

PETITION OF LSE HERCULES LLC ("LODESTAR ENERGY") FOR A DECLARATORY RULING THAT NO CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED IS REQUIRED FOR THE CONSTRUCTION, OPERATION, AND MAINTENANCE OF A 4 MW AC SOLAR PHOTOVOLTAIC FACILITY IN ENFIELD, CONNECTICUT

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- 1. Site Plans
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- 8. Carbon Debt Analysis

#### STATE OF CONNECTICUT SITING COUNCIL

PETITION OF LSE HERCULES LLC
FOR A DECLARATORY RULING
THAT NO CERTIFICATE OF ENVIRONMENTAL
COMPATIBILITY AND PUBLIC NEED IS
REQUIRED FOR THE CONSTRUCTION,
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A 4 MW AC SOLAR PHOTOVOLTAIC
FACILITY IN ENFIELD, CONNECTICUT

PETITION NO. \_\_\_\_

**January 5, 2023** 

## I. INTRODUCTION

Pursuant to Conn. Gen. Stat.§§ 4-176 and 16-50k(a) and Conn. Agencies Regs. § 16-50j-38 et seq., LSE Hercules LLC, a Connecticut limited liability company ("Lodestar" or "Petitioner") requests that the Connecticut Siting Council ("Council") approve by declaratory ruling the location, construction, operation, and maintenance of a solar photovoltaic facility capable of up to 4 MW AC, and associated equipment ("Project") consisting of approximately 13.6 acres of fenced in solar panels. The total project spans about 14.28 acres (inclusive of all of solar panels, transformers, electrical switchgear, monitoring equipment, and access roadways) to be constructed on three (3) parcels on the east side of Raffia Road (95, 105 and 113) under affiliated ownership that total approximately 51 acres (the "Site"). The Project interconnection and vehicular access route will extend easterly from Raffia Road, along the northern property boundary of the parcel identified as 105 Raffia Road. The southwestern portion of the Site is developed with farm buildings; much of the northern portion of the Site is cleared and in use for timber harvesting, processing and storage; an open field is in the northwestern portion; the eastern and southeastern portions contain undeveloped wooded areas.

Conn. Gen. Stat. § 16-50k(a) provides:

Notwithstanding the provisions of this chapter or title 16a, the council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling... the construction or location of any customer-side distributed resources Project or facility or grid-side distributed resources Project or facility with a capacity of not more than sixty-five megawatts, as long as such Project meets air and water quality standards of the Department of Energy and Environmental Protection.

As discussed in this petition, the Petitioner's goal is to design an environmentally compatible Project that produces the maximum amount of energy while avoiding and minimizing adverse environmental impacts. Based on the information presented herein, the Project will not have a substantial adverse environmental impact to the immediate and surrounding area.

Accordingly, the construction, operation, and maintenance of the Project satisfies the criteria of Conn. Gen. Stat. § 16-50k(a).

#### II. PETITIONER

Lodestar is a Connecticut-based limited liability company that develops renewable energy projects in Connecticut and across New England. Lodestar's principal place of business is located in Avon, Connecticut at 40 Tower Lane, Suite 201. Lodestar will lead the Project's development, construction and financing and will be the long-term owner and operator of the Project. Lodestar's team has worked with utilities, school districts, cities, housing authorities, counties, Fortune 500 companies, private businesses, commercial and governmental clients and many others to develop more than five hundred (500) MW of solar projects with a value of more than \$1 billion across North America including seven (7) operating projects in Connecticut, one (1) project under construction, approved by the Council (petition #1412) and one pending in front of the Council (petition #1544).

Please address all correspondence and/or communications regarding this Petition to:

Carrie Larson Ortolano, Esq. General Counsel LSE HERCULES LLC c/o Lodestar Energy LLC 40 Tower Lane, Suite 201 Avon, CT 06001 cortolano@lodestarenergy.com

Please also provide a copy of all such correspondence and/or communications to:

Jeffrey J. Macel LSE HERCULES LLC c/o Lodestar Energy LLC 40 Tower Lane, Suite 201 Avon, CT 06001 jmacel@lodestarenergy.com

## III. PROPOSED PROJECT

# A. PROJECT BACKGROUND

In developing this Project, the Petitioner has taken into account the State's energy policy and goals to "develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practicable extent." Conn. Gen. Stat. § 16a-35k. As a solar development, the proposed Project is considered a Class I renewable energy source under Conn. Gen. Stat. § 16-1(a)(26).

The project, upon approval, will participate in the statewide Shared Clean Energy Facility ("SCEF") Program. The SCEF Program was developed pursuant to Section 7(a)(1)(C) of Public Act 18-50, An Act Concerning Connecticut's Energy Future, codified as Section 16-244z(a)(1)(C) of the General Statutes of Connecticut. The SCEF Program seeks the deployment of new or incremental Class I renewable generation projects ranging in size from 100 to 5,000 kW (AC) for a 20-year term. Eligible projects are chosen through a competitive bidding procurement process each year, for a total of 6 years. The program capacity is up to 50 MW per year. The first procurement occurred in 2020.

SCEF plays an important role in the renewable energy goals by the State of Connecticut by providing the benefits of the clean renewable energy in the form of credits to low-income and

moderate income customers throughout the EDC service territory. This is the only community solar program available in Connecticut. Eligible subscribers will receive a credit on their monthly bill equal to \$0.025 multiplied by their average monthly usage for twenty years.

Average monthly usage will be calculated based on the historic average annual electric use at the premises over the last 12 months. For example, a low-income customer whose average monthly usage is 700 kW will receive a credit of \$17.50 per month for twenty years.

#### B. SITE SELECTION

Lodestar and its experienced development team have designed the proposed development on the Project Site to minimize or avoid any potential environmental impacts. Those criteria included:

- Location suitability (size, topography, and apparent lack of biological and hydrological conflicts in initial fatal flaw screening);
- Proximity of existing electrical infrastructure and the approval to interconnect to this infrastructure from EDC;
- Maximizing the site benefits, including utilizing disturbed areas and minimizing the tree removal required.

On December 7, 2022, Petitioner attended a pre-application meeting with the Department of Energy and Environmental Protection ("DEEP"). During this meeting, DEEP staff requested that Petitioner remove one sediment trap that it had shown on its site plans. Petitioner has removed the requested sediment trap on **Exhibit 1**. Prior to filing this petition, Lodestar representatives reached out to Town of Enfield officials and provided them with a copy of the site plans (Exhibit 1) and offered to meet with Town officials in the event that the Town would like to discuss the Project. To date, Lodestar has not received a response from the Town.

As noted above, the Project will be part of the SCEF program through Eversource.

During the site selection and evaluation process, Lodestar has retained the following consultants to assist in the evaluation and design of the Project:

- All Points Technology ("APT") civil engineering and stormwater design,
   environmental assessment
- Heritage Consultants historic and cultural resources assessment
- RBI Solar geotechnical and mechanical design services
- Electrical System Technologies "(EST") electrical engineering and testing
- ArcDesign interconnection design and medium voltage analysis

## C. PROPERTY DESCRIPTION

The Project will occupy ±14.28 acres in the north central portion of the Site. The electrical service interconnection line will extend to Raffia Road at the southwestern corner of the Project Area. Access from Raffia Road will be over existing access south of the interconnection line. The Site's existing topography ranges from approximately 50 feet above mean sea level ("AMSL") to 140 feet AMSL. Grades within the Project area generally slope downward from the north and west to the south and east, with ground elevations ranging from approximately 116 feet AMSL to 54 feet AMSL. The surrounding area includes residential and commercial development, with wooded areas to the east.

#### D. PROJECT DESCRIPTION

If this Project is approved by the Siting Council, Lodestar will proceed to construct, operate, and maintain the solar facility at the Project Site. Upon its completion, the solar electric energy generating facility (the "Facility") will consist of one (1) array with a total of 9,852 photovoltaic modules ("panels") and associated equipment. A ground-mounted racking system

will be used to secure the panels. The Project will also require one (1) electrical service interconnection that will extend from the existing Eversource distribution system along the west side of Raffia Road. The interconnection route will extend into the southwest corner of the Facility and utilize a series of six (6) new utility poles, one (1) each on the west and east sides of Raffia Road, and four (4) within the western portion of the Site. From there, connections will extend underground to the fence and into the Facility. Once complete, the Project will occupy approximately 13.28 acres of the Site with an additional  $\pm 1.0$  acres of improvements beyond the fenced limits, for a total Project Area of  $\pm 14.28$  acres. The six-foot security fence will be raised six (6) inches off the ground to allow for animal migration. Emergency access will be available via Raffia Road and will be designed in accordance with local requirements to accommodate emergency vehicles and fire trucks.

The PV panels will be mounted on a driven post racking system at a 25-degree fixed tilt facing south to maximize energy production. The maximum height of the panels will be approximately eleven (11) feet. The image below is an example of the type of panels and racking system that will be utilized.



Inverters will be mounted at intervals along the array, where small concrete pads will also be installed for transformers and switchgears. Construction of the Project will require 1.0 acres of tree clearing with a total limit of disturbance of 14.28 acres. At the end of the operational life of the Project, Lodestar will remove all equipment (e.g. racking system, panels, inverters, electrical collection system, equipment pads, etc.) from the Project Site, will recycle all recyclable materials and will dispose of all non-recyclable materials in accordance with applicable law.

Lodestar will install the Project in the area shown on the Site Plans in **Exhibit 1**. The image below is an example of a similar solar array field installed by the Petitioner.



The Project construction period is estimated to take approximately 6-9 months from issuance of all required permits, due to the required growing season between periods of disturbance. Subject to regulatory approval, Petitioner anticipates commencing construction in the spring of 2023 or upon approval from the Siting Council.

# Project Schedule:

Task	Approximate Duration
Mobilization and site preparation	2 weeks
Civil work: road construction,	4-8 weeks

tree clearing, grading and stormwater	
controls	
Site Stabilization	8-12 weeks
Racking, panel & electrical	8 weeks
installation	
Interconnection and medium	3 weeks
voltage	
System testing	1 week
Approvals & commissioning	2 weeks

# E. UTILITIES AND INTERCONNECTION

Lodestar proposes interconnecting the Project to an existing 13.2 kV overhead circuit that runs along Raffia on the south end of the Site, which is part of Eversource's distribution system. Lodestar has previously completed an interconnection application and has executed an impact study agreement for a study of the local grid capacity. Completion of the interconnection study and impact study has resulted in the execution of an interconnection services agreement, which will allow the Project to interconnect in the manner set forth above.

The interconnection will require the installation of six (6) new poles extending from the existing utility pole, located in the vicinity of the western end of the Site near the Raffia Road as depicted in **Exhibit 1**. Eversource will own and install a load break on the first new pole, a pole-

mounted recloser on the second new pole, and an overhead primary metering cluster on the third new pole. The point of common coupling (POCC) will be on the load side of the primary metering cluster. The extension will follow the path of the access road with poles installed adjacent to the access road on its east side. Lodestar will install a riser pole with a load break and fuse cutouts and will direct the interconnection circuit underground. Lodestar will install an underground 3-phase 13.2 kV line running approximately 100 feet from the point of common coupling/riser pole to the pad mounted switchgear at the Project area. This is the same process and configuration that has been used on all of Lodestar's previous projects across Connecticut.

## F. LOCAL INPUT & NOTICE

Lodestar has actively sought input and approval from the Town of Enfield on other solar projects, and remains committed to providing the Town with as much information regarding the Project as possible. In support of this goal, Lodestar has provided written notice to Town of Enfield staff regarding this Project ahead of this filing along with a copy of **Exhibit 1**.

Furthermore, it should be noted that the owner of the Site, Raffia Farms, is also the owner of much of the surrounding properties, including the commercial facilities immediately fronting Raffia Road. Lodestar has designed the project in conjunction with Raffia Farms and its principals.

Additionally, as required by the Regulations of Connecticut State Agencies § 16-50j-40(a), Lodestar provided notice of this petition to all required persons and appropriate municipal officials and governmental agencies. Attached as **Exhibits 5 and 6** are copies of the certifications of service to abutters and required officials respectively.

# IV. EQUIPMENT AND ENERGY PRODUCTION

The design of the Project focuses on maximizing the efficiency of the system based on existing conditions of the Project Site and local weather patterns while, at the same time, minimizing environmental impacts. The array layout was chosen to maximize the use of the open field portions of the Site. Within this layout, approximately 9,852 photovoltaic modules will be installed at a 25-degree fixed tilt with an azimuth of 180 degrees south. The racking configuration will mount two modules on top of one another in a longitudinal format achieving a maximum height of approximately eleven (11) feet. The photovoltaic arrays will feed thirty-two (32) Sungrow Model SG125HV inverters for a total output of approximately 4 MW AC.

Eversource reviewed the Project's designed output during their system impact study process. Eversource determined that the distribution circuit located along Raffia Road is suitable for the additional output from the Project. This incremental clean energy generation will improve grid resiliency in Connecticut by providing distributed energy where it is needed.

The operational life of the Project is based on the designed life expectancy of the equipment. The equipment for the Project consists of modules, racking and inverters. Photovoltaic modules and racking equipment have a designed life and warranty extending for twenty (20) years or greater. The inverters have a designed life and warranty of approximately ten (10) years or greater. Therefore, the anticipated operational life of the Project is twenty (20) plus years. At the end of the operational life of the Project, Lodestar will remove all equipment (e.g. racking system, panels, inverters, electrical collection system, etc.) from the Project Site, recycle all recyclable materials and dispose of all non-recyclable materials in accordance with applicable law. See **Exhibit 4.** 

In the event of a fault or power outage within the solar facility and/or the Eversource distribution circuit, the Project is required to be isolated from the distribution circuit within two (2) seconds of fault detection. The Project performs this isolation via a SEL 651R Pole Mounted Recloser which continually monitors for deviations in frequency, current and voltage outside of Eversource parameters. If a fault is detected, the switchgear automatically opens the circuit and restricts the Project from production. The equipment specifications for the proposed equipment are attached hereto as **Exhibit 2**.

## V. NO SUBSTANTIAL ENVIRONMENTAL IMPACTS

Conn. Gen. Stat. § 16-50k (a) provides that a Certificate is not required if an electric generating facility meets the air and water quality standards of the Department of Energy and Environmental Protection ("DEEP") and does not have a substantial adverse environmental effect. Lodestar engaged various environmental professionals to conduct a comprehensive environmental analysis. *See* Exhibit 7 (Environmental Assessment), which, includes information regarding the location of the Site, wetlands and vernal pools along with associated impacts, impacts to core forest and agricultural land, State Historic Preservation Office ("SHPO"), Natural Diversity Database (NDDB"), Federal Aviation Administration ("FAA") determinations, and noise analysis. Lodestar consulted with CT DEEP and other relevant agencies to evaluate potential environmental impacts. For these reasons and those addressed further below, this Project avoids, reduces, and mitigates potential environmental impacts.

# A. AIR QUALITY

The Project will not generate any emissions but rather, as demonstrated in **Exhibit 8**, the Project will contribute to carbon reduction. The Project will have no air emissions during operation and only very minor air emissions of regulated air pollutants and greenhouse gases

during construction from the conventional construction equipment used to install the Project. Lodestar will control any temporary emissions at the Project Site by enacting appropriate mitigation measures (e.g., water for dust control; avoid mass early morning vehicle startups, etc.).

Accordingly, any potential air effects produced by the Project's temporary construction activities will be *de minimus*. During operation, the Project will produce no regulated air pollutants or greenhouse gases (*e.g.*, PM, VOCs, GHG or Ozone). No air permit will be required for either construction or operation of the Project. The Project will reduce particulate disruption by replacing the existing gravel operations on the Site (which is causing significant disturbance) thereby improving air quality for the immediate surrounding area.

#### B. WILDLIFE RESOURCES

As detailed in the Environmental Assessment in Exhibit 7, the Project is not expected to have any negative impact on wildlife resources in the vicinity. The Petitioner's review request to the DEEP Natural Diversity Data Base resulted in no threatened, endangered or species of concern habitat identified within 1.5 miles of the Project Site. In addition, APT, on behalf of Petitioner, completed a determination of compliance with Section 7 of the Endangered Species Act of 1973 for the Project. In compliance with the USFWS criteria for assessing NLEB, the Project will not likely result in an adverse effect or incidental take of NLEB and does not require a permit from USFWS. A USFWS letter dated September 22, 2022 confirmed compliance at that time. However, on November 30, 2022, the USFWS published reclassification of the NLEB as endangered under the Endangered Species Act, effective January 30, 2023. It is anticipated that a revised consultation process will be implemented, and that additional review for the Project will conducted if required.

# C. WETLANDS AND WATERCOURSES

The Project will occupy the northwestern portion of the Site and will not include the previously developed southern extents of the Site, wetland systems including the Scantic River riparian corridor and a majority of the upland forest. There are no direct wetland impacts associated with the Project. Ground disturbing work for installation of perimeter fencing will occur within 66 feet of the delineated wetland. Tree clearing will be limited to areas along the forest edge, avoiding impacts to mature forested areas. There will be no tree clearing within one hundred (100) feet of the delineated wetland limits. However, in order to minimize shading impacts along the southern side of the Project, an area of select tree topping (removing tree tops more than 30 feet in height) north of the southern wetland area is proposed. The closest point to wetlands will be  $\pm 15$  feet at the far western end of the tree topping area, with  $\pm 40-50$  feet generally maintained. Most of this tree topping area is on relatively steep slopes; therefore, cutting would be done with machine support (e.g., crane, grapple saw) from level areas to avoid soil disturbance on the slopes. Due to the proximity of work activities to wetland resources, the Petitioner will implement a Resource Protection Program, which prescribes routine monitoring of sensitive areas, contractor awareness training, and environmental sensitivity signage.

In addition, as further discussed in **Exhibit 7**, two (2) cryptic vernal pools were identified on the Site. The Project will comply with both the BDPs and BMPs by avoiding degradation of the vernal pools' existing tier rating and their terrestrial habitat integrity. The Project will avoid impacts to the VPE of both pools. At the closest point, the Project is ±352 feet east of VP1 and ±205 feet southeast of VP2. The entirety of the Facility would be located in upland habitat consisting of existing maintained open field, developed areas currently utilized for material storage, and edge forest bordering the developed areas. Developed and open field terrestrial

habitats are considered sub-optimal for vernal pool indicator species due to the lack of mature forest cover and thick duff layer.

Construction activities would not be expected to result in an adverse impact to the Site's wetland resources based on the proposed protection measures outlined herein and as shown on **Exhibit 1**.

# D. STORMWATER MANAGEMENT

Petitioner completed a drainage analysis to review pre-and post-development runoff at the Site. Petitioner's summary of stormwater management is included in **Exhibit 7**. As can be seen from **Exhibit 7** and herein, construction and operation of the Project at the Site will fully comply with requirements of the Department and Energy and Environmental Protection ("DEEP") stormwater requirements, including Appendix I. The Project will have no adverse environmental effect on surface water quality.

On December 7, 2022, Petitioner participated in a pre-application meeting with the Department of Energy and Environmental Protection ("DEEP"). During this meeting, DEEP staff recommended that Petitioner remove one sediment trap that was shown on the then-site plans for the Project, which Petitioner has agreed to do and **Exhibit 1** includes these revised plans. Petitioner has not received any further comments from DEEP staff since December, 2022. Simultaneous with the filing of this Petition, Lodestar is filing its general permit application with DEEP stormwater.

#### E. FLOODPLAINS

The Project will not be located within a 100- or 500-year flood zone. Based upon the United States Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Map ("FIRM") covering the Site, the Site is located in an area designated as Zone X, which is defined

as an area of minimal flooding, typically above the 500-year flood level. Therefore, no special design considerations or precautions relative to flooding are required for the Project, and no impacts are anticipated to floodplain or downstream areas.

## F. DRINKING WATER RESOURCES

The Project is not anticipated to result in any adverse impact to either ground or surface water resources. The Site is not located in an Aquifer Protection Area.

Provided that erosion and sediment ("E&S") controls are installed and maintained in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control and stormwater is managed in accordance with the 2004 Connecticut Stormwater Quality Manual, no adverse effect on surface water quality is anticipated from development and operation of the Project.

#### G. HISTORIC RESOURCES

After initial consultation, the Connecticut State Historic Preservation Office ("SHPO") was consulted and has requested that a Phase 1B investigation be performed prior to construction in one area identified as possessing moderate to high potential to contain intact archaeological deposits. This area is in the northwestern corner, occupying about 2.6 acres. The remainder of the site holds no historic or cultural resources of significance. The Phase IB was recently completed by Heritage Consultants, which did not identify any cultural features, soil anomalies, or the recovery of significant cultural material was made within identified high potential area. Thus, it was determined that no impacts to significant cultural resources are anticipated by the proposed Project development. No archaeological testing or examination of the sensitivity area is recommended prior to the proposed construction. Petitioner has forwarded this report to the

SHPO and anticipates a finding of no impact to historic or cultural resources. Petitioner shall forward the response from SHPO when it is received.

# H. SCENIC VALUES

The Project is not expected to have any effect on scenic or recreational resources in the area of the Site. This is exactly the kind of project on unusable land both on and adjacent to the Enfield landfill that is being strongly encouraged through the SCEF program and RFP solicitation.

## I. PUBLIC HEALTH AND SAFETY

Lodestar is immensely concerned with safety. Overall, the Project will meet or exceed all health and safety requirements applicable for electric power generation. The Project would be designed to applicable industry, State and local codes and standards and will not pose a safety concern or create undue hazard to the public. The Project includes a proposed seven (7) foot high safety fence and locked gate (which is mandated by National Electric Code), which will limit access to authorized or emergency personnel only. Each employee working on the Project Site will:

- Receive required general and Site-specific health and safety training;
- Comply with all health and safety controls as directed by local, state, and federal requirements;
  - Understand and employ the Site health and safety plan;
- Know the location of local emergency care facilities, travel times, ingress and egress routes; and
  - Immediately report all unsafe conditions to the construction manager.

During construction, heavy equipment will be required to access the Project Site and higher levels of noise are anticipated; however, Lodestar will conduct all activities during normal working hours.

#### J. NOISE

Noise generated by this project will derive from the operation of (32) Sungrow SG125HV 125 kW inverters and (2) Eaton 2000kVA transformers. All proposed inverters are designed to be installed on a single equipment pad. According to the Sungrow equipment specification sheet, a single inverter has an acoustic noise output of 53.7dBA at 1 meter (3.28 ft) from the unit and a single transformer has an output of 61dBA at 1 meter (3.28ft). As stated in Regulations of Connecticut State Agencies Sec. 22a-69-3.5, noise received within residential zones shall not exceed 51dBA and noise received within commercial zones shall not exceed 66dBA in order to minimize disturbance to abutting and adjacent property owners.

The noise levels emitted from the inverters and transformers will be 30.4 dBA at Raffia Road (the closest property line abutting a non-common owner), which is 315 feet away from the origin of noise emanation, as calculated in **Exhibit 7, Appendix E**. The noise levels emitted from the inverters and transformers will be 37.1 dBA at the closest commercial building, which is 145 feet away from the origin of noise emanation, as calculated in **Exhibit 7, Appendix E**. Noise will be further reduced at farther property lines and buildings. Therefore, the proposed Project and its components comply with the applicable regulations, well below 51dBA for residential zone receptors and 66dBA for commercial zone receptors.

#### K. FAA

Pursuant to 14 CFR § 77.9 regarding the FAA Notice of Proposed Construction or Alteration, the FAA must be notified of "any construction or alteration that exceeds an imaginary surface extending outward and upward at a slope of 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of the airport." 14 CFR § 77.9(b)(l) The Project Site information has been submitted to the FAA for review and approval and a copy of the FAA determination of no hazard is attached hereto as **Exhibit 7, Appendix F.** 

## L. CARBON DEBT ANALYSIS

Lodestar has conducted an independent analysis of the Carbon Debt and Carbon Offsets of this Project. The proposed solar project area (including panels, electrical equipment, access roads, and related ground clearing) is designed to cover approximately 14.28 acres of an approximately 51-acre Project Site. All recyclable materials will be recycled and all non-recyclable materials will be disposed of in accordance with applicable law. About a 13.4-acre footprint of the proposed solar project is comprised of unforested terrain. In total, the project calls for 1.21 acres of tree clearing for placement of the array and shade mitigation in select areas within the vicinity of the array. Selective tree topping to minimize shading will take place within an additional 1.35-acre area. This topping will not materially impact the carbon footprint. There are demonstrable net benefits to the construction and operation of the solar Project which significantly offset the proposed 1.21 acres of clearing at the Site.

The proposed solar project is calculated to produce 6,492.5 MWh of energy during the first operational year. As shown in **Exhibit 8**, the energy generation of the proposed project results in a carbon offset of 4,601 MT CO2. Greenhouse gas equivalencies for this estimated offset include:

• 991 gasoline-powered passenger vehicles driven for one year;

- 5,090,723 pounds of coal burned; and
- 580 homes' energy use for one year.

The removed 1.21 forested acres results in a carbon debt of 1.0 MT CO2 in the first year. The net result of the project is a carbon offset of 4,600 MT CO2 in the first year. It will take less than two days to recover the loss of carbon sequestration by the 1.21 acres of cleared trees over 20 years.

## VI. PROJECT CONSTRUCTION AND MAINTENANCE

The construction of the Project will have an anticipated duration of approximately six to nine months, depending on the timing of applicable approvals, requiring the services of local electrical, civil and structural contractors. The initial phase of construction will be the improvement of the existing access road, as necessary, and clearing and grubbing of the stormwater controls will be installed and, as required by DEEP. Based on the existing schedule, construction activities would then commence in the spring of 2023 or upon approval. Next, steel foundations will be driven into the ground for the array. Steel racking components will be mounted on these foundations followed by the installation of photovoltaic modules. The electrical contractor will then install conductors from the photovoltaic modules to the inverters and then to two transformers, one on a single pad on the western edge of the array by the access road and another on the north western edge of the array. A single SEL 651R Pole Mounted Recloser will be mounted along the access road East of the Point of Common Coupling. In parallel, Eversource will install three (3) utility poles at the site access and provide utility interconnection to the site. The electrical contractor will then install a medium voltage circuit from the transformers to the SEL 651R Recloser to the Eversource point of common coupling. Construction schedule will be based on a six (6) day work week Monday through Saturday

between the hours of 7:00 AM and 5:00 PM but will be modified if required to comply with Town of Enfield requirements. As noted above, the Petitioner will utilize erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Erosion and Sedimentation Control throughout construction of the Project.

Once construction is complete and the Project is operational, the Project Site will be monitored remotely twenty-four (24) hours a day, seven (7) days a week through a data acquisition system (DAS). The DAS is capable of detecting weather, production from all equipment at the Project Site and safety concerns related to grid outages or faults. See **Exhibit 3.** An operations and maintenance team will perform detailed scheduled annual inspections of all equipment at the Project Site. In addition, the Petitioner's operations and maintenance team is on-call at all times in the event of unscheduled equipment maintenance or safety related concerns. Site vegetation is typically mowed three (3) times annually or as needed.

## VII. CONCLUSION

This Project is precisely the type of project that Connecticut legislature, regulatory agencies, environmental groups, utilities, and ratepayers have been promoting to support our renewable energy goals. The Project's location on property that is otherwise unusable due to its location on and around a landfill and active transfer station make it ideally suitable for adaptive reuse as a renewable energy generation project. The Project, a grid-side distributed resources Project with a capacity of less than 65 MW, is among the types of Projects that the Council can approve by declaratory ruling. Accordingly, and for the reasons stated herein, because the proposed Project will meet state air and water quality standards and will not have a substantial adverse effect on the environment, Petitioner respectfully requests that the Council approve the location and construction of the proposed Project by declaratory ruling.

# Respectfully submitted,

Petitioner
LSE HERCULES LLC
By: Lodestar Energy LLC, its Manager

By: <u>Carrie L. Ortolano</u>
Jeffrey J. Macel, Manager
Carrie Larson Ortolano, General Counsel
% Lodestar Energy LLC
40 Tower Lane, Suite 201
Avon, CT 06001