

PAUL R. MICHAUD, ESQ.
DIRECT TELEPHONE: 860-338-3728
E-MAIL: PMICHAUD@MLGCLEANENERGY.COM

May 2, 2019

VIA HAND DELIVERY AND EMAIL

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

Re: PETITION NO. 1312 - Candlewood Solar LLC declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 20 megawatt AC (26.5 megawatt DC) solar photovoltaic electric generating facility located on a 163 acre parcel at 197 Candlewood Mountain Road and associated electrical Interconnection to Eversource Energy's Rocky River Substation on Kent Road in New Milford, Connecticut. Court Remand on Visibility

Dear Attorney Bachman:

On April 11, 2019, the Connecticut Siting Council ("Council") presented Candlewood Solar, LLC ("Candlewood Solar") with Interrogatories. The Council set the due date of April 25, 2019 for responses to be submitted to these interrogatories but granted an extension for Candlewood Solar until May 2, 2019.

Enclosed are the original and fifteen (15) hard copies of Candlewood Solar's interrogatory responses. Electronic copies are also being provided to the parties on the service list.

Sincerely,

MICHAUD LAW GROUP, LLC

Paul R. Michaud

PETITION NO. 1312 -} Candlewood Solar LLC declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction, maintenance and operation of a 20 megawatt AC (26.5 megawatt DC) solar photovoltaic electric generating facility located on a 163 acre parcel at 197 Candlewood Mountain Road and associated electrical interconnection to Eversource Energy's Rocky River Substation on Kent Road in New Milford, Connecticut.

Connecticut Siting Council

May 2, 2019

CANDLEWOOD SOLAR LLC RESPONSES TO CONNECTICUT SITING COUNCIL COURT-ORDERED REMAND REGARDING VISIBILITY INTERROGATORIES

On April 11, 2019 the Connecticut Siting Council (the "Council") issued Interrogatories to Candlewood Solar, LLC on the Court-ordered Remand Regarding Visibility. The following are Candlewood Solar, LLC's responses to the Council's questions included in Interrogatory Set 1 dated April 11, 2019:

- 1. Provide copies of the following exhibits on the Exhibit List dated December 4, 2018 (copy attached) from the Superior Court record in Docket No. CV-18-6042335-S:
 - a. Exhibit A (Map);
 - b. Exhibit B (View Point #3);
 - c. Exhibit C (View Point #6);
 - d. Exhibit D (Location Map); and
 - e. Exhibit E (Location Map).

Response: The requested Exhibits are included as Attachment A.

- 2. Please submit a Visibility Analysis for the approved solar facility showing areas within one mile of the subject site that would potentially have a view of the facility seasonally and year round.
 - Response: Attached (Attachment B) is the visibility assessment submitted with the Environmental Assessment in June, 2017. This analysis included six representative view points within approximately one mile of the proposed site which were considered to have the most direct views of the Project. Note that this assessment was done under leaf-off conditions so it represents the condition when the array would be most visible from the view point locations.
- 3. Please provide an aerial photograph of the approved solar facility. Superimpose the abutting property boundaries and the limits of work/clearing for the approved solar facility on the aerial photograph.

Identify the abutting property owners on the aerial photograph. Also, on the aerial photograph, indicate the following distances:

- a. The closest distance from the access drive limits of work/clearing to the nearest residential property line;
- b. The closet distance from the access drive limits of work/clearing to the closest corner of the nearest residential structure;
- c. The closest distance from the solar array limits of work/clearing to the nearest residential property line; and
- d. The closest distance from the solar array limits of work/clearing to the closest corner of the nearest residential structure.

Response: An aerial photograph of the approved solar facility with the requested information is included as Figure 1. The distance from the access drive to the nearest residential property line is approximately 20-feet. The distance from the access drive to the nearest residential structure is approximately 160-feet. Along the western boundary, the limit of work ("LOW") line corresponds to the Facility property line on Figure 1, however, the proposed limits of work are being revised to address previous comments related to stormwater management which will result in a minimum 50-foot setback from the property line to the limit of work (discussed further in the response to 6(a)(f) below). The closest distance from the limit of work to the nearest residential structure is approximately 280-feet (guest house at 183 Candlewood Mountain Road).

4. Provide a topographical map with the limits of work/clearing for the solar project superimposed on the map.

Response: A topographical map with the limits of work/clearing for the solar project superimposed on the map is included as Figure 2.

5. Referencing the New Milford Farmland & Forest Preservation Committee Memo, dated December 7, 2016, Finding No. 7 states, "The project also requires harvesting of timber, which is an acceptable use of productive forest lands; however, clear-cutting is not necessarily a preferred technique to do so." What are Candlewood Solar, LLC's (CS) and/or the property owner's plans for the timber from the approved solar facility site?

Response: Candlewood Solar has been approached by local licensed forestry companies who have asked to take the commercially usable wood off-site which would provide local economic development benefit. The remaining trees at the site would be cut and chipped for use as mulch or wood chip mulch berms around the perimeter of the site. As trees are cleared and grubbed, the tops and roots will be ground/chipped in a tub grinder to produce the material for the mulch berms. These mulch berms are anticipated to be approximately one to two feet high and 4 feet wide at the base which will act as erosion and sediment control for the site. This proposed timber harvesting is a sustainable way to reuse the tree chips on-site while minimizing the export of trees and import of other forms of erosion and sediment control (reduced trucking, traffic and new material use).

- 6. For the approved solar facility, please revise, or expand upon, as necessary, the following Findings of Fact (FOF) from the Council's December 21, 2017 final decision:
 - a. FOF #30; By letter dated September 11, 2017, the Town Zoning Commission submitted the minutes from the July 25, 2017 public informational hearing and a summary of the comments, concerns and recommendations that were discussed with regard to CS's petition, which include, but are not limited to, the following:
 - a) The proximity of the proposed facility to Candlelight Farms Airport;
 - b) Visual impacts to abutting residential properties;
 - c) Increased traffic and impacts to Candlewood Mountain Road;

- d) Lack of detail in regard to sedimentation and erosion control and stormwater management both during and after construction;
- e) Provision of a more detailed glare analysis tailored to Candlelight Farms Airport;
- f) Require a 100 foot landscape buffer along Candlewood Mountain Road and common property boundaries with single family homes;
- g) Restrict construction hours to Monday through Friday from 7:30 AM to 5:30 PM, Saturdays 7:30 AM to 12:00 PM and no activities to occur on Sundays and federal holidays; and
- h) Require a third party sedimentation and erosion control specialist to provide weekly inspection reports to the Town during construction.

Response:

a. FOF #30.

- a) The proximity of the approved solar facility limit of work to Candlelight Farms Airport is approximately 2,200 feet.
- b) Please refer to photo simulation view points 3 and 6 (Attachment B) included in the June, 2017 Environmental Assessment. These photographs and simulations are closest to the abutting residential properties on Candlewood Mountain Road. Note that the proposed limits of work are being revised to provide a minimum buffer of 50-feet between the property line and the limit of work for the majority of the array perimeter (see response to 6.a.f) below). Natural screening will be left in place within this buffer. Where lack of screening is a concern, additional vegetative screening may be installed to further minimize visual impacts on abutting residential properties.
- c) During the construction period (approximately 12 months) there will be an increase in traffic due to construction, however, once construction is complete, there will be very little traffic to the site. It is anticipated that during construction an average of 20 trucks per day will enter and exit the site and once construction is complete 1 truck per month or less will enter and exit the site for routine inspections and maintenance.
- d) A Stormwater Pollution Control Plan dated December 19, 2018 was submitted to CTDEEP and is in the process of being revised for resubmission. This SPCP will include detailed design for erosion control and stormwater management both during and after construction.
- e) Glare analysis was performed in January 2018 and concluded that there are no glare impacts on any typical flight patterns as defined by the FAA. In addition, FAA issued a Determination of No Hazard to air navigation on April 12, 2018. Both of these documents are included in Attachment C.
- f) In the Payment of Lieu of Taxes ("PILOT") agreement entered as of February 17, 2017, Candlewood Solar agrees to voluntarily terminate the MPRDD zoning that currently applies to the property and portion of the Project Area and work with the New Milford Zoning Commission to change the zoning of the MPRDD parcel to R-80 Residential. Article II, Chapter 20 of the New Milford Zoning Regulations, amended June 20, 2018 outlines Lot and Building Standards for each District. The following table outlines the standards for the R-80 District.

			Minimum				
	Minimum	Maximum	Lot				
	Lot Area	Bldg.	Frontage				
Zone	(sq. ft.)	Height (ft.)	(ft.)	Minimum Yard Setbacks (ft.)			
							Side
				Front	Side	Rear	Corner
R-80	80,000	35	200	50	40	50	50

As noted in Section 130-040 Buffer Areas, "The purpose of a buffer area is to provide privacy from noise, headlight glare, and visual intrusion onto any lots currently used for single family and multiple-family residential uses located in a Single Family or Multiple-Family Residential Zone. A buffer area shall be provided by the owner/developer of any property located in the Industrial (I), Industrial Commercial (IC), Restricted Industrial (RI), Restricted Business Zone (B-1), General Business Zone (B-2), B-4 Zone, Lake Business Zone (B-3), Multiple-Residence District (MR) and the Airport District where any parcel in any of these zones is used for a use other than a single family residence and abuts a residentially zoned parcel containing a single family dwelling or a multi-family dwelling."

As described above and in the PILOT agreement, "The Company consents to the voluntary termination of the Major Planned Residential Development District ("MPRDD") that presently applies to the Property and application of the R-80 zone to the Property in its entirety in place of the MPRDD, and the Company agrees to execute any documents reasonably requested by the New Milford Zoning Commission to accomplish this result." As such, based on the Town's zoning requirements, a buffer zone of 50-feet is proposed.

- g) Construction hours are anticipated to follow the Town of New Milford requirements stated above. Sunday and night work are not anticipated. Should additional work time be required on Sundays or evenings, Candlewood will coordinate with the Town of New Milford for notification.
- h) A third party sedimentation and erosion control specialist will conduct weekly inspections and submit inspection reports to the Town during construction.
- b. FOF #112; The closest off-site residence structure is located at 183 Candlewood Mountain Road at a distance of approximately 350 feet to the proposed revised project perimeter fence. (CS 13c, p. 5)

Response: The closest off-site residence structure (guest house) is located at 183 Candlewood Mountain Road at a distance of approximately 350-feet to the solar array fence (Figure 1). Note that the proposed limits of work are being revised to provide a minimum setback of 50-feet.

c. FOF #218; The solar panels would be black or a light or dark blue in color with an antireflective coating to reduce reflection as much as possible. The solar array would also be shielded in all directions by tree buffers. (CS 2, responses 27 and 40; CS 13a, Sheets E-100)

Response: The solar panels are anticipated to be black or a light/dark blue with an antireflective coating to reduce reflection as much as possible. The solar array will also be shielded in all directions by a natural vegetated minimum buffer of 50-feet between

the property line and the limit of work for the majority of the array perimeter (see response to 6.a.f) for additional detail). Where lack of screening is a concern, additional vegetative screening may be installed to further minimize visual impacts on abutting residential properties. It should be noted that there are existing forested areas in most directions on adjacent parcels further shielding the array from view.

d. FOF #219; CS does not propose landscape plantings around the solar facility. (CS 13a, Sheets E-100 and E-101)

Response: As noted in response to 6.a.b) above, the proposed limits of work are being revised to provide a minimum vegetative buffer of 50-feet between the property line and the limit of work for the majority of the array perimeter (see response to 6.a.f) for additional detail). Where lack of screening is a concern additional vegetative screening may be installed to further minimize visual impacts on abutting residential properties.

e. FOF #221; For the originally proposed project, CS does not expect that the solar array or associated Electrical interconnection poles would be visible from any portion of the main body of Candlewood Lake. Moreover, CS does not expect that the changes from the originally proposed project to the proposed revised project would change the visibility from Candlewood Lake. (CS 2, response 13; CS 13c, p. 3)

Response: Candlewood Solar is working with First Light to finalize the interconnection design. Please refer to photo simulation view points 2 and 4 (Attachment B) included in the June, 2017 Environmental Assessment. View points 2 and 4 show the closest views of the proposed interconnection location from Candlewood Lake. Once the interconnection design is finalized, an update will be provided to the Siting Council.

f. FOF #222; An approximately 100-foot section of the electrical interconnection route may be visible from the discharge canal to the northeast of Lynn Deming Park, but not from the main body of Candlewood Lake. (CS 2, response 13)

Response: See response to 6.e. FOF #221 above.

g. FOF #224; Under leaf-off conditions, the proposed (revised) solar array would be visible to the west, such as by Fox Run and Candlelight Farms Airport. (Tr. 4, p. 113)

Response: The visual assessments completed for view points 1 and 5 in the visual assessment (see Attachment B) indicate that the array would be visible during leaf-off conditions from Candlelight Farms Airport and Fox Run.

h. FOF #273; Currently, approximately 788 acres of contiguous forest is present on and adjacent to the Project area. Of this 788 acres, 443 acres are considered core forest, and 345 acres are considered edge forest (or areas not more than 300 feet from non-forested areas). (CS 1, Environmental Assessment, p. 19)

Response: See Response to interrogatory 8 and Figure 3 which is a map depicting the contiguous forest area and how this relates to the approved solar array.

7. Referencing FOF#218, it notes that, "The solar array would also be shielded in all directions by tree buffers." More specifically, will the facility be shielded by on-site (i.e. on the subject property) tree buffers, off-site (i.e. on adjacent property) buffers, or a combination of both? Explain.

Response: The revised project layout includes a minimum vegetative buffer of 50-feet between the property line and the limit of work for the majority of the array perimeter (see response to 6.a.f) for additional detail). The solar array will be screened by the natural vegetated buffer in most directions. Additionally, existing forested areas on adjacent properties will also visually shield views of the solar array in most directions. If, however, it is determined that a natural vegetated buffer does not exist in certain areas (in the field areas or sparsely vegetated areas), Candlewood Solar will provide additional screening measures such as evergreen (arborvitae) shrubs. Further, where lack of screening is a concern, additional vegetative screening may be installed to further minimize visual impacts on abutting residential properties.

8. Referencing FOF#273, superimpose the limits of work/clearing on a core forest map.

Response: A figure showing the limits of work/clearing superimposed on a map of core forest is included as Figure 3. Note that the limits of work/clearing are being revised as part of the array redesign to address comments on the stormwater management approach.

9. Referencing page 21 of the transcript of the Council's September 26, 2017 evidentiary hearing held at 3:00 p.m., CS was asked if it had looked at the Town of New Milford (Town) Zoning Commission's recommendation for a 100-foot landscape buffer along the property's frontage with Candlewood Mountain Road and along common property boundaries with single-family (homes), and CS was asked if it would be able to accommodate such a recommendation. CS replied that, "We have not looked at that to date." Please provide an updated response.

Response: See response to Interrogatory 6.a.(f). Section 020-010 of the New Milford Zoning Regulations outlines the standards for Minimum Lot Area, Minimum Yard Setbacks, Minimum Lot Frontage, Minimum Living Area and Maximum Building Height and Lot Coverage. Section 020-010 Table A. Residential Districts is provided below.

A. Residential Districts

	Minimum	Maximum	Minimum	Minimum Yard Setbacks (ft.)			
Zone	Lot Area (sq. ft.)	Bldg. Height (ft.)	Lot Frontage (ft.)	Front	Side	Rear	Side Corner
R-160	160,000	35	200	100	60	80	70
R-80	80,000	35	200	50	40	50	50
R-60	60,000	35	150	50	40	50	50
R-40	40,000	35	150	40	30	40	30
R-20	20,000	35	100	40	20	25	25
R-8	8,000	35	60	15	10	25	10
R-8-2	8,000	35	60	15	10	25	10
R-5	5,000	35	40	10	5	20	10
R-MH	160,000	18	100	10	10	10	10

(Effective: December 23, 1996; Amended Effective: August 1, 2003; R-MH Amendments

Effective: November 1, 2008)

10. Please provide a shade study analysis for the approved solar facility and reconcile such results with the limits of work/clearing between the fence lines of the solar facility and the adjacent property lines. Are the limits of clearing required to reduce shading effects or also for construction purposes? Explain.

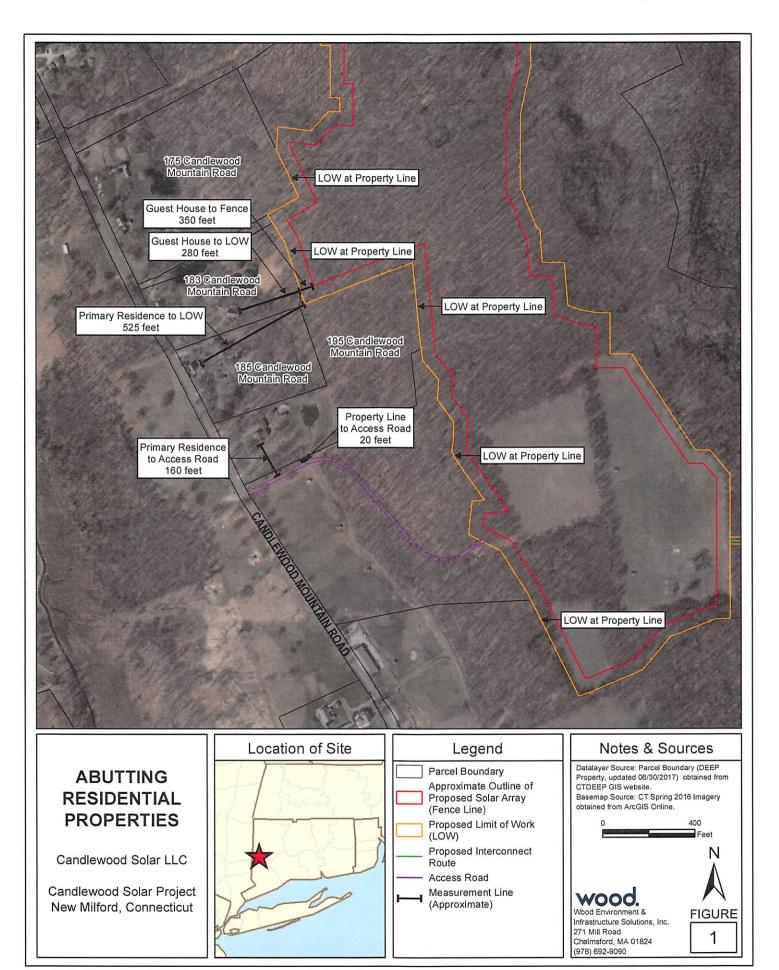
Response: A shading analysis figure is included as Attachment D. Clearing is proposed to the R-80 allowed setbacks (see response to 9 above for additional information) and Candlewood Solar accepts

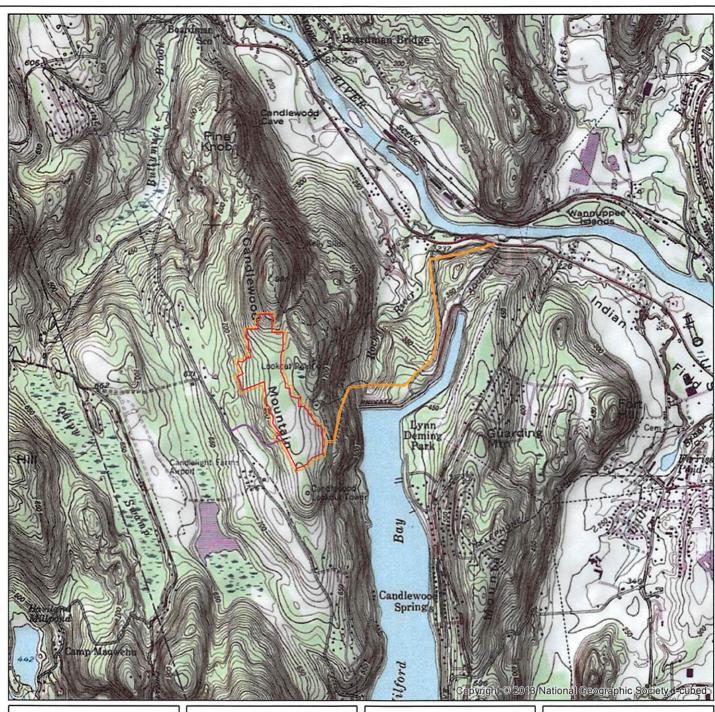
the loss of production due to portions of the array being shaded which is shown in the figure included in Attachment D.

- 11. Upon completion of construction, how would the five acre field area (proposed construction staging area) with frontage along Candlewood Mountain Road be used?
 - Response: Following construction, the approximate five acre field area (proposed construction staging area) adjacent to Candlewood Mountain Road will be restored back to preconstruction conditions (meadow/field) and left as open space.
- 12. What is the estimated duration of construction of the approved solar facility? When would the five acre field area cease to be used as a staging area?

Response: The estimated construction period is approximately 12 months including all mobilization and site restoration/demobilization activities. The approximate five acre field area adjacent to Candlewood Mountain Road will be restored back to preconstruction conditions during the site restoration phase of construction.

FIGURES





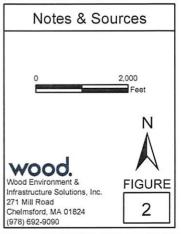
SITE LOCATION MAP

Candlewood Solar LLC

Candlewood Solar Project New Milford, Connecticut



Legend Approximate Outline of Proposed Solar Array Proposed Work Area Access Road





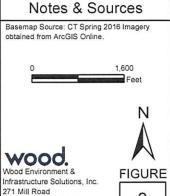
EXISTING CONTIGUOUS FOREST

Candlewood Solar LLC

Candlewood Solar Project New Milford, Connecticut



Existing Interior Forest (+/443 acres) Existing Edge Forest (+/345 acres) Approximate Outline of Proposed Solar Array Proposed Work Access Road



Chelmsford, MA 01824 (978) 692-9090 3

ATTACHMENT A COURT EXHIBITS





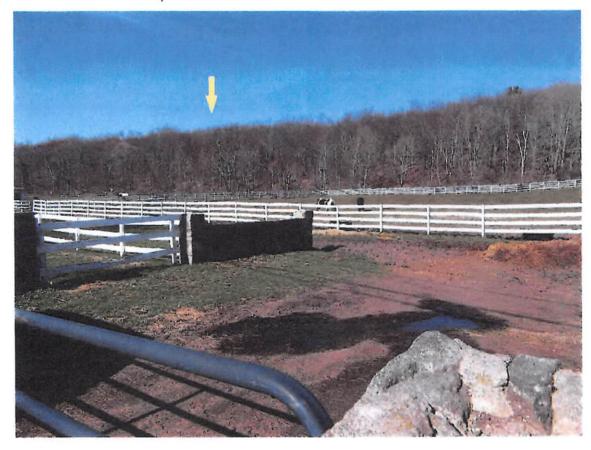






View Point #3. Candlewood Farms (Existing and Proposed Conditions)

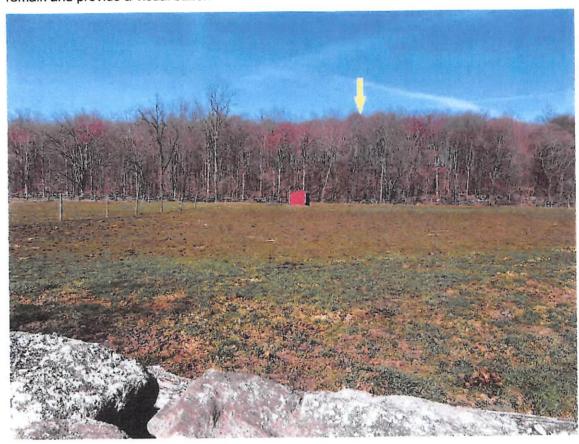
The photograph below was taken from Candlewood Farms on the east side of Candlewood Mountain Road across from the Candlewood Farms Inn, approximately 0.1 mile southwest of the southwest corner of the Facility, facing northeast at a compass angle of 23.0 degrees true north. The solar array will not be visible from this location due to its lower elevation and the existing trees which would remain and provide a visual buffer.





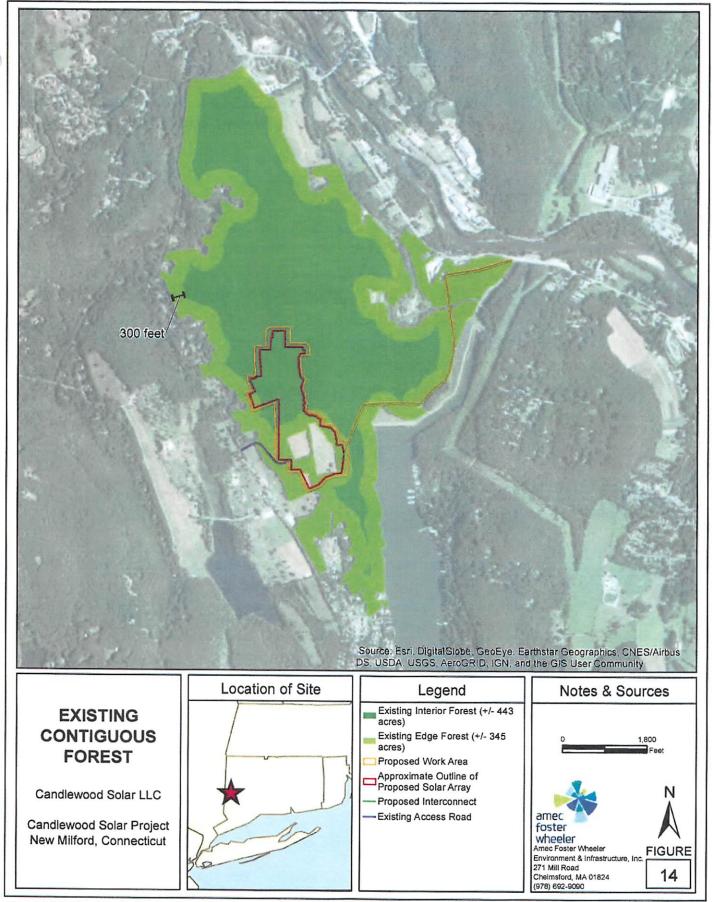
View Point #6. Candlewood Mountain Road (Existing and Proposed Conditions)

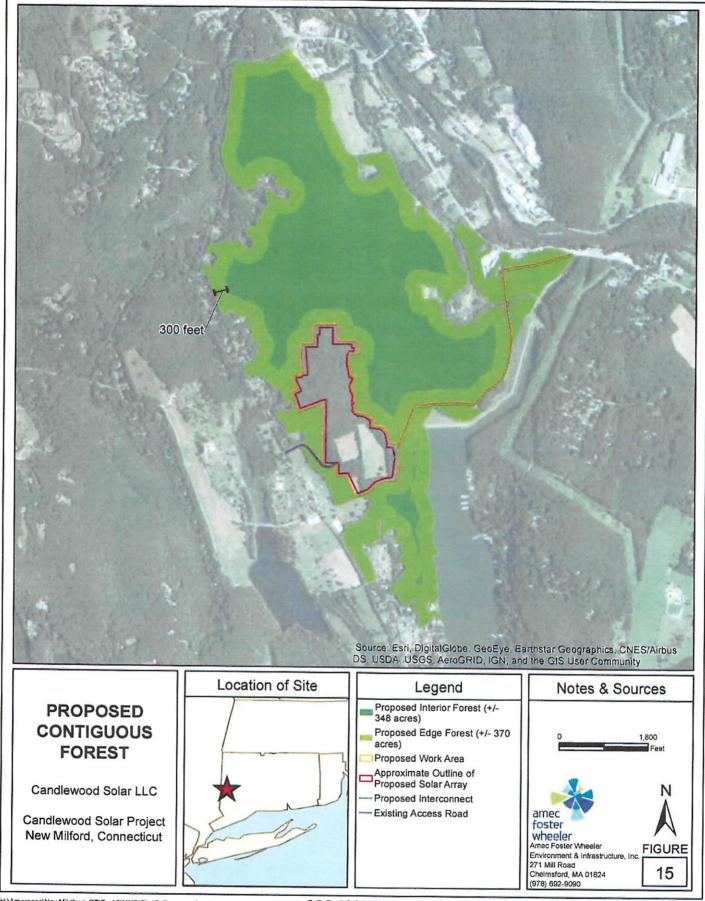
The photograph below was taken from the east side of Candlewood Mountain Road at Candlewood Farms, approximately 0.1 mile southwest of the southwest side of the Facility, facing northeast at a compass angle of 54.0 degrees true north. Similar to View Point #3, the solar array will not be visible from this location due to its lower elevation and the existing trees which will remain and provide a visual buffer.



Conclusions

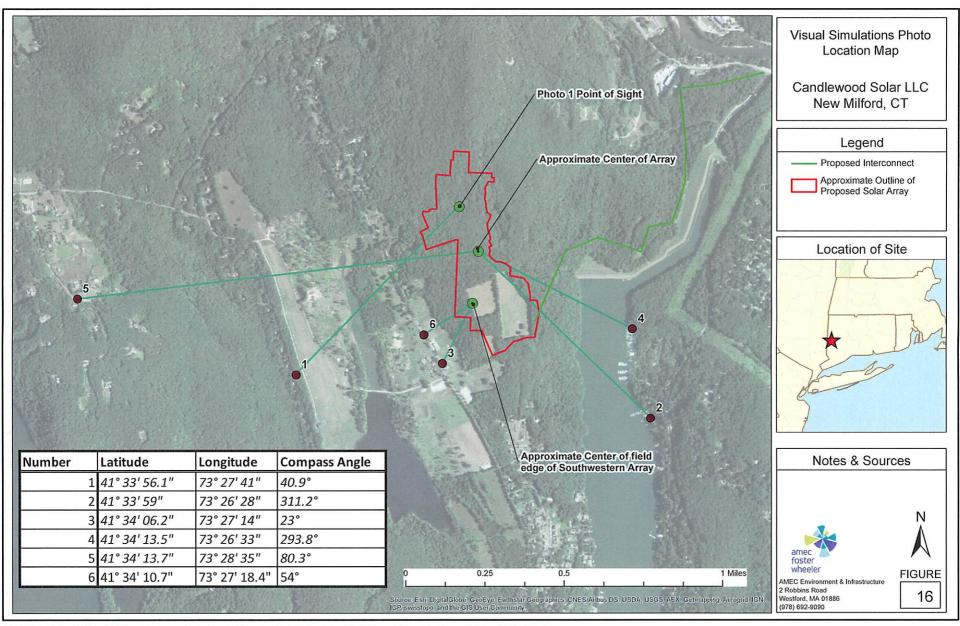
As shown in the above photos and visual simulations, the topography of the Project Area in relation to surrounding areas and the forested nature of the Project Area will shield or obstruct the Facility from view in all directions with the exception of certain areas west of the Project Area including Candlelight Farms Airport and Fox Run, where the solar array will be slightly visible during leaf-off conditions, and at a distance such that it will not dominate the landscape views. Portions of the electrical interconnection route will be cleared; however, forested areas would surround the interconnection with the exception of the portions that traverses existing access roadways and the existing cleared fiber line ROW. As such, no adverse visual impacts are anticipated as a result of the Project.







ATTACHMENT B VISUAL SIMULATIONS



In order to reduce potential noise impacts during construction the following mitigation measures would be employed:

- Use of properly designed and well maintained mufflers or equivalent for all construction equipment.
- Regular equipment maintenance.
- ▶ Placement of equipment and supplies as far away from sensitive receptors as practicable.

Noise generated during construction will be short term in nature (4 to 6 months), of which Project preparation in the first 2 to 3 months would generate the most noise due to the use of heavy equipment. Noise from the Project will be removed from residential areas and mitigated by BMPs. Therefore, noise impacts during construction will be temporary and not significant. The Town of New Milford does not have a noise ordinance.

Solar PV panels from the Facility do not make any noise. The only equipment from the Facility that will generate any noise during operation will be the eight (8) inverters. The inverters will run during the day when ambient noise levels are at their highest and will not be active at night. Based on the Project's location, distance to the nearest sensitive receptor, and forested buffer areas that would remain on the subject property (atmospheric absorption), the Project would not result in any significant adverse noise impacts to surrounding areas.

3.10 Visual Environment

Visual impacts occur when changes in the landscape are noticeable to viewers looking at the landscape from homes, highways and local roadways/travel routes, and important cultural features and historic resources. Potential visual impacts were assessed based on field visits to the Project Area, review of aerial photographs of the area, and a detailed visual analysis with photographic simulations from selected representative public viewpoints.

The Facility will be located between approximate elevations 728 and 918 feet AMSL. The Project Area is bound to the west by forested areas, residences, and farm land along Candlewood Mountain Road, Candlewood Lake to the southeast, and forested areas to the north, northeast, east and south. The Project Area has historically been used for agricultural purposes (hay fields/pasture) and the interconnect parcels include existing utility corridors. The closest residence is located approximately 400 feet to the west of the Project Area on Candlewood Mountain Road. Residences south of the Project Area off of Lookout Ridge Road and Acorn Lane are approximately 910 feet from the Project Area. Candlelight Farms Inn is located approximately 695 feet, south/southwest of the Project Area off of Candlewood Mountain Road. Land surrounding the solar array location is at a much lower elevation (between approximately 250 feet to the north and 700 feet to the west and south). Candlewood Lake, located to the east, is at an elevation of approximately 429 feet.

The most prominent structures associated with the Project are the solar panel racking system, which will extend approximately 8.5 feet above the existing ground surface at their maximum height and the 7-foot tall chain link fence. A forested perimeter within the subject property would remain around the Project and provide vegetative screening between existing sensitive receptors and the proposed solar array and interconnect, consistent with existing conditions.

Representative view points from potential visual receptors with the most direct views of the Project Area were selected for detailed visual impact analysis. Figure 16 identifies the six (6) representative selected viewpoints and their approximate location and direction, and visual simulations depicting existing conditions for all viewpoints, and proposed conditions where the

Project would be slightly visible (locations 1 and 5) are provided below. Arrows identifying the Project location have been provided to assist in identifying the location of the proposed array.

View Point #1. Candlelight Farms Airport (Existing Conditions)

The photograph below was taken from the west side of the access road present on the west side of the runway at Candlelight Farms Airport, approximately 0.4 mile southwest of the proposed access road along Candlewood Mountain Road, facing northeast at a compass angle of 40.9 degrees true north.



View Point #1. Candlelight Farms Airport (Proposed Conditions)

The visual simulation below depicts the location and visibility of the Facility (see yellow arrow) from Candlelight Farms Airport. As depicted, the solar array will be partially visible during leaf-off conditions from this location. The existing trees located along the east side of the airport would provide screening of the view when leaves are present.



View Point #2. Millstone Ridge Beach (Existing and Proposed Conditions)

The photograph below was taken from the south end of Millstone Ridge Beach approximately 0.4 mile southeast of the southeast corner of the Facility, facing northwest at a compass angle of 311.2 degrees true north. The solar array will not be visible from this location as it would be located on the western side of the mountain, below the ridgeline.



View Point #3. Candlewood Farms (Existing and Proposed Conditions)

The photograph below was taken from Candlewood Farms on the east side of Candlewood Mountain Road across from the Candlewood Farms Inn, approximately 0.1 mile southwest of the southwest corner of the Facility, facing northeast at a compass angle of 23.0 degrees true north. The solar array will not be visible from this location due to its lower elevation and the existing trees which would remain and provide a visual buffer.



View Point #4. Lynn Deming Park (Existing and Proposed Conditions)

The photograph below was taken from the north-central portion of the beach along Candlewood Lake at Lynn Deming Park, approximately 0.3 mile east of the southeast corner of the proposed array and 0.3 mile south of the interconnection route, facing northwest at a compass angle of 293.8 degrees true north. Similar to View Point #2, the Facility will not be visible from this location as the solar array will be located on the western side of the mountain, below the ridgeline.



View Point #5. Fox Run (Existing Conditions)

The photograph below was taken from the northeast corner of the terminus of Fox Run in Sherman, Connecticut, approximately 1.0 mile west of the proposed access road along Candlewood Mountain Road, facing east at a compass angle of 80.3 degrees true north.



View Point #5. Fox Run (Proposed Conditions)

The visual simulation below depicts the location and visibility of the Facility (see yellow arrow) from the northeast terminus of Fox Run. While the solar array will be partially visible from this location during leaf-off conditions, its visibility would be significantly limited by distance. The solar array will be below the top of the Candlewood Mountain ridgeline, further reducing the visual impact. Views from inside the home shown in the photo, or from the yard around the house would be screened by existing trees, even when leaves are not present.



View Point #6. Candlewood Mountain Road (Existing and Proposed Conditions)

The photograph below was taken from the east side of Candlewood Mountain Road at Candlewood Farms, approximately 0.1 mile southwest of the southwest side of the Facility, facing northeast at a compass angle of 54.0 degrees true north. Similar to View Point #3, the solar array will not be visible from this location due to its lower elevation and the existing trees which will remain and provide a visual buffer.



Conclusions

As shown in the above photos and visual simulations, the topography of the Project Area in relation to surrounding areas and the forested nature of the Project Area will shield or obstruct the Facility from view in all directions with the exception of certain areas west of the Project Area including Candlelight Farms Airport and Fox Run, where the solar array will be slightly visible during leaf-off conditions, and at a distance such that it will not dominate the landscape views. Portions of the electrical interconnection route will be cleared; however, forested areas would surround the interconnection with the exception of the portions that traverses existing access roadways and the existing cleared fiber line ROW. As such, no adverse visual impacts are anticipated as a result of the Project.

ATTACHMENT C GLARE ANALYSIS



FORGESOLAR GLARE ANALYSIS

Project: **New Milford**New Milford Glare analysis

Site configuration: Untitled

Analysis conducted by Brian Pitreau (bpitreau@ameresco.com) at 17:29 on 05 Jan, 2018.

U.S. FAA 2013 Policy Adherence

The following table summarizes the policy adherence of the glare analysis based on the 2013 U.S. Federal Aviation Administration Interim Policy 78 FR 63276. This policy requires the following criteria be met for solar energy systems on airport property:

- · No "yellow" glare (potential for after-image) for any flight path from threshold to 2 miles
- No glare of any kind for Air Traffic Control Tower(s) ("ATCT") at cab height.
- · Default analysis and observer characteristics (see list below)

ForgeSolar does not represent or speak officially for the FAA and cannot approve or deny projects. Results are informational only.

COMPONENT	STATUS	DESCRIPTION
Analysis parameters	PASS	Analysis time interval and eye characteristics used are acceptable
Flight path(s)	PASS	Flight path receptor(s) do not receive yellow glare
ATCT(s)	N/A	No ATCT receptors designated

Default glare analysis and observer eye characteristics are as follows:

· Analysis time interval: 1 minute

· Ocular transmission coefficient: 0.5

· Pupil diameter: 0.002 meters

· Eye focal length: 0.017 meters

· Sun subtended angle: 9.3 milliradians

FAA Policy 78 FR 63276 can be read at https://www.federalregister.gov/d/2013-24729

SITE CONFIGURATION

Analysis Parameters

DNI: peaks at 1,000.0 W/m^2 Time interval: 1 min Ocular transmission coefficient: 0.5

Pupil diameter: 0.002 m Eye focal length: 0.017 m Sun subtended angle: 9.3

mrad

Site Config ID: 12770.2201



PV Array(s)

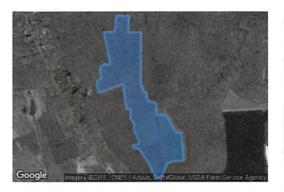
Name: Candlewood Solar Array
Axis tracking: Fixed (no rotation)

Tilt: 12.0°

Orientation: 180.0° Rated power: 24000.0 kW

Panel material: Smooth glass with AR coating

Reflectivity: Vary with sun Slope error: 8.43 mrad



Vertex	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
1	41.572387	-73.450856	802.68	0.00	802.68
2	41.572395	-73.450298	787.51	0.00	787.51
3	41.571448	-73.449569	776.36	0.00	776.36
4	41.571367	-73.449129	760.02	0.00	760.02
5	41.569818	-73.448936	761.69	0.00	761.69
6	41.569770	-73.449826	788.34	0.00	788.34
7	41.569650	-73.450191	792.63	0.00	792.63
8	41.569377	-73.450373	796.36	0.00	796.36
9	41.568951	-73.450620	805.32	0.00	805.32
10	41.568803	-73.450990	802.40	0.00	802.40
11	41.569602	-73.451554	798.13	0.00	798.13
12	41.570481	-73.452305	797.31	0.00	797.31
13	41.570601	-73.452777	786.73	0.00	786.73
14	41.570701	-73.452787	788.85	0.00	788.85
15	41.570790	-73.452278	805.58	0.00	805.58
16	41.571576	-73.452696	816.21	0.00	816.21
17	41.571925	-73.452707	820.23	0.00	820.23
18	41.572214	-73.452986	818.20	0.00	818.20
19	41.572740	-73.452948	817.97	0.00	817.97
20	41.572756	-73.453270	810.58	0.00	810.58
21	41.574153	-73.453517	793.49	0.00	793.49
22	41.573659	-73.455346	737.29	0.00	737.29
23	41.574004	-73.455491	731.00	0.00	731.00
24	41.574349	-73.455486	735.12	0.00	735.12
25	41.574446	-73.455153	749.85	0.00	749.85
26	41.575011	-73.455255	746.53	0.00	746.53
27	41.575084	-73.455244	747.08	0.00	747.08
28	41.575288	-73.454976	756.40	0.00	756.40
29	41.575260	-73.454483	776.05	0.00	776.05
30	41.577114	-73.454976	806.37	0.00	806.37
31	41.577122	-73.454182	828.85	0.00	828.85
32	41.578029	-73.454010	878.07	0.00	878.07
33	41.578029	-73.453077	916.86	0.00	916.86
34	41.577100	-73.453149	844.54	0.00	844.54
35	41.577106	-73.452187	836.89	0.00	836.89
36	41.574393	-73.452197	813.17	0.00	813.17
37	41.574048	-73.452187	816.59	0.00	816.59
38	41.574048	-73.452085	815.13	0.00	815.13
39	41.573695	-73.452020	821.22	0.00	821.22
40	41.573691	-73.451774	818.98	0.00	818.98
41	41.573218	-73.451704	818.60	0.00	818.60
42	41.573053	-73.451023	809.54	0.00	809.54
43	41.572379	-73.451023	814.53	0.00	814.53

Flight Path Receptor(s)

Name: North Flightpath

Description:

Threshold height: 50 ft Direction: 334.26° Glide slope: 3.0°

Pilot view restricted? Yes Vertical view: 30.0° Azimuthal view: 120.0°



elevation (ft)
714.64
1268.10

Name: Southern Flight Path

Description:

Threshold height: 50 ft Direction: 153.76° Glide slope: 3.0° Pilot view restricted? Yes

Vertical view: 30.0° Azimuthal view: 120.0°



Point	Latitude (°)	Longitude (°)	Ground elevation (ft)	Height above ground (ft)	Total elevation (ft)
Threshold	41.566656	-73.460319	660.65	50.00	710.65
Two-mile	41.540723	-73.443213	446.08	818.03	1264.11

GLARE ANALYSIS RESULTS

Summary of Glare

PV Array Name	Tilt	Orient	"Green" Glare	"Yellow" Glare	Energy
	(°)	(°)	min	min	kWh
Candlewood Solar Array	12.0	180.0	0	0	51,370,000.0

Total annual glare received by each receptor

Receptor	Annual Green Glare (min)	Annual Yellow Glare (min)
North Flightpath	0	0
Southern Flight Path	0	0

Results for: Candlewood Solar Array

Receptor	Green Glare (min)	Yellow Glare (min)
North Flightpath	0	0
Southern Flight Path	0	0

Flight Path: North Flightpath

0 minutes of yellow glare 0 minutes of green glare

Flight Path: Southern Flight Path

0 minutes of yellow glare 0 minutes of green glare

Assumptions

Times associated with glare are denoted in Standard time. For Daylight Savings, add one hour.

Glare analyses do not account for physical obstructions between reflectors and receptors. This includes buildings, tree cover and geographic obstructions.

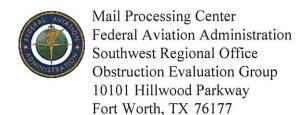
The glare hazard determination relies on several approximations including observer eye characteristics, angle of view, and typical blink response time. Actual values may differ.

Hazard zone boundaries shown in the Glare Hazard plot are an approximation and visual aid based on aggregated research data. Actual ocular impact outcomes encompass a continuous, not discrete, spectrum.

2015-2017 © Sims Industries, All Rights Reserved.

[&]quot;Green" glare is glare with low potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.

[&]quot;Yellow" glare is glare with potential to cause an after-image (flash blindness) when observed prior to a typical blink response time.



Aeronautical Study No. 2018-ANE-210-OE Prior Study No. 2017-ANE-2226-OE

Issued Date: 04/12/2018

Brian Pitreau Brian Pitreau 30 Danforth Street Suite 108 Portland, ME 04105

** DETERMINATION OF NO HAZARD TO AIR NAVIGATION **

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:

Solar Panel Solar PV Array - North Point 1

Location:

New Milford, CT

Latitude:

41-34-41.06N NAD 83

Longitude:

73-27-15.95W

Heights:

853 feet site elevation (SE)

10 feet above ground level (AGL) 863 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 L Change 1, Obstruction Marking and Lighting, red lights - Chapters 4,5(Red),&12.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

	At least 10 days prior to start of construction (7460-2, Part 1)	
X	Within 5 days after the construction reaches its greatest height (7460-2, Par	t 2)

See attachment for additional condition(s) or information.

This determination expires on 10/12/2019 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before May 12, 2018. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager of the Airspace Policy Group. Petitions can be submitted via mail to Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591, via email at OEPetitions@faa.gov, or via facsimile (202) 267-9328.

This determination becomes final on May 22, 2018 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Policy Group via telephone – 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed

structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact David Maddox, at (202) 267-4525, or david.maddox@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-ANE-210-OE.

Signature Control No: 352700406-362358450

(DNH)

Mike Helvey Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Case Description
Map(s)

Additional information for ASN 2018-ANE-210-OE

The three proposed locations of the solar array, at a height of 10 feet (ft.) above ground level (AGL) / 843 to 937 ft. above mean sea level (AMSL), would be located approximately 3,371 to 3,846 ft. northeast of the Approach End Runway (RWY) 17 at Candlelight Farms Airport (11N), New Milford, CT.

Each solar array corner was studied separately at the location(s) and height(s) shown below:

```
2018-ANE-209-OE: 41-34-38.11N / 73-27-06.22W / 10 ft. AGL / 843 ft. AMSL 2018-ANE-210-OE: 41-34-41.06N / 73-27-15.95W / 10 ft. AGL / 863 ft. AMSL 2018-ANE-211-OE: 41-34-41.70N / 73-27-10.39W / 10 ft. AGL / 937 ft. AMSL
```

The proposed locations have been identified as obstructions under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to 11N as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 ft. above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each RWY of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposals exceed the Horizontal Surface by up to the following:

```
2018-ANE-209-OE: Exceeds by 18 ft. 2018-ANE-210-OE: Exceeds by 38 ft. 2018-ANE-211-OE: Exceeds by 112 ft.
```

The proposals would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using 11N. The proposed locations are located abeam the airport, where aircraft would be in level flight, or where an aircraft would start their descent for landing to RWY 17. The proposals were shown to exceed the Horizontal Surface as applied to visual approach runways at 11N by the following:

```
2018-ANE-209-OE: Exceeds by 18 ft. (level flight area) 2018-ANE-210-OE: Exceeds by 38 ft. (descent area) 2018-ANE-211-OE: Exceeds by 112 ft. (descent area)
```

Note: Candlelight Farms airport is a single visual runway operation activated December 10, 1970. Runway 17/35 is a turf runway, 2,900 ft. in length by 50 ft. in width. The traffic pattern is left hand traffic with no restrictions. Controlling obstructions for the airport denote both hills and trees. The airport is closed to transient aircraft, helicopter, and glider activity. The airport is also closed to touch and go landings thereby potentially limiting traffic pattern activity. Experimental aircraft require prior permission before landing. The Airport Master Record (IQ5010) indicates 14 single engine aircraft are stationed at the airport, with airport activity totaling 13,000 aircraft operations for a 12-month period ending July 31, 2017.

The airport elevation is estimated at 675 ft. MSL. Surrounding terrain in proximity to the proposals on the northeast side of the airport exceed the airport elevation by an estimated 325 ft. on Candlewood Mountain. The proposals themselves are located on the side of the mountain and shielded by both terrain and natural

vegetation. FAA Order 7400.2, Procedures for Handling Airspace Matters, allows for an exception when the surrounding terrain is significantly higher than the airport elevation.

The proposals were issued Notices of Presumed Hazard letters on February 2, 2018. A request for public circularization was received from the proponent on February 8, 2018. To facilitate the public comment process in an efficient manner, all case studies were included in the public notice issued on February 9, 2018. under case study 2017-ANE-211-OE. Separate determinations shall be issued for each individual case associated with this proposal. After circularization to all known aviation interests and to non-aeronautical interests that may be affected by the proposal, five letters of objection were received as a result of circularization.

The objections are summarized as follows: Concerns were expressed that the proposed solar array will remove an "emergency alternate landing area" to the east of the airfield.

Response: After review of available terminal procedures, the Airport Master Record dated 3/1/2018, as well as information obtained from the appropriate FAA Airport District Office, the FAA has no records on file of any alternative/emergency landing field published for or in the vicinity of 11N on record. Off-airport property land use concerns do not fall within the scope of a Title 14 CFR Part 77 aeronautical study.

Objection: Solar panels would cause an increase to the VFR traffic pattern.

Response: The solar panels would cause a minimal increase in height in an area where existing terrain already penetrates the Part 77 Horizontal Surface as well as the VFR Traffic Pattern's Horizontal Surface at 11N. In addition, existing terrain in proximity to the proposal is of greater height, up to 1,000 ft. MSL, and also penetrates the traffic pattern. Additionally, Runway 17/35 has a published offset centerline (125 ft. left for RWY 17, 35 ft. left for RWY 35) due to the controlling obstructions east of the field, tress and the hill upon which the solar panels are proposed.

Objection: The solar panels will emit thermal effects, glare, and the risk of electric shock in case of an aircraft impacting the solar array itself, as well as negative impact to the appearance of natural surroundings.

Response: Thermal effects, glint, and glare do not fall within the scope of Title 14 CFR Part 77 requiring an aeronautical study for evaluation. The FAA has limited data regarding glint and glare from solar panels located off airport property, and these characteristics have no established standards from which to identify or measure effect. Additionally, land use concerns do not fall within the scope of a Title 14 CFR Part 77 aeronautical study. These types of concerns are best addressed through local zoning commissions/boards at the state or local level.

A suggestion was made recommending the initiation of new notice of proposed rulemaking action for addressing solar glare issues. The public is welcome to petition the FAA to add a new regulation, or amend or repeal a current regulation, in accordance with procedures contained in Title 14 CFR part 11, subpart 11.61, Petitions for Rulemaking and for Exemption. Unfortunately, those suggestions are not reviewable through this evaluation process.

Aeronautical study disclosed that the proposals would have no effects on existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations, minimum flight altitudes, minimum vectoring altitudes (MVA), aeronautical procedures, aeronautical facilities or at any other know public use or military airport. Information on the proposals shall be forwarded for appropriate aeronautical charting.

Study for possible visual flight rules (VFR) effect disclosed that the proposals would exceed 77.19 (a) as noted above, but would have no substantial adverse effect on any existing or proposed arrival or departure VFR operations or procedures. The minimal increase is expected to have no greater aeronautical effects on aviation or 11N airport as existing terrain in proximity is of greater height, up to 1,000 ft. MSL. The proposal was found not to conflict with airspace required to conduct normal VFR traffic pattern operations at 11N, or at any other known or proposed public-use or military airports. At up to 10 ft. AGL, the proposals would not have a substantial adverse effect on VFR en route flight operations or on any VFR routes in the vicinity of this location.

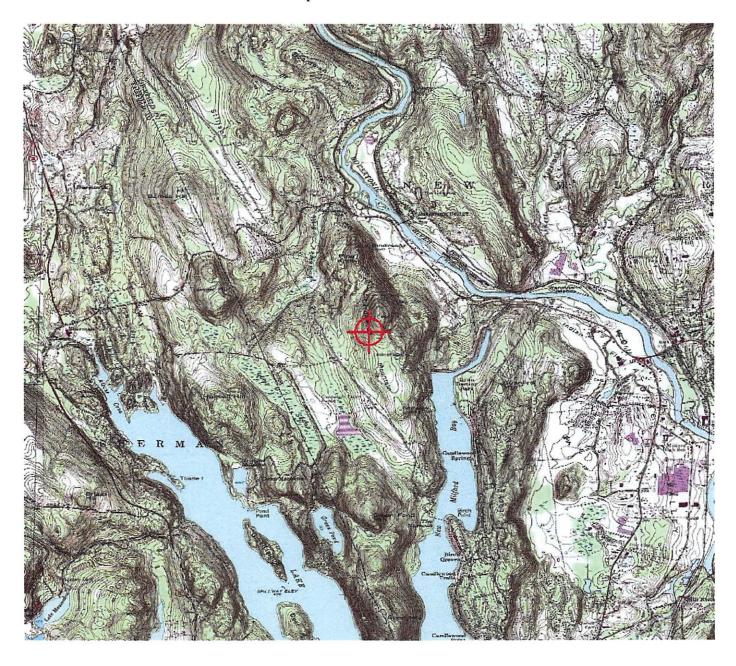
The proposals should be lit with red obstruction lights to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposals, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effects on existing or proposed public-use or military airports or navigational facilities, nor does the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposals would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation as long as all conditions written within this determination are met.

Case Description for ASN 2018-ANE-210-OE

24MW solar array (please refer to Site Plan)



ATTACHMENT D SHADING EXHIBIT

WEBESCO

TUOYAJ YARRA SIATJOVOTOH9

26,500 kWp DC STC PV ARRAY INSTALLATION **СВООИОРИОН РАКРА**

NEW MILFORD SOLAR PV 197 CANDLEWOOD MOUNTAIN RD NEW MILFORD, CT

BEAIRIONR: DPLE: 0622/2012 CHECKED BA: DBWAM BA: DD 2CYTE: 1, = 500, MHEN BBINLED 30. × 54.

