



June 12, 2023

**VIA ELECTRONIC DELIVERY**

Attorney Melanie Bachman  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

**RE:** LSE Horologium LLC (“Lodestar”) for a Declaratory Ruling that No Certificate of Environmental Compatibility and Public Need is Required for the Construction, Operation and Maintenance of Solar Photovoltaic Facility in Windham, Connecticut

Dear Attorney Bachman:

In connection with the above-captioned petition, please find the original and fifteen (15) copies of a petition for declaratory ruling filed by LSE Horologium LLC for property located at 00 Brick Top Lane and 163 North Windham Road, both in Windham, Connecticut (the “Site”) along with the filing fee check for \$625. Please let me know if you have any questions.

Sincerely,

*Carrie L. Ortolano*

Carrie L. Ortolano  
General Counsel

Enclosures



LODESTAR ENERGY

**PETITION OF LSE HOROLOGIUM 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 1.99 MW AC SOLAR PHOTOVOLTAIC  
FACILITY IN WINDHAM, CONNECTICUT**

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**STATE OF CONNECTICUT SITING COUNCIL**

**PETITION OF LSE HOROLOGIUM LLC  
FOR A DECLARATORY RULING  
THAT NO CERTIFICATE OF ENVIRONMENTAL  
COMPATIBILITY AND PUBLIC NEED IS  
REQUIRED FOR THE CONSTRUCTION,  
OPERATION, AND MAINTENANCE OF  
A 1.99 MW AC SOLAR PHOTOVOLTAIC  
FACILITY IN WINDHAM, CONNECTICUT**

**PETITION NO. \_\_\_\_\_**

**June 12, 2023**

**I. INTRODUCTION**

Pursuant to Conn. Gen. Stat. §§ 4-176 and 16-50k(a) and Conn. Agencies Regs. § 16-50j-38 *et seq.*, LSE Horologium 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 1.99 MW AC, and associated equipment (the “Project”) consisting of approximately 7.5 acres of fenced-in solar panels. The total site spans about 10.67 acres (inclusive of solar panels, transformers, electrical switchgear, monitoring equipment, and access roadways) (the “Site”) to be constructed on two (2) parcels on the west side of North Windham Road (00 Brick Top Lane and 163 North Windham Rd) in the Town of Windham, that total approximately 67.36 acres (the “Property”). The Site interconnection and vehicular access route will extend west from North Windham Road, as well as additional access via Brick Top Lane to the southwestern arrays. The eastern portion of the Property is an operating fruit farm as well as family household, and the western portion of the Property is open, undeveloped farm fields.

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 on 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 eight (8) operating projects in Connecticut and two approved by the Council and not yet constructed (petition #1557 and petition #1544).

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

Carrie Larson Ortolano, Esq.  
General Counsel  
LSE HOROLOGIUM LLC  
c/o Lodestar Energy LLC  
40 Tower Lane, Suite 201  
Avon, CT 06001  
[cortolano@lodestarenergy.com](mailto:cortolano@lodestarenergy.com)

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

Jeffrey J. Macel  
LSE HOROLOGIUM LLC  
c/o Lodestar Energy LLC  
40 Tower Lane, Suite 201  
Avon, CT 06001  
[jmacel@lodestarenergy.com](mailto: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 Non-Residential Renewable Energy Solutions (“NRES”) Program. The Non-Residential Solar Renewable Energy Solutions (NRES) program is a successor program to the Low Emission Renewable Energy Credit and Zero Emission Renewable Energy Credit (LREC/ZREC) and Virtual Net Metering (VNM) programs with the objectives to foster the sustained, orderly development of the state’s Class I renewable energy industry and to encourage the participation by customers in underserved and environmental justice communities, among others. Lodestar has been awarded seven contracts under the NRES Program, including the Project. NRES 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 on bill-credits to state, agricultural, or municipal customers, generating substantial savings for such entities over a 20-year term.

## ***B. SITE SELECTION***

Lodestar and its experienced development team have designed the proposed development on the 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 February 14, 2023, Petitioner attended a pre-application meeting with the Department of Energy and Environmental Protection (“DEEP”). During this meeting, DEEP staff did not have any follow-up requests.

As noted above, the Project will be part of the NRES program through Connecticut Light & Power Company d/b/a Eversource Energy (“Eversource”). During the site selection and evaluation process, Lodestar has retained the following consultants to assist in the evaluation and design of the Project:

- Civil 1 - civil engineering and stormwater design
- All-Points Technology (“APT”) – environmental assessment
- Heritage Consulting - archeological consulting
- APA Solar – geotechnical and mechanical design services
- Louth Callan Renewables “(LCR)” – electrical engineering and testing
- ArcDesign – interconnection design and medium voltage analysis

## ***C. PROPERTY DESCRIPTION***



The Project will occupy ±10.67 acres across two separate parcels. Petitioner has the rights to lease portions of each parcel. The electrical service interconnection line will extend west from North Windham Road and then diverge into two lines at the center of the Site to access both the southwestern and northern arrays. The two southwestern arrays are referred to as Arrays A and B on the Site Plan in **Exhibit 1**. The two northern arrays are referred to as Arrays C1 and C2 on the Site Plan in **Exhibit 1**. There will also be a second vehicular access road extending from Brick Top Lane to the southwestern arrays (A and B). The Property's existing topography ranges from approximately 228 feet above mean sea level ("AMSL") to 271 feet AMSL. Grades within the Site area generally slope west to east for area A, southwest to northeast for area B, and east to west for areas C1 and C2, with ground elevations ranging from approximately 236 feet AMSL to 254 feet AMSL for area A, 233.5 feet AMSL to 222.5 feet AMSL for area B, and 234 feet AMSL to 268 feet AMSL for area C. The surrounding area includes a mix of farming and residential development.

***D. PROJECT DESCRIPTION***

If this Project is approved by the Council, Lodestar will proceed to construct, operate, and maintain the solar facility at the Site. Upon its completion, the solar electric energy generating facility (the "Facility") will consist of four (4) arrays with a total of 4,600 photovoltaic modules ("panels") and associated equipment. A ground-mounted fixed-tilt 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 North Windham Road. The Facility will utilize a series of four (4) new utility poles off North Windham Road extending west to the center of the Site. From there, the connection will branch off, running underground to the central equipment pads and northern arrays, then utilizing seven (7)

customer-owned poles with overhead wires to connect to the southwestern arrays. Overhead wires are being utilized for the southwestern arrays to avoid any impacts to the wetlands in the vicinity as discussed in more detail in **Exhibit 7**. Construction of the Project will require 0.5 acres of tree clearing. Once complete, the Facility will occupy approximately 7.5 acres inside the fence, with an additional 3.17 acres of improvements beyond the fenced limits, for a total Project area of ±10.67 acres. The seven-foot security fence will be raised six (6) inches off the ground to allow for animal migration. Emergency access will be available via North Windham Road and Brick Top Lane and will be designed in accordance with local requirements to accommodate emergency vehicles and fire trucks.

The photovoltaic 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 the centralized pad location, where small concrete pads will also be installed for transformers and switchgear. 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 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 fall of 2023 or upon approval from the Council.

Project Schedule:

<b>Task</b>	<b>Approximate Duration</b>
Mobilization and Site preparation	2 weeks

Civil work: road construction, tree clearing, grading and stormwater controls	4-8 weeks
Site Stabilization	8-12 weeks
Racking, panel & electrical installation	8 weeks
Interconnection and medium voltage	3 weeks
System testing	1 week
Approvals & commissioning	2 weeks

***E. UTILITIES AND INTERCONNECTION***

Lodestar proposes interconnecting the Project to an existing 23 kV overhead circuit that runs along North Windham Road on the eastern edge of the Property, which is part of Eversource’s distribution system. Lodestar 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 four (4) new poles extending from the existing utility pole, located in the vicinity of the eastern end of the Site near North Windham

Road as depicted in **Exhibit 1**. Eversource will own and install an angle pole for 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 south side. Lodestar will install a single riser pole with a load break and fuse cutouts and will direct the interconnection circuit underground. Lodestar will install an underground 3-phase 23 kV line running approximately 200 feet from the point of common coupling/riser pole to the pad mounted switchgear at the Site 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 from the Town of Windham and remains committed to providing the Town with as much information regarding the Project as possible. In support of this goal, Lodestar attended a joint informational meeting of the Town of Windham's Inland Wetland Commission and Planning Commission on March 9, 2023, to review and discuss the Project. Lodestar received questions from members of both commissions along with members of the public. As part of that meeting, Lodestar committed to including native milkweed as part of its seed mix in support of monarch butterflies and other key pollinators. The Inland Wetland Commission members raised questions about stormwater runoff and how that might impact surrounding wetlands and Potash Brook. Lodestar's engineer and wetlands scientist confirmed that the Project has been designed in accordance with DEEP stormwater requirements to avoid runoff as well as minimize impacts to any wetlands resources. This meeting was also open to the

public and Lodestar fielded several questions from members of the public. Lodestar has provided written notice to Town of Windham staff regarding this project ahead of this filing.

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 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 4,600 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 twelve (12) Solectria XGI 1500-166/166 inverters for a total output of approximately 1.99 MW AC.

Eversource reviewed the Project's designed output during their system impact study process. Eversource determined that the distribution circuit located along North Windham 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 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 Pad Mounted Recloser which continually monitors for deviations in frequency, current and voltage outside of Eversource parameters. If a fault is detected, the recloser 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, State Historic Preservation Office (“SHPO”), Natural Diversity Database (NDDDB”), 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 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 minimis*. 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.

**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 of the most recent CT DEEP Natural Diversity Database mapping resulted in no threatened, endangered or species of special concern habitat identified within the Property. In addition, APT, on behalf of Petitioner, completed a determination of compliance with Section 7 of the Endangered Species Act of 1973 ("ESA") for the Project. Effective March 31, the NLEB is classified as Endangered under the ESA. APT reviewed the new NLEB Determination Key for this Project and determined 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 May 10, 2023 confirmed the “No Effect” determination.

### ***C. WETLANDS AND WATERCOURSES***

The Site will occupy the southwestern and northern portions of the Property and will minimize impacts to wetland systems including Potash Brook and associated bordering wetlands occupying most of the central areas of the Property, and of the forested wetland areas in the northwestern portion of the Property.

There are two direct wetland impacts associated with the Project where access to the southwestern arrays will require crossing of two wetland features consisting of drainage ditches that act as intermittent watercourse features. The southernmost crossing consists of an existing farm road crossing that is in disrepair and will be improved. Both crossings will utilize culverts to maintain connection of the wetlands draining from the west to Potash Brook to the east and are designed to be oversized to meet the U.S. Army Corps of Engineers natural stream crossing standards providing for wildlife passage. Ground disturbing work for the remainder of installation of the access roads will maintain a minimum 10-foot buffer to the delineated wetlands. Tree clearing will be limited to areas along the forest edge, avoiding impacts to mature forested areas. Array areas will maintain a minimum 25-foot buffer to wetland resource areas that are primarily upgradient or cross-gradient of the Project. A buffer of  $\pm 50$  feet will generally be maintained in all other areas draining downslope to wetlands. 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 awareness signage.

Potash Brook runs north-south through the Property. In order to avoid direct impacts to Potash Brook, secondary access has been designed off of Brick Top Lane, mitigating the need for a vehicular crossing of Potash Brook. Overhead utility lines are proposed to span Potash Brook, thus avoiding any direct or indirect impacts to Potash Brook or its bordering wetlands.

In addition, as further discussed in **Exhibit 7**, five (5) cryptic vernal pools were identified on the Property. The Project will comply with both the Best Development Practices (“BDPs”) and Best Management Practices (“BMPs”) by avoiding degradation of the vernal pools’ existing tier rating and their terrestrial habitat integrity. The Project will maintain a minimum buffer of 100 feet to all vernal pools. The entire Facility would be located in upland habitat consisting of existing maintained open field. Developed and open field terrestrial habitats are considered suboptimal for vernal pool indicator species.

Construction activities would not be expected to result in an adverse impact to the Property’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. As can be seen from the site plans and environmental assessment, 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 February 14, 2023, Petitioner participated in a pre-application meeting with the Department of Energy and Environmental Protection (“DEEP”). During this meeting, DEEP staff did not have any requests and confirmed that the Project was designed in accordance with

the Appendix I requirements. Petitioner has not received any further comments from DEEP staff since February 2023. Simultaneous with the filing of this Petition, Lodestar is filing its general permit application with DEEP's stormwater division.

***E. FLOODPLAINS***

The Project generally avoids impacts to the 100- or 500-year flood zone. Based upon the United States Federal Emergency Management Agency ("FEMA") Flood Insurance Rate Maps ("FIRMs") covering the Property, 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, and Zone A, areas that have a 1 percent annual chance of flooding (100-year flood zone). Site development within Zone A is limited to the installation of two (2) utility poles for the utility crossing of Potash Brook. That installation will result in a *de minimis* loss in flood storage volume. 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, and no public water system serves the area surrounding the Site. Neighboring developed properties are presumably served by private wells. Typical construction techniques for installation of the Facility do not require blasting or other similar measures. Construction and operation of the Facility should have no impact on groundwater resources.

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***

The Connecticut State Historic Preservation Office (“SHPO”) was consulted and has requested that a Phase 1B investigation be performed prior to construction in those portions of the Site identified as possessing moderate to high potential to contain intact archaeological deposits. The Phase 1B investigation has been completed and Lodestar has received back a determination of no effect from SHPO, included in Exhibit 7.

***H. SCENIC VALUES***

The Project is not expected to have any effect on scenic or recreational resources in the area of the Site.

***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 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 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 twelve (12) Solectria XGI 1500-166/166kW inverters and one (1) Maddox 2250kVA transformer. All proposed inverters and the transformer are designed to be installed on a single equipment pad. According to the Solectria equipment specifications, a single inverter has an acoustic noise output of 73dBA at 1 meter (3.28 ft) from the unit; meanwhile, a single Maddox transformer has an output of 62 dBA 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 in order to minimize disturbance to abutting and adjacent property owners.

The noise levels emitted from the inverters and transformer will be 44.7 dBA at North Windham Road, which is 300ft away from the origin of noise emanation, as calculated in **Exhibit 7, Appendix D**. 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.

#### ***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)(1) The 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 E.**

***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 of disturbance, also referred to as “the Site,” (including panels, electrical equipment, access roads, and related ground clearing) is designed to cover approximately 10.67 acres of the 67.36-acre Property. All recyclable materials will be recycled, and all non-recyclable materials will be disposed of in accordance with applicable law. About a 10.17-acre footprint of the proposed solar Project consists of unforested terrain. In total, the project calls for 0.5 acres of tree clearing for placement of the access road and shade mitigation in select areas within the vicinity of the arrays. There are demonstrable net benefits to the construction and operation of the solar Project which significantly offset the proposed 0.5 acres of clearing. The removed 0.5 forested acres results in a carbon debt of 0.4 MT CO<sub>2</sub> in the first year. The net result of the project is a carbon offset of 2,152.6 MT CO<sub>2</sub> in the first year. It will take less than two days to recover the loss of carbon sequestration by the 0.5 acres of cleared trees with benefits accruing over 20 years.

The proposed solar Project is calculated to produce 3,038 MWh of energy during the first operational year. As shown in **Exhibit 8**, the energy generation of the proposed Project results in an annual carbon offset of 2,153 MT CO<sub>2</sub>. Greenhouse gas equivalencies for this estimated offset include:

- 479 gasoline-powered passenger vehicles driven for one year;

- 2,411,665 pounds of coal burned; and
- 271 homes' energy use for one year.

## **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 include the creation of the two access roads, clearing and grubbing of the stormwater controls and, as required by DEEP, construction activities will not commence until full site stabilization has occurred. Based on the existing schedule, construction activities would then commence in the Fall of 2023 or upon approval. Next, steel foundations will be driven into the ground for the arrays. 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 the transformer on a single pad to the east of the arrays. A single SEL 651R Pad Mounted Recloser will be installed on the equipment pad area. A pole mounted GOAB 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 GOAB to the Eversource point of common coupling. The 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 Windham 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 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 Site, and safety concerns related to possible issues on site, grid outages, or faults. See **Exhibit 3**. An operations and maintenance team will perform detailed scheduled annual inspections of all equipment at the Site to make sure equipment is operating safely and reliably. 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 State's renewable energy goals. 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 HOROLOGIUM LLC

By: Lodestar Energy LLC, its Manager

By: *Carrie L. Ortolano*

Jeffrey J. Macel, Manager

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