the number of poles to only the minimum needed for a safe interconnection.

- 29. Referencing Appendix B of the Petition, Drawing E100, Miller Road arrays, is the “MV” portion of the electrical interconnection underground or overhead? How many additional poles would be required (beyond the six identified) to accommodate the overhead “OHE” portion of the electrical interconnection and the MV portion if applicable, and how tall would those poles be?**

As mentioned in response 28 above, E100 is expected to change after final coordination with Eversource.

It is correct, however, that the section of feeder labeled MV is to be located underground, while the section labeled OHE will be above ground. The OHE section as designed would require 22 approximately 40’ high poles.

- 30. Referencing Appendix B of the Petition, Drawing E100, Wapping Road array, is the “MV” portion of the electrical interconnection underground or overhead? How many additional poles would be required (beyond the six identified) to accommodate the overhead “OHE” portion of the electrical interconnection and the MV portion if applicable, and how tall would those poles be?**

As mentioned in responses 28 and 29 above, E100 is expected to change after final coordination with Eversource. It is correct that the section of feeder labeled MV is underground, and the section labeled OHE is above ground. The OHE section as designed would require 11 approximately 40’ high poles.

- 31. Is existing electrical distribution on Barber Hill Road and Rockville Road single-phase or three-phase?**

The existing electrical distribution on Barber Hill and Rockville Road is three-phase.

- 32. Referencing page 11 of the Petition, Section 3.2.3, would any off-site upgrades to electrical distribution from the proposed site to Barbour Hill Substation be required? Where would the demarcation points (of change of control/responsibility from Petitioner to Eversource) be located on the electrical interconnection for both the Miller Road Arrays and for the Wapping Road Array?**

The expected off-site upgrades required due to the project will be upgrades to a relatively small distance of distribution feeder to a higher voltage rating. The demarcation point between project and Eversource ownership is the production meters which are located on the project site.

## Public Safety

- 33. 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.**

Yes.

- 34. What impacts would crop production within the fenced solar facility site have on fire safety?**

It is not anticipated that crop production within the fenced solar facility will have any impact on fire safety. For facilities without crop production, grasses or other vegetation is customarily grown under panels and between panel rows. So long as this grass is alive and growing, there is not anticipated to be any associated adverse effect with respect to fire safety. GCE anticipates no discernable difference for areas where crops will be growing. As articulated in the Petition, these crop-growing areas will have crops growing on them for part of the year, and in the seasons where crops are not being grown, ground cover will be established. From a fire safety standpoint, no difference is anticipated between areas where crops are being grown versus grassy areas in solar arrays.

- 35. Provide the areas (in acres) enclosed by the fences for each of the Miller Road arrays and for the Wapping Road array.**

It is currently proposed to have approximately 14.8 acres of land enclosed by perimeter fence for the Miller Road array, and approximately 4.0 acres of land enclosed by perimeter fence for the Wapping Road array. Final layouts and acreages are subject to change pending final electrical design as part of the interconnection agreement consultation process, and the Petitioner intends to provide the Council with final layout drawings if a D&M Plan is required.

- 36. Would the proposed project meet the applicable Department of Energy and Environmental Protection noise standards at the property boundaries?**

Using the starting inverter specification for audible noise of 55 dBA at 1 meter (Appendix B of this Petition), the applicable calculation is that change in decibels equals 20 times the logarithm of distance 1 divided by distance 2. The current plan displays a closest distance of 54 feet (16.5 meters) for electrical equipment to a residential property line. It is therefore anticipated that the loudest audible noise from an inverter to a residential property line will be approximately 31 dBA. Relating this decibel level to the allowable night decibel level by CTDEEP noise standards (51 dBA as noted in Section 6.3.1 of this Petition's narrative), the Project will meet the applicable CTDEEP noise standards.

**37. Where is the nearest federally-obligated airport? Was this airport included in the aviation glare analysis? If not, what airport was considered?**

The nearest federally-obligated airport to the facility is Bradley International Airport, which is 11 miles away from the facility. The Petitioner received a “Determination of No Hazard to Air Navigation” from the Federal Aviation Administration (FAA) on September 17, 2021. A copy of that Determination was provided to the Council on September 22, 2021. GCE’s glare analysis included Bradley International Airport.

**38. Referencing page 27 of the Petition, the Petitioner notes that, “On July 30, 2021, GCE filed with FAA the project information and supporting documents for an aeronautical study to evaluate potential hazards to air navigation and conduct a plume analysis.” Why was a plume analysis required?**

The FAA did not require a plume analysis, referencing the FAA No Hazard Determination dated September 17, 2021.

**39. Referencing Appendix B of the Petition, Mulnite-Miller Site Plan and Mulnite-Wapping Site Plan, both the Miller Road Arrays and the Wapping Road Array reach a maximum height of 10.5 feet. Referencing the FAA No Hazard Determination dated September 17, 2021, 8 feet above ground level was utilized as a facility height. Explain.**

GCE revised the electrical layout, including panel size and tilt angle, after it submitted its initial determination request to the FAA on July 30, 2021 but before the September 17, 2021 FAA No Hazard Determination was received. The correct current proposal, as outlined in Appendix B of the Petition, is that the panels reach a maximum height of approximately 10.5 feet. GCE does not anticipate that this change will adversely affect the FAA’s determination, However, the Petitioner will contact the FAA to make it aware of this modification and will provide the Council with a revised No Hazard Determination upon receipt.

**40. 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?**

Typically, when a solar project is nearing completion and final inspection, the respective local Fire Marshal will perform a site walk to inspect signage, site access (in case of emergency), emergency shutoff, disconnect locations, and anything relevant to their response of an event. Accordingly, for the instant Project, GCE will offer to host such a site walk, training, and Project design review

with the appropriate East Windsor officials, and expects that such a walkthrough and training will occur.

**b. How would site access be ensured for emergency responders?**

Emergency responders will be provided keys or the code to all access gates onsite.

**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?**

GCE will work with emergency response personnel to provide training on understanding Project details, access, disconnect locations, and electrical functioning of the system. Hazard mitigation includes designing and building the Project to code and managing brush on site. Some of the design parameters that mitigate risk to first responders include, but are not limited to, electrical grounding of equipment and feeders, isolated sections of the array that can be shut off, anti-islanding shutdowns of all inverters, fuses throughout the project, easily accessible main shut off, access routes.

In the event there is a brush or electrical fire, GCE expects that the first responders will take advantage of the training that GCE typically provides at time of closing out construction permits.

GCE asset management personnel can be contacted in the event of an emergency and will do their best to support but are not first responders.

**d. Could the entire facility be shut down and de-energized in the event of a fire? If so, how?**

Yes, the entire facility can be shut down via the main switch. This information will be included during the training with emergency responders.

## **Environmental**

**41. Page 29 of the Petition notes that sheep grazing would be used at the Miller Road arrays. Please respond to the following regarding the proposed sheep grazing plans:**

**a. Is livestock grazing an integral component of the project, or can the project proceed without livestock grazing?**

Livestock grazing is not an integral part of the generation of electricity from solar photovoltaic cells. However, Greenskies agreed to incorporate grazing in its project design to as to receive agreement from the Connecticut Department of Agriculture that this project would not have an adverse impact on prime farmland soils, in accordance with the requirements of Public Act 17-218.

**b. To date, has the Petitioner consulted with any interested sheep farmers for this project?**

GCE's outreach efforts thus far to sheep farmers has been to understand the requirements for development of a successful grazing plan, implications for long term operations, as well as to be prepared to contract with a farmer when the projects complete construction.

In June of 2021, GCE posted to the American Solar Grazing Association (ASGA) seeking sheep farmers to submit proposals for grazing. Thus far, two sheep farmers have responded to GCE's posting on the ASGA website. Outside of the ASGA, GCE also contacted one sheep farm which is participating in improving Pasture Management for Sustainable Livestock Production project funded through a grant from Tri-State SARE Project.

GCE's initial preference was to locate a sheep farmer in Hartford County, based on travel distance to East Windsor and to contribute to a boost in the local economy. GCE's outreach subsequently expanded to areas outside of Hartford County. In addition to the outreach referenced in the paragraph above, GCE connected with 22 sheep farmers in Connecticut through the summer via outreach at agricultural fairs. As a result of this outreach, GCE is expecting to partner with a sheep farmer in Connecticut that has a flock sufficient to graze 2 to 3 sheep per acre over 20 acres (rotational grazing) in East Windsor.

**c. During approximately which months of the year would sheep be located at the site?**

It is GCE's goal that construction will start in the spring after receiving CSC approval and construction permits. Following construction, pasture grasses would establish to allowable height for grazing. By early Fall sheep may be delivered to the Miller Road site if appropriate and if not delayed until the following spring. The second year, and following years, sheep would arrive for early growing season which is typically early April to mid-May. The flock will graze throughout the growing season and will likely finish by September-November, at which point they will return to their residence farm.

**d. Would any sheep be grazing adjacent to residences? Were area residences notified that livestock grazing would occur at the site?**

It is anticipated that the sheep will be moved around the project site so as to maximize grazing opportunities. As a result, there will be periods of time where sheep will be grazing close to nearby residences. However, if nearby residents have issues with the grazing, GCE will first seek to address those concerns, and if those concerns cannot be addressed, GCE will look to move sheep to other areas of the project site, and will address vegetative management through mowing, if necessary.

**e. Should noise from livestock become an issue, could the locations where sheep are located at the site be modified in the future?**

Please see the response to Interrogatory 41.d.

**f. Are any sheds or shelters necessary/proposed for the site? If so, where would they be located?**

Sheds and/or shelters are not necessary for sheep to be located at the site, therefore none are contemplated in the site's design.

**g. Would livestock manure affect water quality in any downgradient wetlands/watercourses? How would such effects be mitigated?**

The planned movement of the sheep around the solar site has the underlying benefit of moving and distributing sheep manure at the same time. Sheep manure is typically small and pelletized. For the layperson, sheep manure may resemble the manure of rabbits or deer. Similarly, the manure is typically only visible for a short period of time and begins degrade into soils as part of nutrient cycling.

A sheep stocking rate and density (sheep per acre per unit of time) will be calculated before the grazing season based on site size, and quantity and type of vegetation present. This metric also ensures that no over-grazing occurs, and that the amount of manure deposition does not outpace the rate of manure decomposition throughout the grazing rotation.

The flock will not overwinter within the fenced area of the solar array. This will be specified in the solar grazing contract.

With the exclusions, noted above, and the planned rotation of the flock during the grazing season, GCE anticipates improved soil health where the sheep are grazing. Well-managed grazing should lead to improved water filtration and reduced runoff potential.

**42. 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?**

There are no wells on, or within vicinity of, the Site.

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

It is anticipated that a minimal amount of fuel will be stored on site during construction. During those periods when fuel is stored on site during construction, the fuel will be stored in accordance with the Modified Spill Prevention, Control and Countermeasure Plan (SPCC) and Soil Contact Best Practices Plan prepared for the Mulnite I Site as Exhibit D in Petition #1422 and also attached as Exhibit C to these interrogatory responses.

**44. 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?**

Due to the fact that the development area is not graded consistently to the east or to the west in any location, it is not anticipated that runoff from the panel drip edges will channelize or have an effect on Site drainage patterns.

- 45. 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?**

The typical embedment lengths of the posts are between six and twelve (6-12) feet. The exact length will be determined after a geotechnical analysis is performed prior to construction of the Project.

- 46. Where is the nearest publicly accessible recreational area from the proposed site? Describe the visibility of the proposed project from this recreational area.**

The closest parcel used for publicly accessible recreational purposes is Pierce Memorial Park located approximately 3180' from the Project site. The Project will not be visible from Pierce Memorial Park.

- 47. Referencing the Phase 1B Survey that was submitted to the Council on October 13, 2021. Has a copy of the Phase 1B Survey been submitted to SHPO for review? If so, has the Petitioner received any response from SHPO to date? If yes, please include a copy of such response.**

An electric copy of the Phase 1B Survey was provided to SHPO on November 4, 2021 and hard copies of the Survey were provided to SHPO on November 5, 2021. As the Council is aware, SHPO has thirty (30) days to provide a response. To date, GCE has not yet received a response from SHPO.

- 48. Referencing page 26 of the Petition, Section 6.5, GCE states, "Discussions between the Petitioner and all abutting parcels to the Project are ongoing and it is the intent of the Petitioner to incorporate mitigation screening into the site development plan as needed at a later date, following further correspondence, to address screening deficiencies which may exist. The Petitioner intends to provide the Council any updates to visual impact studies or proposed mitigation screening plans." Provide an update on any visual impact studies or mitigation screening plans as applicable.**

GCE has evaluated the following abutting properties: 37 Miller Road, 24 Barber Hill Road and 25 Lindsay Lane, for possible mitigation screening measures because homeowners at these addresses may have a potential view of the Miller Road solar array. Exhibit D, included with this response,



presents a visual impact study for 24 Barber Hill Road and 25 Lindsay Lane. When considering possible screening measures, the factors considered included the length of the house in rear, the distance of the house from solar perimeter fence, the elevation of the solar array versus the elevation of the house, and existing woody vegetation present between the residential property and the leased area.

Since submission of the petition, the petitioner has not received any additional response or feedback from neighbors, therefore detailed screening designs have not been completed.

For residences that are determined to have a view of the project, GCE proposes to add a section of the decorative slotted perimeter fence long enough to prohibit a view of the solar array and 8-10 feet in height. Additionally, plantings of evergreen vegetation can be included to break up the conformity of the fence with natural view barriers.

- 49. 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.**

A photo log Exhibit has been prepared and is included herewith as Exhibit E.

### **Facility Construction**

**50. Referencing page 21 of the Petition, GCE had a pre-application meeting with DEEP Stormwater Division on June 21, 2021, and “CT DEEP Stormwater Program had no further comments for the pending stormwater general permit registration.” What is the status of GCE’s DEEP Stormwater Permit application?**

As the CTDEEP Stormwater General Permit application is intended to include “construction-ready” site plans, the Petitioner has not yet submitted an application for this permit at this time.

**51. What impacts would crop production within the fenced solar facility site have on stormwater management?**

It is only anticipated at this time that the Wapping Road array may have the possibility of incorporating crop production within the fenced solar facility site. It is not anticipated that drainage patterns would be altered by incorporating crop production within the fenced solar facility. Looking specifically at the Wapping Road array, it is feasible that approximately 4,300 linear feet of crops at approximately 16.5 feet wide ( $\pm 1.6$  acres) could be incorporated in the clear space between panels. A HydroCAD output revised to include this assumption is enclosed herewith as Exhibit F which displays that the Project would continue to meet all State water quality treatment, stream channel protection, and pre-to-post peak rate of runoff mitigation requirements.

**52. 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?**

- a. The Petitioner proposed grading the site only to excavate for the stormwater basins.
- b. b-Typical slope tolerances for construction and for racking installation are less than fifteen percent (15%) slope(s).
- c. c-Yes, at this time, the Petitioner does not propose regrading any areas on the site, except in connection with the installation of the stormwater basins. The entire site is extremely flat with no slopes in a proposed panel array area exceeding eight percent (8%).
- d. d-Only a very small amount of nonagricultural existing vegetation exists today at the site, as it is actively farmed. The Project proposes vegetating the site as early as practicable by seeding prior to the start of construction to allow the site to vegetate.
- e. e-The Project does not propose cutting any existing on-site material for installation of the proposed access roads. Rather, the crushed stone will be placed on top of the existing material. The detail on Sheet C-6.2 displays this proposal. It is anticipated that approximately 400 cubic yards of stone will be imported to the site for the proposed access roads.
- f. f-No cut and fill is proposed within the solar panel array for the purposes of tolerable racking slope percentages. It is anticipated that approximately 8,000 cubic yards of material will be excavated to construct the Project's proposed stormwater basins and swales.
- g. g-It is anticipated that any excess material will be spread on the site or handled by the land owner.

**53. 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?**

Based on geotechnical studies completed to date, the expectation is that the racking system posts will be driven into ground with either a hammer-type pile driver or a screw-driven post. Pre-drilling or blasting is not expected to be required, and ledge is not expected on site. In the unlikely event that ledge is encountered, there are various methods to install depending on the depth and extensiveness of the ledge. For some ledge, a shorter embedment or helical screw will work adequately; in other cases, pre-drilling or a cast pier may be needed.

**54. What is the minimum access road width required for post-construction use?**

GCE's preferred minimum road width for post-construction operations and maintenance is approximately fifteen feet (15').

- 55. 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?**

Geotechnical testing was conducted for stormwater management in the vicinity of the proposed basins after submission of this Petition and confirms that the Project has been designed to accommodate existing Site conditions. Subsurface testing displays a deep consistent loamy sand layer exists throughout the development area based upon the results of the geotechnical work performed, with no evidence of shallow restrictive layers. It is also anticipated that structural pull testing will be required if/once the Project is approved to assist in the final design of the racking foundation systems. A copy of the results of the geotechnical testing are included as Exhibit G.

#### **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.**

No. Accumulation of snow will affect energy output, however, this has been factored into the production analysis. There are no anticipated circumstances in which Greenskies would remove snow from panels. Snow would be removed from inverters, switch gears for access for corrective maintenance if needed, by brushing or sweeping.

- 57. Describe the type and frequency of anticipated vegetation management for detention basins and swales as applicable.**

It is anticipated that mowing would take place a few times per year along the detention basins and swales to maintain vegetation as needed. In accordance with the Stormwater General Permit, which must be obtained for this Project from CTDEEP, it is anticipated that vegetation management during construction for the entire limits of work will take place daily by the site contractor, and that the qualified inspector for the Project will be performing weekly inspections. Following the completion of construction, it is currently anticipated to be proposed to CTDEEP that the vegetated areas within the limits of the Project, including the detention basins and swales, will be inspected monthly for the first three months, and twice per year following that. Vegetation management will include checking for bare areas, remediating with additional seeding or planting, as needed, and undergoing further analysis and remediation in the event that vegetation is not stabilizing properly.

- 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?**

Due to regular precipitation and weather patterns in the Northeast, modules typically do not require periodic cleaning. If, however, an unforeseen incident or event were to occur that would make cleaning necessary, GCE would only use water for such cleaning purposes.

- 59. Referencing Appendix C of the Petition, Operations and Maintenance Plan, Section 9.2, the Petitioner notes that mowing would be performed two to three times annually. Would the mowing schedule differ between the Miller Road Arrays with sheep grazing versus the Wapping Road Array without sheep grazing? Explain.**

Yes, the mowing schedule would differ between the Miller Road Arrays where sheep grazing is proposed versus the Wapping Road array that will not have sheep grazing. There would be only intermittent mowing on as-needed basis at the Miller Road array when sheep cannot graze or are removed at the request of the leasing sheep farmer. At the Wapping Road array, mowing would occur two to three times annually only under the solar modules unless a leasing farmer(s) wishes to grow a low-growing crop under the modules. Because leasing farmers will be cultivating/growing their selected crop(s) in the row interspacing and seeding a cover crop at the end of growing season, no mowing will occur in the row interspacing.

- 60. Would the Petitioner store any replacement modules on-site? If yes, would they be located in one of the barns or would a separate shed be constructed for such storage? Identify the location.**

No.

- 61. Would pesticides/herbicides be used at the site? If so, what protocols would be followed?**

It is not anticipated that pesticides or herbicides will be used by the project. Should farmers growing crops at the Wapping Road array wish to utilize pesticides or herbicides, GCE will ensure that the farmers utilize such materials in accordance with all applicable laws and regulations, including, but not limited to, the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), codified at 7 U.S.C. § 136 *et seq.*

- 62. In the lease agreement with the property owner, are there any provisions related to site restoration at the end of the project’s useful life? If so, please provide any such provisions.**

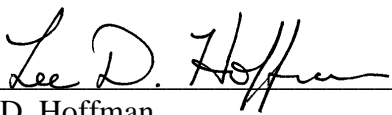
Yes, the lease agreement specifically provides that all site improvements and infrastructure associated with the solar project, including all materials owned by GCE, must be removed from the project site. According to the lease, “such removal shall be completed within six (6) months following the expiration of the full term of this Agreement, during which time Tenant shall be subject to all terms and conditions in this Lease with respect to access and said removal as if still a tenant.”

- 63. Has the manufacturer of the proposed solar panels conducted Toxicity Characteristic Leaching Procedure (TCLP) testing to determine if the panels would be characterized as hazardous waste at the time of disposal under current regulatory criteria? If so, submit information that indicates the proposed solar modules would not be characterized as hazardous waste. If not, would the Petitioner agree to install solar panels that are not classified as hazardous waste through TCLP testing?**

The manufacturer of the proposed solar panels has not yet been selected, so no TCLP testing has been conducted. However, GCE agrees that it will install solar panels that would not be classified as hazardous waste under the TCLP methodology as of the time of the panel’s installation.

Respectfully submitted,

Greenskies Clean Energy, LLC

By:  \_\_\_\_\_

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