

**PETITION OF WINDHAM SOLAR LLC**

**FOR A DECLARATORY RULING FOR THE CONSTRUCTION  
AND OPERATION OF FIVE 1.0 MEGAWATT AND ONE 1.1 MW  
SOLAR PHOTOVOLTAICRENEWABLE ENERGY GENERATING  
FACILITIES LOCATED AT 1 WILLIAMS CROSSING ROAD,  
LEBANON, CONNECTICUT**

**JANUARY 23, 2015**

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## I. INTRODUCTION

Pursuant to Section 16-50k(a) and Section 4-176(a) of the Connecticut General Statutes (“CGS”) and Section 16-50j-38 *et seq.* of the Regulations of Connecticut State Agencies (“RCSA”), Windham Solar LLC (the “Petitioner”) requests that the Connecticut Siting Council (the “Council”) issue a declaratory ruling approving the construction and operation of the Petitioner’s five (5) 1.0 megawatt (“MW”) and one (1) 1.1MW solar electric generating facilities (the “Facilities”), located on industrial-zoned land at 1 Williams Crossing Road in Lebanon, Connecticut (the “Site”).

CGS § 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 . . . (B) the construction or location of . . . any customer-side distributed resources project or facility . . . with a capacity of not more than sixty-five megawatts, as long as such project meets the air and water quality standards of the Department of Energy and Environmental Protection . . .”

Pursuant to CGS § 16-50k(a), the Council should approve the Facilities by declaratory ruling since they are customer-side distributed resources facilities under 65 MW in capacity that comply with the air and water quality standards of the Connecticut Department of Energy and Environmental Protection (“DEEP”). Further, CGS § 16a-35k establishes the State’s energy policies, including the goal to “develop and utilize renewable energy resources, such as solar and wind energy, to the maximum extent possible.” As demonstrated from the information included in this petition, the Facilities will result in no air emissions, have minimal impacts that comply with DEEP’s air and water quality standards, and will have no substantial adverse environmental effects. The Facilities will further the State of Connecticut’s energy policy by developing renewable energy resources. The Facilities also further the State of Connecticut’s goals announced in the 2013 Comprehensive Energy Strategy (the “CES”). “Connecticut has suffered

from some of the country’s worst air pollution, in part due to its geographic location downwind of out-of-state coal- and oil-burning power plants. A cleaner energy future requires support for electricity generation from low- or no-emission sources.”<sup>1</sup> The Facilities will be an important part of that cleaner energy future. The CES also emphasizes the necessity for the “development of more distributed generation”, which the Facilities are.<sup>2</sup>

**II. PETITIONER**

Windham Solar LLC was organized in 2014 by New-York based Allco Renewable Energy Limited for the purposes of developing, constructing, and operating the Facilities in Lebanon, Connecticut. Project development activities are supported by Ecos Energy LLC (“Ecos”). Ecos, based in Minneapolis, MN, has developed and managed the construction/operation of 28 MW of solar PV generation spread over 17 project sites nationwide. Both the Petitioner and Ecos have the knowledge and experience to develop and implement the Facilities in a way that maximizes benefits to the citizens of Connecticut, with no significant adverse impacts.

Correspondence and/or communications regarding this petition should be addressed to:

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<sup>1</sup> See, 2013 Comprehensive Energy Strategy for Connecticut, p. 70, available at [http://www.ct.gov/deep/lib/deep/energy/cep/2013\\_ces\\_final.pdf](http://www.ct.gov/deep/lib/deep/energy/cep/2013_ces_final.pdf)

<sup>2</sup> Id. at p. 71.

### **III. DESCRIPTION OF PROPOSED PROJECT**

The State of Connecticut has recognized the benefits of local renewable energy development and implemented renewable portfolio standard (“RPS”) to encourage the development of renewable energy resources not only to lessen the country’s dependence on foreign oil but also to reduce the environmental impacts associated with fossil fuel sources. The RPS requires that by 2020, twenty percent of electricity generation must be derived from Class I renewable energy sources such as solar PV.

The Facilities will play an important role in the State’s renewable energy goals. The Facilities will provide a significant source of clean, renewable energy produced locally. The Facilities will produce 100 percent clean, renewable electricity with zero emissions will result in significant environmental benefits. Further, the Facilities will act as a peak reducer by producing energy during the electric distribution companies’ peak load hours. The project will therefore help moderate peak load requirements and reduce the demand on transmission lines.

#### **A. Site Selection**

The Site was selected based upon a number of factors including:

1. Site Suitability (industrial zoning—the Facilities are a permitted use on the Property per the zoning code of the Town of Lebanon, CT, solar resource, soil, and topographic characteristics that allow for efficient facility design and construction),
2. Site Resources (lack of sensitive natural resources onsite—the Site contains no rare, protected, or sensitive natural resources that would be adversely impacted by the Facilities’ footprint.), and

3. Proximity to electrical infrastructure and roadways—the Site has direct public road access and is directly adjacent to a CL&P electric distribution line.

## **B. Site Description**

The Site is located at 1 Williams Crossing Road in Lebanon, CT. The Site is a 44.58 acre parcel that is zoned ‘I – Light Industry.’ 5.56 acres of the Site actually sit within the Town of Franklin; a boundary line between the Towns of Lebanon and Franklin crosses the site. These 5.56 acres will not be used for the Facilities; the Facilities’ footprint will utilize the 39.02 acre portion within the Town of Lebanon. The Site contains two residential structures and a large outbuilding that had formerly been used a chicken coop for a livestock operation. No other structures exist on the Property. Those structures will remain on the Site. Of the Site’s 39.02 acres, approximately 3.1 acres surround the residence and outbuilding structures. Approximately 7.52 acres of the Site have been previously cleared and tilled for agricultural use, although these acres currently lie fallow. Approximately 5.12 acres of the Site consist of uncleared cedar/poplar timber. Approximately 2.96 acres of the Site have been delineated as low-quality wetlands. This leaves approximately 20.32 acres of the Site that have been clear-cut sometime within the past 10 years, but have not been developed further for any kind of use. Topography on the Site undulates while carrying a slight overall slope towards the southeast. Adjacent parcels are currently being used for uncleared vacant land, cleared vacant land, light agriculture, and a small number of residences to the north of the Site. An ALTA Survey showing the Site’s general location, characteristics, and boundaries can be found on Sheet 2 of Exhibit A (Facilities Site Plan). Exhibit B (Soils and Wetlands Map) shows an aerial view of the Site. Exhibit C (Facilities Visual Simulations) contains photographs of the Site taken from ground level.

### **C. Project Description**

The Facilities are renewable energy generation facilities that will use PV solar modules to convert solar radiation to electricity. They will be located on the customer side of the CL&P meter. Each Facility will consist of approximately 3,400 solar modules. The solar modules will be supported above the ground by a steel and aluminum fixed-tilt racking system. The modules will be oriented directly due south at a tilt angle of approximately 30 degrees. Solar modules will be mounted to the racking system in portrait orientation, with two rows of modules per rack. The racking system will support the modules to maintain a ground clearance of at least 18 inches. The racking system will be supported above the ground by a series of steel h-beams that are direct-driven into the ground, requiring no concrete foundations. The length of h-beam embedment will be determined following a geotechnical and structural analysis; 6 to 8 feet embedment is typical. The solar modules will be wired in series strings of 14 modules per string. Strings will be connected to 24 kilowatt (kW) solar string inverters; 6 strings per inverter. The inverters alter the DC output of the solar modules to alternating current (“AC”). The string inverters will be mounted on the back side of the solar module racking and will be distributed evenly throughout the solar array. The string inverters include fused string inputs and fused master disconnects on both the AC and DC sides. AC output from each string inverter will be run to an intermediate panelboard. Each panelboard will collect the input of 12 string inverters into a single AC output. The panelboards include breaker protection on both inputs and outputs. Panelboard outputs will be routed to medium-voltage transformer pads. At these pads, a main switchboard will collect the inputs of multiple panelboards into a single output for each Facility. The main switchboards will include breaker protection on both inputs and outputs. Output from each switchboard will feed a medium-voltage step-up transformer that will increase the voltage

of the output from 480 volts (“V”) to 23 kilovolts (“kV”). Output from each transformer will be routed to an ‘interconnection pad’ area where the generated electricity will be metered, pass through protective breaker relays and switches, and ultimately connect to CL&P overhead electric distribution circuit along Williams Crossing Road. This interconnection pad area will also house a suite of monitoring and communications equipment, as well as controls for the Facilities’ video security system. In addition to the solar energy generating equipment described above, the Facilities will include a 20-foot wide gravel driveway for operations, maintenance, and emergency access. Also, the entirety of the Site footprint will be surrounded by a 7.5 foot tall chain-link security fence. The fence will be black-vinyl coated and will leave a half-foot gap at the bottom for small wildlife travel. Access to the Site will be via a padlocked gate in the perimeter fence at the location of the Facilities’ access driveway off of Williams Crossing Road. A series of infrared, motion-sensitive video security cameras will be installed around and within the perimeter fence. No night-time lighting of any kind is proposed for the Facilities. After construction, the ground area within the Facilities’ footprint will be hydro-seeded with an architect-reviewed seed mix that offers low/slow growing groundcover vegetation that is drought-tolerant and native. A double row of evergreen shrubs will be planted at locations along the Facilities’ northern and western perimeter to provide visual screening. The Facilities’ footprint area will encompass 22.3 acres of the Site, all within the Facilities’ perimeter fence line. All elements of Facilities’ design, construction, operation, and maintenance will be performed in accordance with all applicable local, state, and national rules, guidelines, and regulations. The particulars of each Facility’s footprint design and equipment locations can be seen in detail in Exhibit A.

#### **D. Interconnection**

Each Facility is proposed to be interconnected to the CL&P electric distribution grid at an existing 23 kV overhead electric line located along Williams Crossing Road. The interconnection would be in accordance with CL&P technical standards and State of Connecticut, ISO-New England (“ISO-NE”), and the Federal Energy Regulatory Commission (“FERC”) requirements. The interconnection will consist of CL&P-specified metering and protection (breakers/switches/relays) to be installed for each Facility. The interconnection will be made pursuant to CL&P’s Guidelines for Generator Interconnection. As part of the interconnection process, the Petitioner has successfully completed a utility sponsored Scoping Meeting, an Application Request, and an Application review and is now completing a System Impact Study (“SIS”) with CL&P. The SIS is expected to include:

1. Circuit Modeling
2. Power Flow Analysis
3. Voltage Impact Study
4. Thermal Impact Study
5. Short Circuit Study
6. Distribution Requirement Interruption Ratings
7. Protection Coordination
8. Transfer Trip Requirements
9. Protection Schemes
10. Costs of Required Network Upgrades

Upon completion of the SIS, the Petitioner will review the requirements for interconnection and enter into an Interconnection Agreement (“IA”) with CL&P for each Facility.

#### **E. Service Life and Capacity Factor**

Each Facility’s equipment has an expected useful life of approximately 45 years, and the Petitioner would plan to operate each Facility until the equipment has exhausted its useful life. According to the 2012 Integrated Resources Plan for Connecticut, PV solar has an expected capacity factor of approximately 13 percent.

#### **IV. PROJECT BENEFITS**

Projects that are “necessary for the reliability of the electric power supply of the state or for a competitive [electric market]” present a clear public benefit. Conn. Gen. Stat. § 16-50p(c)(1). Each Facility provides exactly the benefit contemplated in the statute and more, as it will generate much of its power at peak times. By providing electricity when there is high demand, each Facility will help stabilize the electrical grid.

Additionally, there exists a clear public need for renewable projects and undertaking them supports the State’s energy policies as codified in Conn. Gen. Stat. § 16a-35k, expressing the legislature’s goal to “develop and utilize renewable energy resources, such as solar and wind energy, to the maximum practicable extent.” Solar facilities are considered Class I renewable energy sources under General Statutes § 16-1(a)(26). Over the life of each Facility, each Facility will contribute to a significant reduction in NO<sub>x</sub>, SO<sub>x</sub>, PM, CO and VOC emissions as compared to combustion-based generation. These figures are further outlined *infra*. Additionally, each Facility will deliver its generated power ‘locally’ by injecting that power into a distribution-level electric circuit for use by nearby homes and business. This decreases the amount of power that will need to be brought into the area from further away, lightening the load on utility transmission infrastructure and increasing local grid reliability.

Each Facility will also help the State move closer to meeting its renewable portfolio standards. Further, providing increased renewable capacity helps further distance Connecticut from foreign energy supply and helps support energy independence, a local and national goal. Concerning Project labor, the Company fully intends to employ local labor in completing the Project wherever practical. As part of larger state, national, and global strategies, reductions in greenhouse gas emissions from this Project will have long-term secondary biological, social, and

economic benefits. Similarly, the advancement of renewable resources at a distributed level contribute to our Nation's desire for energy independence and reduces our dependency upon foreign countries where geo-political issues may introduce issues with the reliability of their fuel supply. The project will also hire local labor, as practical, and be a source of increased revenue for local businesses during construction.

## **V. LOCAL INPUT & NOTICE**

The Petitioner has worked with Town of Lebanon ("the Town") officials and staff to see that the Facilities are sited and designed so as to be a positive addition to the community by complying with local siting requirements. Although the Council holds planning jurisdiction over facilities such as the Facilities, the Petitioner has also elected to go through the steps of the Town's planning process as if the Town held that jurisdiction. This was done in an attempt to make sure that the Facilities were sited and designed in accordance with Town standards and requirements. Ultimately, the Town's Planning & Zoning Commission voted to grant 'Site Plan Approval' to the project. Site Plan Review would be the Town's final step of approval for a facility such as each Facility. A list of activities with the Town includes:

1. The Site is zoned "I – Light Industry." A solar electricity generation facility is a permitted use in this zoning classification. Therefore, a use permit (such as a conditional use permit) would not be required for the Facilities by the Town.
2. The next step in the Town's planning review process is Site Plan Review by the Planning & Zoning Commission (the "Commission"). The Petitioner submitted an application for Site Plan Review on December 9, 2014.

3. The Petitioner presented the plan to the Commission at their December 15, 2014 meeting. The Petitioner answered many questions from the Commission, and also took away some requests for modifications to the Facilities' site plan. A vote for approval was tabled until the Commission's January 12, 2015 meeting.
4. An updated site plan was submitted back to Town staff for review on January 7, 2015.
5. On January 9, 2015, the Petitioner received a letter from the Town engineer with some additional requested/recommended adjustments for the Facilities' site plan.
6. The Petitioner presented the revised site plan to the Commission at their January 12, 2015 meeting. The Commission voted to grant Site Plan Approval for the Facilities, with the condition that the Petitioner implement the recommendations in the Town engineer's letter dated January 9, 2015. The Petitioner has also received a letter from the Town confirming their approval of the Facilities. The Petitioner intends to implement these recommendations, and the Facilities site plan shown in Exhibit A has been updated since the January 12 to reflect this. Copies of the Town letters are included as Exhibit D (Communications from the Town of Lebanon).

If not for the Council's jurisdiction, the Petitioner would be able to apply immediately for a building permit to construct and operate each Facility. As soon as it is received, the Petitioner will forward to the Council a copy of the Town's official notice of site plan approval. In addition to working directly with the Town, the Petitioner provided notice of this petition to all

persons and appropriate municipal officials and government agencies to whom notice is required pursuant to CGS § 16-50j-40(a). For details, reference Exhibit E (Notice Service List).

## **VI. POTENTIAL ENVIRONMENTAL EFFECTS**

The Petitioner has evaluated the Site and taken inventory of the resources available onsite. The Facilities' have been designed so as to be compatible with the existing environment while avoiding, reducing, and mitigating potential environmental impacts.

### **A. Natural Environment and Ecological Balance.**

The Site has already been previously significantly disturbed by human activities, and the area selected for the Facilities' footprint is not an area with any sensitive, rare, or protected natural resources. The construction and operation of the Facilities will not significantly alter the natural resource characteristics of the area that has already been previously cleared and altered. The majority of the area needed to construct the Facilities is already clear of any tree/timber vegetation, although there are a small number of poplar/cedar/ash trees that would be cleared before construction. These removals are detailed on Sheets 5 and 6 of Exhibit A. Minimal grading will be required for each Facility, as the solar racking equipment is designed to follow the existing contour of the Site's topography. The minimal grading will be performed to create the access driveway and transformer equipment pads. These areas would be less than 1 acre in total. A Phase I Environmental Site Assessment ("ESA") was performed at the Site. The ESA did not recognize any environmental conditions that warranted additional investigation or action in the area of the Site encompassed by the Facilities' footprint. For details, see Exhibit F (Phase I Environmental Site Assessment). No hazardous substances or materials will be used or stored onsite during construction or operation.

## **B. Public Health and Safety**

Overall, each Facility will meet or exceed all health and safety requirements applicable for electric power generation. During construction, each employee working onsite will:

- 1) Receive required general and site specific health and safety training.
- 2) Comply with all health and safety controls as directed by local and state requirements.
  - i) Understand and employ the site health and safety plan while on the job site.
- 3) Know the location of local emergency care facilities, travel times, ingress and egress routes.
- 4) Report all unsafe conditions to the construction managers.

During construction, heavy equipment, delivery trucks, and water trucks for dust suppression will be required to access the Site during normal weekday working hours. It is anticipated that approximately 16 to 20 construction vehicles would make daily trips onto the Site during the approximately 4 month construction period. During operation, construction noise may be audible offsite. Therefore, all work will be conducted during normal weekday working hours, and it is not anticipated that any levels of construction noise will exceed state or local noise limit standards. During operation, the Facilities will not present a health or safety hazard to anyone located offsite. The Facilities will generate no offsite noise, harmful glare, vibrations, or damaging emissions of any kind. PV solar is a long-proven safe and benign generation technology. Authorized personnel visiting the Facilities during operation will be fully licensed and properly trained on how to navigate a solar project safely and how to quickly respond in the event of an emergency. Once operational, the Petitioner will work with local fire and law enforcement officials to ensure they have the appropriate knowledge and access to provide their services to the Facilities if necessary.

### **C. Air Quality**

Overall, the Facilities will have minor air emissions of regulated air pollutants and greenhouse gases during construction and no air permit will be required. During construction, any air emission effects will be temporary and will be controlled by enacting appropriate mitigation measures (e.g. water for dust control, avoiding mass early morning vehicle startups, etc.). Accordingly, any potential air effects as a result of the Facilities' construction activities will be negligible. During operation, the Facilities will not produce air emissions of regulated air pollutants or greenhouse gases (e., PM10, PM2.5, VOCs, GHG, or Ozone). Thus, no air permit will be required. Moreover, over 45 years, the Facilities will result in the offset/elimination of approximately 352,000 tons of CO<sub>2</sub> equivalent, which is equal to 67,000 vehicles off the road, 115,000 tons of avoided landfill waste, 72 tons of NO<sub>x</sub> emissions avoided, or 180 tons of SO<sub>2</sub> emissions avoided. The Facilities will have a net benefit effect on air quality.

### **D. Scenic Values and Visual Renderings**

Once installed, the Facilities will be minimally visible to neighboring property owners and only briefly visible to drivers and passengers traveling on Williams Crossing Road and Windham Road. The solar equipment being installed has a low profile; less than 9 feet in height, with the exception of a few taller poles for video cameras and meteorological equipment. At a majority of locations around the Site boundary, existing thick vegetation and stone walls will completely block views of the Facilities from offsite. The vegetation and stone wall features at the Site boundaries are not planned for removal. The residences that are adjacent to the Site are located to the north and northwest of the project. The Site slopes towards the southeast, directly away from these homes, meaning that the Site topography itself will block any views of the Facilities from these residences. Still, the Petitioner plans to plant a double row of evergreen

landscape screening along segments of the northern and western fence lines as additional proactive mitigation. This leaves views of the Site from Williams Crossing Road where it intersects with Windham Road and Windham Road where it follows the eastern boundary of the Site. There are segments of the Site boundary along these areas where there is a break in the vegetation or a high enough vantage point where views of the Facilities will be possible. However, as these areas are along traveled roadways, the only observers would be located in moving vehicles, so any views of the Facilities would be brief and momentary. The appearance of the Facilities during these brief moments would not cause significant visual impact because they would occur as the viewer travels down an already heavily developed highway corridor. There are no protected or designated scenic areas, roadways, or trails within visual range of the Site. Given these details, the Facilities would not have a significant adverse effect on the scenic values of the area. Current photographs of the Site, along with visual renderings of the Facilities, can be found in Exhibit C.

**E. Historic Values**

The Petitioner has requested review of the Facilities and Site by the Connecticut State Historic Preservation Office (“SHPO”). At the time of filing, the Petitioner has not yet received a response from SHPO, other than one indicating a probable delay due to significant backlog of review requests. The Petitioner will submit the SHPO response to the Council as soon as it is received.

**F. Wildlife & Habitat**

The Facilities have been designed to avoid any impacts to sensitive plant or wildlife species or the associated habitats. Three analysis were performed to identify the potential for any sensitive species or habitat:

- 1) Phase I Environmental Site Assessment (Exhibit F)
- 2) Wetlands Report (Exhibit G)
- 3) Request for Natural Diversity Database (“NDDB”) State Listed Species Review by Connecticut Department of Energy & Environmental Protection (“DEEP”) (Exhibit H)

The ESA did not recognize any species or habitat of concern. Due to the previous and relatively recently-cleared nature of the Site, an in-depth field survey for species and habitat was not performed. However, the site was investigated for wetlands features; those results can be found in the Wetlands Report (Exhibit G). Some Wetlands features were identified (and subsequently delineated) onsite, and these will be discussed in more detail in section VI.G, below. As it relates to species and habitat, the Facilities footprint was designed to avoid the delineated wetlands features entirely, including a 100-foot buffer around those features. This is shown in detail in Exhibit A. The Petitioner submitted a request to DEEP for NDDB review of the Property and Project footprint. DEEP responded with a review results letter on January 12, 2015 (Exhibit H). The NDDB review only identified one possibility for species of concern on the Site – the wood turtle could be located nearby the Facilities’ footprint area. However, only project construction would have the potential to adversely affect this species; Facility operation would not. DEEP’s response letter contains suggestions for how the risk to any wood turtle could be satisfactorily mitigated during project construction. While weather considerations and project deadlines preclude the possibility of restricting construction to between October 1 and April 1, the recommended alternative mitigation measures are feasible and will be implemented by the Petitioner during construction. With the possibility for only one sensitive species

identified onsite, and the Petitioner's agreement to implement effective mitigation measures for that species, the Facilities will have no significant adverse effect on Wildlife & Habitat.

**G. Water Resources and Storm Water Management.**

The Facilities are not anticipated to have an adverse impact to the water resources of the state. The Facilities fixed panel solar arrays can be considered pervious groundcover. The racking provides adequate height above the ground to promote vegetative growth underneath the solar array and allow for infiltration to continue to occur. Natural drainage patterns and vegetal cover will be preserved throughout the project footprint by minimizing ground disturbances. Grading activities for the Facilities have been minimized to the access roadway and utility trenching. All graded areas will be seeded to a low growth low maintenance meadow/native grass condition. Hydraulic modeling calculations illustrate a reduction in downstream flow rates from the Facilities and can be reviewed in the Facilities Stormwater Management Report (Exhibit I).

Construction of the Facilities will result in a grading disturbance of approximately 0.78 acres of land. The Petitioner will register under the DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities at least thirty (30) days prior to commencing any construction activities. Petitioner intends to request coverage under the existing Connecticut General Permit, DEP-PED-GP-015, by submitting a complete and accurate General Permit Registration Form and Transmittal prior to construction activities and in accordance with applicable rules at the time of filing. In connection with that registration, Petitioner will implement a storm water management plan to minimize any potential adverse environmental effects.

## **VII. ADDITIONAL INFORMATION**

The Council has previously reviewed petitions for other solar facilities similar to the ones being proposed by the Petitioner. In these other dockets, the Council has sent out interrogatory requests with multiple questions about each facility. This section will attempt to pre-emptively answer some of those questions that were not addressed in previous sections of this petition.

**Q01.** Did the Petitioner publish a legal notice of its intent to file this petition?

**A01.** Yes. A copy of the following text ran in the Notices section of the January 22, 2015 edition of the Willimantic Chronicle:

“Windham Solar LLC is providing notice to the general public regarding its intent to file a Petition of Declaratory Ruling (Petition) to the Connecticut Siting Council for the proposed development of five (5) – 1.0 megawatt and one (1) – 1.1 megawatt solar photovoltaic renewable energy generating facilities to be located at 1 Williams Crossing in the Town of Lebanon. This notice is being given pursuant to Section 16-50(1) of the Connecticut General Statutes. The Petition will be submitted on or after January 21, 2015. Copies of the Petition will be available at the Connecticut Siting Council: Ten Franklin Square, New Britain, CT 06501 or at the Town Hall of the Town of Lebanon.”

**Q02.** How did the Petitioner become aware of the Site?

**A02.** The Site was actively being listed for sale at the time that the Petitioner was searching for an acceptable location for the Facilities.

**Q03.** Did the Petitioner investigate any other properties as potential locations for the Facilities? If so, identify these properties.

**A03.** The Petitioner investigated a large number of properties that were listed for sale. The Site was selected based upon favorable characteristics.

**Q04.** Has the Petitioner conducted a shading analysis of the Site? If so, provide the results.

**A04.** No, a shading analysis was not required because the construction plans for the Facilities do not propose and shading objects to be left within the boundaries of the solar array.

**Q05.** What is the efficiency of the photovoltaic module technology that would be employed by the Petitioner at the proposed project? Does this efficiency decrease over time?

**A05.** The efficiency will be in the range of 15 to 18 percent, depending on the manufacturer and model of solar module selected for construction. The efficiency does decrease over time, at a predicted average rate of 0.5% per year.

**Q06.** Would the angles of the Facilities' solar modules be adjusted during the year to maintain optimal alignment with the sun's changing path?

**A06.** No. The solar modules will be installed on a fixed-tilt racking system.

**Q07.** Approximately what percentage of the proposed project's maximum possible output would occur during those times of the year when Connecticut normally experiences its peak demand for electricity?

**A07.** Energize Connecticut ([www.energizect.com](http://www.energizect.com)) defines the peak electricity demand in Connecticut as occurring weekdays between noon and 8 pm, during the summer months of June through September. The Facilities will create approximately 14% of their total annual output during this timeframe.

**Q08.** Does the Petitioner have contracts to sell the electricity it expects to generate with the proposed Facilities?

**A08.** Yes, with CL&P under the state's Zero Emission Renewable Energy Credits and Low Emission Renewable Energy Credits programs.

**Q09.** Has the Petitioner determined if any trees need to be removed to construct the Facilities? If so, how many trees will be removed?

**A09.** Details of proposed tree removals can be found on sheets 4 and 5 of Exhibit A.

**Q10.** Are the Facilities located near any Important Bird Areas designated by the Connecticut Audubon Society?

**A10.** No.

**Q11.** What would be the construction timeline of the Facilities from groundbreaking to full operation?

**A11.** Approximately 5 months.

**Q12.** Describe how the project would be decommissioned at the end of its useful life.

**A12.** A decommissioning memo is included as Exhibit J.

**Q13.** Describe the land use within a 0.5 mile radius of the Site.

**A14.** Cleared vacant land, uncleared vacant land, commercial, light agriculture, and residential.

## **VIII. CONCLUSION**

The Facilities will provide numerous and significant benefits to the Town of Lebanon, the State of Connecticut and its citizens, while producing significant environmental benefits with minimal environmental impact. Pursuant to CGS § 16-50k(a), the Siting Council shall approve by declaratory ruling the construction or location of customer side distributed resources project or facility with a capacity of not more than sixty-five (65) MW, as long as such project meets DEEP air and water quality standards. The Facilities meet these criteria. Each Facility is a customer-side distributed resources facility “grid-side distributed resources” facility, as defined in CGS § 16-1(a)(40), because the Project involves “the generation of electricity from a unit with

a rating of not more than sixty-five megawatts on the premises of a retail end user within the transmission and distribution system including, but not limited to . . . photovoltaic systems and, as demonstrated herein, each Facility will meet DEEP air and water quality standards. The Facilities will not produce air emissions, will not utilize water to produce electricity, were designed to minimize wetland impacts, will employ a stormwater management plan that will result in no net increase in runoff to any surrounding properties, and furthers the State's energy policy by developing and utilizing renewable energy resources and distributed energy resources. In addition, as demonstrated above, the Facilities will not have a substantial adverse environmental effect in the State of Connecticut.

Accordingly, Petitioner respectfully requests that the Siting Council approve the location, construction and operation of the Facilities by declaratory ruling.

Respectfully Submitted,  
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