

**ELMRIDGE SOLAR – LATE FILED EXHIBITS AND CLARIFICATIONS
FROM 10/1 EVIDENTIARY SESSION**

Requested Late Filed Exhibits:

- a) Clarify the information in Council Interrogatory response 24 regarding Hydrologic Soil Group Classifications for the East Solar Array as it relates to the first paragraph on Petition p. 35 and on Stormwater Report pp. 10-11;

The percentages of hydrologic soil group within the project area as provided in interrogatory response 24 were not accurate and, therefore, Petitioner was not able to provide the exact numbers during the hearing. However, revised percentages of the hydrologic soil groups within each site are provided, below, with additional explanation, as follows.

The stormwater calculations included in the petition are based on accurate areas of each hydrologic soil group within the contributing drainage areas used to develop peak runoff rates. As indicated in both the petition and the stormwater report, the Hydrologic Soil Group classifications were found to be consistent with Natural Resource Conservation Service (NRCS) mapping based on the shallow test pits. Therefore, the NRCS classifications were used in the stormwater analysis with a step-down in classification within the array areas for the post conditions analysis. The following tables summarize the HSG classification of each site (See also Attachment 1 - Figure 1 and Figure 2).

Table 1 HSG Classification Summary – West Site

Condition	HSG B		HSG C	
	Area (SF)	% of Site	Area (SF)	% of Site
Existing HSG	226,790	100%		
Proposed HSG with Stepdown			226,790 (B->C)	100%

Table 2 HSG Classification Summary – East Site

Conditions	HSG B		HSG C		HSG D	
	Area (SF)	% of Site	Area (SF)	% of Site	Area (SF)	% of Site
Existing HSG	402,506	81%	95,402	19%		
Proposed HSG with Stepdown			402,506 (B ->C)	81%	95,402 (C->D)	19%

- b) *Clarify if the Sediment Storage Analysis calculations (GCE comments to Town) are required to be provided to the DEEP Stormwater Program as part of the DEEP General Permit application process;*

Pursuant to the DEEP General Permit, a sediment storage analysis is required for sizing of sediment traps to limit discharge of sediment and pollutants towards offsite areas.

For additional detail on this issue, the petitioner is providing the following explanation. The stormwater basins will be used as temporary sediment traps during construction and calculations are provided to demonstrate adequate sediment storage. A temporary riprap filter berm will be installed at the basin weir walls to provide additional protection of offsite areas from sediment and turbidity as shown on the revised permit drawings. DEEP will be provided with all supplemental drawings and calculations as part of the stormwater permit approval process. The revised plan set and calculations have been uploaded to petitioner’s permit application with DEEP, as a supplemental filing (See Attachment 2 – Sediment Storage Analysis).

- c) *Provide the area (acres) of proposed grading with the solar field areas for both the East and West Arrays (excluding the stormwater basins in each area);*

Areas of proposed grading exclusive of the stormwater basins, but including disturbed slopes, access roads, swales, and equipment pads, is 3.1 acres for the west site and 2.1 acres for the east site.

d) *Provide more information as to how the SG2 Tariff applies to this Project;*

Greenskies will sell the power to Eversource under the Self-Generator Rate (SG2) rate. SG2 is the rate or tariff structure set by Eversource for a generator to offload/sell power. This is independent of the LREC, which has nothing to do with the sale of power generated from the array via the SG2 tariff. The LREC only provides for the sale of renewable energy credits (“RECs”), not electricity. Thus, the LREC affects the economics of a project, but does not impact electricity sales.

Service under the SG2 rate is available to any Customer Distributed Generating Facility within the company’s service area. In terms of the price of power, the Rate SG2 shall be 95% of the monthly average of the NEPOOL market clearing prices for energy for bills rendered during the second following month. The Company will determine the energy payment as the sum of delivered energy for each hour in the billing period times the NEPOOL market clearing price for energy for such hour. The term of the contract for this arrangement is one year, renewed on an annual basis, and there shall be no capacity payment. The applicable policy document for the SG2 Tariff is “*The Connecticut Light and Power Company, DBA Eversource Energy, Rider N – Class I Renewable and Hydroelectric Self-Generator Net Energy Billing Service,*” Effective January 1, 2015 by Decision dated December 17, 2014, Docket 14-05-06.

e) *Clarify the electrical equipment pad labeling on Sheets LA-2 and E-2;*

For the East array, Sheet LA-2 notes the northern equipment pad as “Electrical Equipment Pad Array B2” and the equipment pad further south as “Electrical Equipment Pad Array B1.” This was a typographical error. Array B1 is the northern array and Array B2 is the southern. Sheet LA-2 has been revised to reflect the same (Attachment 3 - Revised Permit Drawings)

f) *Clarify the East Array Section B-2 interconnection/metering location (Sheets E-2 & E-3-1 provide different locations); and*

Sheet E-2 – Site Plan, provided in the electrical drawing set for Array B2 shows Proposed Pole #1 as the Metering Pole for Array “B1” and Proposed Pole #2 as the

Metering Pole for Array “B2.” That is correct. The one line drawings provided also show a shared relay and recloser at pole #3; that is also correct. The drawings further call out a change of ownership at Pole #4/5, which is not correct.

As confirmed with Eversource in the executed interconnection agreements, the change of ownership from customer to Utility takes place at the meters. Both systems B1 and B2 are fully separate up to and including the meters. Subsequently they are then joined at pole #3 prior to the recloser and pole #4/5 where the new equipment ties into the existing 13.8 kV distribution feeder.

- g) Provide information as to the feasibility of using a 4 pole interconnection design instead of the proposed 5 pole interconnection design for the East Array.*

Petitioner contacted Eversource’s Distributed Resources Program Manager (“DRPM”) via email to see if it is possible to reduce the number of poles running along Elm Ridge Road from five (5) to four (4) for INT #33846 (Array B1) and #33847 (Array B2). The DRPM noted the Eversource Senior Analyst/Project Manager Distributed Energy Resources, along with field staff, would be able to review the current design and determine whether reducing the number of poles is feasible, while maintaining compliance with required guidelines. This detailed design will take place in the December/January timeframe. Eversource has not committed to using a four pole interconnection design, but Greenskies will follow up with appropriate utility personnel to ascertain if this can happen.

Clarifications from October 1 Evidentiary Session:

- a) During the evidentiary hearing on October 1, 2020, Petitioner was asked to provide clarification of decommissioning costs. The Petitioner was questioned regarding assumptions made and the costs derived for the Decommissioning Plan. In addition, Petitioner was asked to explain the following sentence from page 1, paragraph 1 of the Draft Decommissioning Plan: “The concrete pads will be broken up at the site and hauled to a nearby facility where it will be accepted, most likely without charge.”*

The initial cost estimates for the various tasks provided in the Draft Elmridge Decommissioning Plan were derived from an engineer-stamped template Greenskies was required to use for local land use permitting on various project sites in Massachusetts in 2019. This engineer was a peer reviewer for several municipalities in the Massachusetts. Greenskies subsequently reviewed and revised these cost estimates with internal engineering and cost estimating staff.

One of Greenskies' previous projects was located on a gravel pit and the landowner/landlord was affiliated with a local concrete, asphalt and aggregate recycling operation. Therefore, Greenskies expected there would be minimal cost associated with disposal of the concrete pads. This sentence was inadvertently left in the plan and Greenskies apologizes for the oversight. As a follow-up, Greenskies recently contacted several Connecticut concrete recycling facilities from DEEP's list of Volume Reduction Plants (Revised September 2020). Project engineer/MMI provided a summary of the volume and weight of material in all equipment pads (Attachment 4 - Equipment Pad Calcs.).

The total estimated weight is 102.4 tons and total volumes is 50.5 cubic yards. Greenskies obtained primary facility disposal rates ranging from \$9 - \$25 per ton, if delivered to the facility or \$425 - \$500 per load, including the container, transportation and disposal fees. Many facilities along the coast charge much higher rates (\$90-\$160/ton) because accept the material and then it to other facilities for disposal. A maximum of five trucks would be required (conservatively assuming a 1/2 capacity of 10 cy/20 cy container). Concrete disposal costs are expected to range from \$2,125 to \$2,500.

- b) *During the evidentiary hearing on October 1, 2020, a Council member inquired about whether the proposed panels to be used contain PFAS, heavy metals and/or hazardous materials.*

In response to Douglas Hanson's interrogatory #3, Set 1, Greenskies provided the following language in its filing on August 20, 2020:

3. *Do the proposed panels to be used contain lead, arsenic, selenium, cadmium, PFAS, or other hazardous materials or heavy metals? Do you have leaching studies for the panels?*

“The selected panel and comparable models are primarily comprised of glass, silicon and aluminum. The main components are: mono- or polycrystalline silicon solar photovoltaic (PV) cells; toughened, tempered glass with an anti-reflective, textured surface; aluminum frame and encapsulation layer used to hold the cells in position during fabrication. The proposed model panel is bifacial and, therefore, does not contain a back sheet. All layers of materials are contained and sealed within the glass panels. A junction box containing diodes and connectors is also part of the panel.

Greenskies contacted the manufacturer to inquire about materials and components of the selected panel/module and comparable models. As confirmed by Canadian Solar, the selected modules and/or comparable products DO NOT contain PFAS or its derivatives. Such chemicals are not used in the manufacture of any Canadian Solar modules or the selected module type. According to a company representative, PFAS are only used in plastics that might be contained in some flexible modules, which the proposed (and comparable) panels are not.

In addition, and according to Canadian Solar, selenium, cadmium, arsenic or heavy metals (other than lead) are not contained within the selected or comparable modules. Lead is present in soldering paste, typically used to connect cells together within the panel. Using the USEPA Toxicity Characteristics Leaching Procedure (TCLP) for sample preparation, Canadian Solar had solar panels analyzed for a full range of organic and inorganic compounds. TCLP is an extraction method for chemical analysis employed as a method to simulate leaching through a landfill. Results showed one detection of Lead, below the Maximum Contaminant Level for drinking water. All other results were “non-detects.” The toxicity report is provided as Exhibit B.

In addition, the selected panels and comparable models are UL1703 certified. The UL 1703 Standard for Flat-Plate Photovoltaic Modules and Panels is the industry standard for safety and performance. It is not only the gold standard for safety in the U.S, it's the basis for the IEC 61730 document, which is the international safety standard. To receive this certification a comprehensive testing protocol is implemented for components and materials in everything from the frame and junction box to the connectors and wiring. Such testing includes temperature, corrosivity, degradation and breakdown during normal operating conditions, as well as testing for exposure to rain and water.”

In addition, on September 24, 2020, Greenskies submitted to the Council the Testimony of Gina Wolfman in Connection with Petition 1410. Such testimony included further clarification through response to the following questions:

“Can you please confirm if any hazardous chemicals are included in the modules and if there are any risks of leakage and/or leaching?”

“No hazardous chemicals are contained within the specified modules and/or comparable products Greenskies’ would procure for the proposed Project that would result in a risk of leaching causing harm to human health or the environment. The modules do not contain PFAS or its derivatives. In addition (and according to the manufacturer), selenium, cadmium, arsenic or heavy metals (other than lead) are not contained within the selected or comparable modules. Lead is present in soldering paste, typically used to connect cells together within the panel.

Using the USEPA Toxicity Characteristics Leaching Procedure (TCLP) for sample preparation, the manufacturer had its solar panels analyzed for a full range of organic and inorganic compounds. TCLP is an extraction method for chemical analysis employed as a method to simulate leaching through a landfill from a solid material (in this case the module/panel) that has been crushed, compacted and/or pulverized, not from normal operating conditions or anticipated, potential accidents such as storm damage. Results showed one detection of Lead below the regulatory limit. This testing is discussed further in the response to the next question.:

“Do you have any clarifications on any responses to previous interrogatories submitted by the CT Siting Council or either of the Parties?”

“Yes. I would like to clarify and make a correction to the language below, provided in Greenskies’ response to Town of Stonington comments under “Groundwater Concerns”, page 3, paragraph 1, as well as Greenskies’ response to Douglas Hanson’s Interrogatory 3, page 2, paragraph 3: “Results showed one detection of Lead, below the Maximum Contaminant Level for drinking water.”

The one detection of Lead was below the “Maximum Concentration of Contaminants for the Toxicity Characteristic” found in Table 1 of USEPA regulations at 40 CFR Section 261.24. A solid waste exhibits the characteristic of toxicity if, the extract from a representative sample of the waste contains any of the contaminants listed in Table 1 at the concentration equal to or greater than the respective value provided. The “Limit” column in the laboratory report

(Exhibit B of responses to Mr. Hanson’s comments) corresponds to, and represents, the Maximum Concentration of Contaminants for the Toxicity Characteristic, as noted above. This sampling for toxicity characterization is used by landfills in determining whether waste is considered acceptable for municipal facilities or is considered “hazardous waste.” I’d like to clarify that the “MDL” column represents the minimum detection limits for the laboratory instrumentation and methodology.”

The above-referenced toxicity report is provided as Attachment 5. An explanatory letter from Canadian Solar, the anticipated panel provide for this project, is provided as Attachment 6.

- c) *During the evidentiary hearing on October 1, 2020, a Council member asked if the utility (Eversource) and/or first responders are able to shut off the Gang Operated Air Break (GOAG) switches for the systems.*

Petitioner contacted Eversource’s Distributed Resources Program Manager (“DRPM”) via email and inquired whether the utility and/or first responders are able to shut off the main Gang Operated Air Break (GOAB) switches. Eversource responded by stating the visible break AC Disconnect switch is required as identified in “The Eversource and United Illuminating Company Exhibit B – Generator Interconnection Technical Requirements” dated April 5th, 2019 Section 2.4 Visible break. Eversource also informed Petitioner that access to that switch is limited to Eversource personnel, as the switch is pole-mounted on a pole that is owned/maintained by Eversource.

- d) *During the evidentiary hearing on October 1st a Council member asked for clarification regarding row width. There was a discrepancy where the row/panel width was noted as 11.9 feet in one place and 12.5 feet in the other.*

The overall horizontal width of the panel row is 11.89 feet based on two panels placed in portrait at 6.56 wide each, installed at a 25-degree angle from horizontal. (Also see drawing SD-2 of the revised Permit Drawings)

- e) *During the evidentiary hearing on October 1st, a Council member asked for clarification on Petitioner’s response to CT Siting Council Interrogatory Set 1, question 38., as follows: “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? Petitioner was also asked how the applicable provisions of Appendix I were met with regard to water quality.

We believe the runoff from the drip edge of the panels will have little or no effect on overall site drainage patterns. The effective length of runoff from each upper and lower panel row is minimal at 6.6 feet and should not cause any significant channelization below the drip edge especially on minimal slopes that are less than 5 percent.

However, in an effort to be as conservative as possible with respect to potential channelization from the drip edge of the panels mainly on steeper slopes, the petitioner is providing level spreaders for the entirety of the east site recognizing the array rows are perpendicular to the slope and grades exceed 5 percent in some areas, mainly along the west side of the array. The level spreaders consist of crushed stone below each drip edge of the panels to dissipate the accumulation of runoff (Also see revised permit drawings for locations and details of crushed stone level spreaders).

Relative to Response 38, we do not believe channelization from the drip edge will be an issue on the west site. Except for the very westerly end of the site, slopes are generally less than 5-percent and the panel rows are also oriented along the slope so channelization of runoff from the panels will not occur.

The Water quality volume calculations included in the Stormwater Report are based on the impervious surfaces within each site as listed in DEEP Appendix I. The arrays will be constructed on slopes less than 15 percent, and conditions (1)(a) – (e) of DEEP Appendix I are met, so it is not necessary to include the area of the panels in the water quality volume calculations.

These comments and other stormwater related feedback from DEEP is typically addressed in the final construction drawings. As the Petitioner, we feel it is important to clarify to the Council that the proposed project will be in full compliance with the DEEP general permit requirements including Appendix I. Consequently, and as noted above in response to Late Filed Exhibit b), all revised drawings and computations as referenced herein were uploaded to DEEP's ezFile portal for ongoing review of the stormwater application.

f) Petitioner would like to provide an update on the status of the interconnection process with Eversource.

Greenskies received three, fully executed Interconnection Agreements from Eversource on October 1, 2020. Project ID numbers are INT #33846, INT #33847 and INT #33848. As required in the agreements, initial payments will be made by November 12th and December 4th, 2020, with final payment due by March 5, 2021.

g) During the evidentiary hearing on October 1st, 2020, a Council member asked Petitioner whether wells on abutting properties would require protection and if not why?

The private wells serving residences along Elm Ridge Rd. are located between 260 to 420 feet from the East Project parcel. In response to this question, Greenskies noted that due to the distance from/lack of proximity to the proposed project, no impact to these wells due to construction and installation of the facility are anticipated.

Greenskies reiterated that no blasting would be necessary for site preparation at either the East or West Project areas and limited excavation work will occur for stormwater basin construction.

The Council asked what distance from the project area would require protection of wells on adjacent properties and Greenskies' project engineer suggested 150 feet. As a follow-up to the hearing, Greenskies contacted a firm that conducts structural inspections, pre-blast and pre-construction surveys for commercial development projects. Greenskies was informed that the company typically only surveys wells that are within 100 feet of the limit of work at a site and, typically, only where blasting is required for construction. The representative's opinion was that it would be unnecessary to perform such a pre-construction survey if no blasting is involved and only pile driving/installation and earth moving equipment are to be used.

During the evidentiary hearing, Greenskies did not address the water quality issue with regard to wells. As noted in response to the Council's Interrogatory #17 of Set 1, the project Stormwater Report includes water quality management measures, an erosion and sediment control plan and a stormwater construction waste

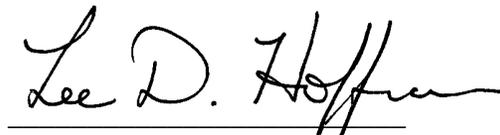
management plan. Water quality measures are included in the stormwater management design to maintain water quality both during construction and after completion of the project. A post-construction Operation and Maintenance Plan is included, as well, for maintenance of stormwater BMPs; it describes the required frequency of inspections and maintenance procedures to sustain long-term functionality. The waste management plan addresses all waste handling, staff training and spill prevention and control during construction.

CERTIFICATION

I hereby certify that on this 13th day of October 2020, the foregoing was delivered by electronic mail, in accordance with § 16-50j-12 of the Regulations of Connecticut State Agencies, to the following parties and intervenors of record:

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