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April 25, 2019

VIA ELECTRONIC MAIL
AND FIRST CLASS MAIL

Ms. Melanie Bachman, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Petition No. 1354 – Chatfield Solar Fund, LLC, petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 1.98-megawatt AC solar photovoltaic electric generating facility located in Killingworth, Connecticut

Dear Ms. Bachman:

Enclosed please find the original and fifteen (15) copies of Chatfield Solar Fund, LLC's post hearing brief in connection with the above-described petition.

I certify that a copy hereof has been furnished on this date via electronic mail and/or first class mail, postage prepaid, to all parties, intervenors and participants of record for this petition as of this date.

Please feel free to contact me with any questions concerning this submittal at (203) 772-7787.

Very truly yours,

Bruce L. McDermott

Enclosures

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Chatfield Solar Fund, LLC, petition for a declaratory ruling, pursuant to Connecticut General Statutes § 4-176 and §16-50k, for the proposed construction, maintenance and operation of a 1.98-megawatt AC solar photovoltaic electric generating facility on approximately 25 acres located generally south of Route 80 (North Branford Road) and east of Chestnut Hill Road in Killingworth, Connecticut, and associated electrical interconnection to Eversource Energy's Green Hill Substation located at 775 Green Hill Road, Madison, Connecticut.	:	Petition No. 1354
	:	April 25, 2019

POST HEARING BRIEF OF
CHATFIELD SOLAR FUND, LLC

I. Executive Summary

The petitioner, Chatfield Solar Fund, LLC ("Chatfield"), submits this post-hearing brief to the Connecticut Siting Council (the "Council") in support of its October 22, 2018 Petition for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need ("Certificate") is required for the construction, operation, and maintenance of a 1.98-megawatt (AC)[1] solar photovoltaic electric generating facility and associated equipment in connection therewith (the "Project") at a 25-acre parcel south of Route 80

[1] 2.32-megawatt (DC). During cross-examination, KARS posed the question "What's the statutory basis for basing it on AC rather than DC?" March 26, 2019 Tr. at 120. Chatfield explained that the industry standard is to use AC rather than DC. Id. Further, in an another instance where a Connecticut statute (CGS Section 16-244u(a)(7)(B)) involving a mega-watt capacity limit did not explicitly state whether such capacity is measured in AC or DC, the Connecticut Public Utilities Regulatory Authority stated:

> The Authority acknowledges that the statute is not explicit on whether the three megawatt limit is measured in alternating current (AC) or direct current (DC). Given the current industry standard and to be consistent with the Authority's current administration of the LREC and ZREC program, the Authority will allow AC as the measurement for the purposes of the three megawatt limit.

Docket No. 13-08-14RE03, PURA Development of the Administrative Processes and Program Specifications for Virtual Net Metering - Project Time Period and Agricultural Status, October 26, 2016.

located in Killingworth, Connecticut (the "Property").[2] The Project will have no substantial adverse environmental impact and is consistent with state policies concerning the natural environment and ecological balance, public health and safety, and scenic, historic, and recreational values. Accordingly, the petition should be approved by the Council.

II. Project Benefits

The Project will help further Connecticut's renewable energy goals and will contribute to the state's grid reliability. The Project's utilization of solar power, a Class I renewable energy source pursuant to CGS Section 16-1(a)(20), also supports Connecticut's renewable energy policy under the 2018 Connecticut Comprehensive Energy Strategy, while contributing to the reliability of Connecticut's electric supply and the competiveness of Connecticut's electric market. Further, in response to Council Member Lynch's inquiry at the final hearing in connection with this Petition, the Project will also help further some of the goals outlined in United States House Resolution 109,[3] or as it is more commonly referred to, the "Green New Deal". March 26, 2019 Tr. at 72. A carbon-debt analysis determined that the Project will result in a net improvement of a 193-ton annual reduction of CO^2. Chatfield Exhibit 1 at 6. Additionally, the Project will

[2] The Property has the map block lot number 26-14B.

[3] Page 5 of the Green New Deal, states:

> Resolved, That it is the sense of the House of Representatives that the goals [of the Green New Deal] should be accomplished through a 10-year national mobilization . . . that will require [*inter alia*] meeting 100 percent of the power demand in the United States through clean, renewable, and zero-emission energy sources, including by dramatically expanding and upgrading renewable power sources.

also result in a comparable increase of tax revenue for the Town of Killingworth (the "Town"). Chatfield Exhibit 1 at 6.

III. The Killingworth Fire Marshal's Concerns

Since January of 2019, the Killingworth Fire Marshal, James McDonald, has actively participated in the Petition. On January 2, 2019, the Fire Marshal submitted a letter to the Council summarizing his concerns with the Project (the "Marshal Letter"). On March 22, 2019, the Fire Marshal submitted supplemental pre-filed testimony again summarizing his concerns with the Project (the "Marshal PFT"). On March 26, 2019, the Fire Marshal testified in the final Council hearing in connection with this Petition on behalf of Killingworth Advocates For Responsible Solar ("KARS") that are in opposition to this Project. March 26, 2019 Tr. at 135.

Before discussing Marshal McDonald's concerns with the Project, it is important to note that fires associated with photovoltaic systems are extremely rare. March 26, 2019 Tr. at 163. A 2015 German study[4] entitled "Assessing Fire Risks in Photovoltaic Systems and Developing Safety Concepts for Risk Minimization", which discusses certain photovoltaic system fire statistics in connection with Germany's 1.3 million solar installations, found that as of 2013, only 210 (.016%) cases of fires have occurred resulting from the photovoltaic systems themselves. Chatfield Exhibit 15 at 52; March 26, 2019 Tr. at 163. Moreover, the Fire Marshal has never encountered a photovoltaic fire nor was he able to recall a single occurrence of such a fire in the entire State of Connecticut. March 26, 2019 Tr. at 163. Additionally, the North Carolina Clean

[4] This study was translated by the United States Department of Energy in 2018.

Energy Technology Center's[5] May, 2017, white paper entitled "Health and Safety Impacts of Solar Photovoltaics" also discussed the minimal fire risks associated with photovoltaic systems stating:

> The possibility of fires resulting from or intensified by PV systems may trigger concern among the general public as well as among firefighters. However, concern over solar fire hazards should be limited because only a small portion of materials in the panels are flammable, and those components cannot self-support a significant fire. Flammable components of PV panels include the thin layers of polymer encapsulates surrounding the PV cells, polymer backsheets (framed panels only), plastic junction boxes on rear of panel, and insulation on wiring. The rest of the panel is composed of non-flammable components, notably including one or two layers of protective glass that make up over three quarters of the panel's weight.

"Health and Safety Impacts of Solar Photovoltaics" at 14. Additionally, the Killingworth, Connecticut Natural Hazards Mitigation Plan Update, 2014, ("Hazard Plan") section entitled "Droughts & Wildfire" states that "[r]oads, bodies of water, and streams provide breaks which would make it difficult for a brush fire to spread" and that "[s]treams and water bodies are abundant in Killingworth and would offer some natural protection against the spread of fire." Hazard Plan at 52. Almost all of these features that offer fire protection are present at or abut the Property. Petitioner's Exhibit 1 at 4.

The Fire Marshal's opposition to this Project, essentially involves three concerns. The Fire Marshal's concerns and the Project's responses to those concerns are summarized in the table below:

[5] The N.C. Clean Energy Technology Center was founded in December 1987 as the North Carolina Solar Center. For the last 30 years, the Center has worked closely with partners in government, industry, academia, and the non-profit community while evolving to include a greater geographic scope and array of clean energy technologies. https://nccleantech.ncsu.edu/about-us/.

Fire Marshal Concern	Chatfield's Response
1 Fire Access Roads. 10-foot Fire access path surrounding the Project.	- The Project includes a 20-foot perimeter access path. March 26, 2019 Tr. at 139.
2 On-Site Water Storage. On site 30,000 gallon water storage.	- A one building lot and one structure being built does not require a water supply. Fire Marshal agrees. - The Project is not a residential subdivision and it is arbitrary for the Fire Marshal to require the same storage requirement nonetheless. March 26, 2019 Tr. at 143.
3 NFPA 11.12.3: a) A 10 foot clearance area around the photovoltaic system installation; b) A security barrier; and c) A noncombustible or gravel base.	 a) Project provides a 20 foot clearance area around the system. March 26, 2019 Tr. at 139. b) Project provides for a security barrier. March 26, 2019 Tr. at 159; see also Chatfield Exhibit 1 at 11. c) - Current NFPA (2018) has replaced this requirement with a "vegetative management plan". 2018 NFPA 11.12.3.2. - Fire Marshal's requirements will have an adverse impact to the environment. NFPA 1 First Draft Technical Committee Final Ballot Results at 181, March 4, 2016. - No other project approved by the Council has a gravel base.

1. Fire Access Road

The Fire Marshal stated in the Marshal Letter that a "fire access road around the perimeter of the fenced facility would provide a more effective means to defend the entire facility should it be threatened on the exterior by a wildland or brush/grass fire event. *The plans have no such provisions*." KARS Exhibit 4 (emphasis added). Chatfield has designed the Project to include a 20-foot wide perimeter access path, and therefore, it complies with his request for perimeter access. See Attachment CSC-3-112; March 26, 2019 Tr. at 139. Accordingly, it is not clear to Chatfield why the Fire Marshal has identified this as a concern with the Project.

2. On-Site Water Storage

The Fire Marshal's request for on-site water storage is entirely arbitrary. The Fire Marshal believes that on-site water storage is necessary because Killingworth has no municipal water supply within the town and the "town has requirements for *residential developers* to provide permanent fire suppression sources in the construction of subdivisions . . . by the placement of underground 30K gallon tanks." KARS Exhibit 4 (emphasis added). However, the Project is not a residential development and at no point in the Marshal's Letter, the Marshal PFT, or his testimony to the Council has the Fire Marshal explained what the basis is for the amount in his 30,000 gallon tank request. The Fire Marshal claims that this number comes from "the commercial development water supply requirements" which are "established on an individual basis determined the occupancy hazards for the commercial development." KARS Exhibit 4. Contrary to the Fire Marshal's assertion, the Project is not a "commercial development". Further, the Fire Marshal acknowledged that the Project is not technically subject to this water storage requirement and cites to no particular guidance or authority in making this request, stating "[w]hile the petitioner's proposal does not include *any buildings* which might establish an *exact* requirement under the CT Fire Code, the total size . . . would be seen by this office as requiring an onsite water supply." KARS Exhibit 4 (emphasis added). The fact is, there is *no* water storage requirement for a structure like the Project. KARS Exhibit 21. Further, the Fire Marshal admits that "one building lot and one structure being built does not require a water supply" and that the Project is not a residential subdivision, but nonetheless, the Fire Marshal arbitrarily requires a 30,000 gallon water storage tank without providing any explanation as to how he arrived at this

specific gallon amount. March 26, 2019 Tr. at 143. In fact, the Fire Marshal stated that "for a commercial site… if there were a commercial building, then based on the hazard contained in the building or activity on the premise, *we would calculate what the requirement is for water supply*." March 26, 2019 Tr. at 143–144 (emphasis added). Despite this explanation, at no point in this Petition has the Fire Marshal demonstrated or submitted such a water supply calculation. Therefore, because the Fire Marshal's 30,000 gallon tank requirement is not based on any state or local authority nor is it derived from any demonstrated calculations, his request is entirely arbitrary and should be ignored by the Council in its consideration of the Petition.

3. NFPA Requirements

Finally the Fire Marshal seeks to have the Project comply with various provisions concerning ground mounted photovoltaic system installations in section 11.12.3 of the Connecticut Fire Code. Those provisions involve (1) a 10 foot clearance area around the photovoltaic system and (2) security barriers. However, the Project already complies with these requirements. The Project includes a 7-foot chain-link perimeter fence, which the Fire Marshal confirmed during his testimony before the Council. March 26, 2019 Tr. at 159; see also Chatfield Exhibit 1 at 11. With regard to the 10 foot clearance area around the photovoltaic system, the Fire Marshal again contradicted himself when he stated that the Project's "20 feet around the perimeter of the site is more than twice what is called for." March 26, 2019 Tr. at 139. Despite Chatfield's compliance with this requirement, the Fire Marshal has invented and inserted additional requirements that he claims are contained within NFPA Section 11.12.3. According to

the Fire Marshal, the NFPA calls for 10 feet between the rows of the panels. March 26, 2019 Tr. at 139. There is no such requirement in the NFPA:

> **Clearances.** A clear area of 10 ft (3048 mm) around ground-mounted photovoltaic installations shall be provided.

It is clear from the language above, that the word "rows" is never mentioned in NFPA Section 11.12.3.1. The word "ground-mounted photovoltaic installation" is clearly used to mean the entirety of a ground-mounted photovoltaic system. NFPA Section 11.12 uses the words "photovoltaic installations", "photovoltaic system installations", and "photovoltaic system" interchangeably. See generally, NFPA Section 11.12. Regardless of the Fire Marshal's imaginary requirements for additional row spacing, the Project complies with this additional requirement. Almost the entire Project includes row spacing of 10 feet or more. See Attachment CSC-3-112.

4. Gravel Base

The Fire Marshal's requirement for a noncombustible or gravel base is problematic for a number of reasons. The 2015 NFPA, the authority upon which the Fire Marshal relies heavily, includes an Annex A entitled "Explanatory Material". NFPA Annex A Section A.11.12.3.2, which is the explanatory section regarding NFPA 11.12.3.2 (i.e., the gravel/non-combustible base section), states the following:

> Though dirt with minor growth is not considered noncombustible, the AHJ might approve dirt bases as long as any growth is maintained under and around the installation to reduce the risk of ignition from the electrical system. This could be a serious consideration for large ground-mounted photovoltaic systems.

NFPA Section A.11.12.3.2. Despite this language, the Fire Marshal maintains that he has no discretion to allow Chatfield's vegetative management plan that

would amount to "minor growth". Further, at no point in the Petition has the Fire Marshal mentioned his authorized discretion to allow such "minor growth" under the system. Additionally, the 2018 NFPA has completely removed the "gravel base" requirement and replaced it with a "vegetative management plan."[6] Although Connecticut has not yet adopted the NFPA 2018, the state Department of Administrative Services fully intends to do so by 2020. See Department of Administrative Services, CT Fire Safety and Prevention Codes.[7] Chatfield also notes that such a measure has never been required of any other photovoltaic system approved by the Council or otherwise in the state.

Ironically, the Fire Marshal's gravel base requirement will likely have a dramatic negative environmental impact on the Property, which would be in conflict with the environmental criterion associated with the Petition. Therefore, such a requirement would be contrary to law. Further, the Fire Marshal's loose interpretations of the NFPA, inclusions of requirements that are non-existent, and failure to fully consider the entirety of the text, demonstrate that his requests with regard to NFPA Section 11.12.3 are arbitrary and capricious.

[6] The 2018 NFPA's section 11.12.3.2 states that "A vegetation management plan or noncombustible base acceptable to that AHJ shall be approved and maintained under and around the installation where required by the AHJ."

[7] "Notice – Adoption of the 2020 Connecticut State Fire Prevention Code
The Office of State Fire Marshal is announcing its intent to adopt the 2020 Connecticut State Fire Prevention Code based on the 2018 edition of NFPA 1 - Fire Code." Department of Administrative Services, CT Fire Safety and Prevention Codes, https://portal.ct.gov/DAS/Office-of-State-Fire-Marshal/CT-Fire-Safety-and-Prevention-Codes (last visited April 23, 2019).

IV. The Council's Exclusive and Preemptory Authority

Pursuant to CGS Section 16-50g, the Council is charged with, *inter alia,* "balancing of the need for adequate and reliable public utility services at the lowest reasonable cost to consumers with the need to protect the environment and ecology of the state and to minimize damage to scenic, historic, and recreational values[.]" Under RCSA Section 16-50j-1(a), the Council is also charged with, *inter alia*, "promoting energy security." In connection with the aforementioned scope of the Council's jurisdiction, the Council has exclusive jurisdiction over the construction, maintenance, operation and modification of electric generating facilities such as the Project. Under CGS Section 16-50x(a), "the council shall have *exclusive jurisdiction* over the location and type of facilities" and "whenever the council certifies a facility . . . *such certification shall satisfy and be in lieu of all certifications, approvals and other requirements of state and municipal agencies in regard to any questions of public need, convenience and necessity for such facility*." Further, in the case of any conflicts with the Council's exclusive jurisdiction, CGS Section 16-50w gives the Council's preemptory authority and states that "[i]n the event of any conflict between the provisions of this chapter and any provisions of the general statutes, as amended, or any special act, this chapter shall take precedence."

The meaning and application of CGS Section 16-50w has been discussed by Connecticut courts in a handful of cases. In Bristol Res. Recovery Facility Operating Comm. v. City of Bristol, Conn. Super. Ct., June 30, 1995, a case involving a town that voted to refuse the expansion of a local trash-to-energy plant, the court explained Section 16-50w's preemptive authority given to the Council by stating that

"other general statutes or special acts, i.e., all other acts of the General Assembly, shall bow to the Public Utility Environmental Standards Act." Bristol Res. Recovery Facility Operating Comm. v. City of Bristol at 17-18 (J. Lee Parker). In that case, the court also stated that "[a]ny municipal ordinance which conflicts with a state statute is superseded by the state statute" and that "[s]urely, the General Assembly intended, and made that intent clear, that the Public Utility Environmental Standards Act was to subsume the entire regulatory field relating to facilities such as the plaintiffs' trash-to-energy plant." Id.

In City of New Haven v. Connecticut Siting Council, Conn. Super. Ct., Aug. 21, 2002, a company applied to the Council for a Certificate concerning an electric cable located within the Long Island Sound—the Council granted the Certificate for the cable. City of New Haven at 1-7 (J. Carl Schuman). The plaintiffs, including the Attorney General (Blumenthal), appealed that decision, contending that the Connecticut Environmental Protection Act ("CEPA") applies in Council proceedings to which the court responded "a conflict exists. . . . In this situation, the Siting Council statute 'takes precedence.' General Statutes § 16-50w." Id. at 13 (emphasis added). The court also stated that "while the Siting Council *may have discretion to consider CEPA . . . it is not required to do so*." Id. (emphasis added).

In Corcoran v. Connecticut Siting Council, 50 Conn. Supp. 443, 451, Super. Ct. 2006, aff'd, 284 Conn. 455, 2007, plaintiff (neighboring landowner) appealed the Council's granting of a Certificate to T–Mobile in connection with its proposed development of a wireless telecommunications facility in New Canaan, Connecticut. Corcoran at 444-453 (J. Robert Satter). In this case, the plaintiff claimed, *inter alia*, that the Council's decision conflicted with the Connecticut Department of Transportation's ("DOT")

safety standards.[8] In assessing the DOT's jurisdiction over this matter, the court stated the following:

> while the council is obligated to consult with and to solicit comments from the [DOT], nothing in the statute requires the council to abide by the comments of the [DOT]. In fact, there can be no doubt that the [DOT]'s written comments in this matter are not controlling on the council *because General Statutes § 16-50w specifically provides that '[i]n the event of any conflict between the provisions of this chapter and any provisions of general statutes, as amended, or any special act, this chapter shall take precedence.'* . . . . As a consequence, the council's decision to take into account the department's comments but not to abide by them, was not an abuse of discretion.

Id. at 451 (emphasis added).

In FairwindCT, Inc. v. Connecticut Siting Council, 313 Conn. 669, 2014, the plaintiff (citizen group) appealed the Council's granting of a Certificate to BNE in connection with BNE's proposed development of wind turbines in Colebrook, Connecticut. FairwindCT at 673-735. In this case, the plaintiff claimed, *inter alia*, that the Council must enforce state noise law (CGS Section 22a–72(c)) when ruling on its petitions, to which the court responded with the following:

> General Statutes § 16-50w provides in relevant part that '[i]n the event of any conflict between the provisions of this chapter and any provisions of the general statutes, as amended ... this chapter shall take precedence.'
>
> . . . .
>
> We conclude, therefore, *that the legislature intended to authorize the council to approve petitions for declaratory rulings for proposed projects even if they do not comply with state laws outside of the act itself, including state noise law*. Accordingly, we agree with the trial court that the council was authorized to approve BNE's petitions even though it had not determined that the proposed projects comply with state noise law.

FairwindCT at 704 (emphasis added).

[8] The DOT submitted a comment to the Council that "[t]he placement of a telecommunication tower must be far enough away from a State of Connecticut roadway to protect the travelling public should the tower ever collapse. A minimum distance from the roadway of the tower height is required."

Based on the above-mentioned cases, it is clear that when a conflict exists between the Council's approval of a project and other state regulations or local ordinances, Section 16-50w bestows preemptory authority upon the Council. Here, Chatfield is being asked by the Killingworth Fire Marshal to incorporate various additional fire-protection measures into the Project. Chatfield should not have to address those measures while simultaneously addressing potentially conflicting environmental and ecological concerns of the Council and DEEP that typically would be associated with the granting of a petition. This would include a substantial conflict with the Habitat Enhancement Plan being formulated to address "CT-listed" species. The Fire Marshal's additional fire protection measures are contradictory to the Council's environmental requirements for a number of reasons. First, the Fire Marshal has requested an "all-weather" driving surface. KARS Exhibit 21. Although the Marshal has provided no details as to what an "all-weather" driving surface is, Chatfield cannot implement a paved or other impervious surface cover around the perimeter of the Project as such a measure will substantially increase local disturbance by requiring substantial grading and grubbing in close proximity to sensitive habitat areas, and will negatively impact the Project's stormwater and runoff profiles, by altering drainage patterns and flowlines, which will be in direct contravention of its adherence to the Connecticut Guidelines for Soil Erosion and Sediment Control.

Second, including a 30,000 gallon water storage tank in the design of the Project will similarly have negative environmental impacts. This tank will have to be either (1) buried underground, which will involve a great deal of local disturbance, or

(2) placed aboveground and therefore add to the Project's impervious surface coverage and negatively impact the Project's watershed and scenic attributes.

Third, a gravel base or other noncombustible base will have catastrophic environmental impacts on the Property. Incorporating this measure would increase the non-organic surface coverage dramatically, negatively impacting the Property's native habitat preservation, native revegetation, as well as significantly changing the ground cover characteristics from a meadow-like habitat to essentially an impervious cover. In addition, it would significantly increase both the rate and volume of runoff, as well as altering existing flow patterns to the wetlands. Such negative impacts were highlighted in the NFPA's March 4, 2016, technical committee report on proposed revisions to the 2015 NFPA. NFPA 1 First Draft Technical Committee Final Ballot Results at 181, March 4, 2016. In fact, the words "gravel base" were replaced with "vegetation management plan" in the 2018 NFPA. In making its determination to strike the "gravel base" language and replace it with "vegetation management plan", the NFPA technical committee stated:

> [e]nvironmental requirements that would directly conflict with the literal requirement for only gravel or non-combustible bases underneath the system installation include, but are not limited to:
>
> - Dust Control (Air)
> - Water usage limitations in dry areas (Water)
> - Logistics to transport/haul/lay gravel (Water/Sustainability/Air Emissions)
> - Native Revegetation (Flora)
> - Native Habitat Preservation (Flora/Fauna)
>
> A project plan requiring a 'noncombustible' or gravel base for large-scale PV installations would never be permitted because of these reasons. All project permits for large PV installation require minimally invasive surface preparation techniques and natural vegetation recruitment or revegetation to greater or lesser extents during the operation of the power plant.

Although Connecticut has not yet adopted the NFPA 2018, the state Department of Administrative Services fully intends to do so by 2020. See Department of Administrative Services, CT Fire Safety and Prevention Codes.

The Fire Marshal is requesting a number of additional fire protection measures for the Project that are unique for solar projects of this size and that will increase the environmental and ecological impacts of the Project necessary to obtain a finding that no Certificate is necessary from the Council. Therefore, the Council should exercise its preemptory authority and issue an order ruling against these additional measures being requested by the Fire Marshal because of their environmental and ecological impacts.

V. The Project Satisfies the Criteria for Approval by a Petition and Will Not Have an Adverse Environmental Effect

CGS Section 16-50k(a) provides that no person shall "commence the construction or supplying of a facility, or commence any modification of a facility, that may, as determined by the [Council], have a substantial adverse environmental effect in the state without having first obtained a certificate of environmental compatibility and public need." As explained throughout the record, this Project will not have a substantial adverse environmental impact, and further, it complies with state policies concerning the natural environment and ecological balance, public health and safety, and scenic, historic and recreational values.

1. Stormwater and Erosion Controls

The Project satisfies the Council's requirements with regard to stormwater and erosion concerns. With regard to stormwater, the Project has been designed in

accordance with the DEEP 2004 Connecticut Stormwater Quality Manual. A-CSC-3-117; A-CSC-3-118. Additionally, the Project will include stormwater infiltration and sedimentation trenches. March 26, 2019 Tr. at 92. The infiltration trenches are designed to capture the first inch of water from a precipitation event in order to remove a majority of the stormwater pollutants, which includes thermal effects. February 21, 2019 Tr. at 111-112; March 26, 2019 at 96.

Prior to and throughout the duration of construction, sedimentation and erosion controls will be installed and maintained in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. Petitioner's Exhibit 1 at 22. During construction, the sedimentation trenches will help the Project site maintain sediment as rainwater sheet-flows over the surface. February 21, 2019 Tr. at 86-87. Additionally, Chatfield will also ensure that each stage of construction and clearing is properly stabilized before entering the next phase-grubbing and constructing the Project in three separate phases each under 5 acres in size (as per the Connecticut General Permit). A-CSC-3-111; February 21, 2019 Tr. at 30. Chatfield will implement silt fences and hay bales and other approved methods around downstream wetland perimeters to prevent any sediment flowing into the wetlands and roadways. March 26, 2019 Tr. at 56; A-CSC-3-117. When Chatfield grubs a tree in connection with the Project, it will implement silt fencing on the downstream side of such grubbing. A-CSC-3-111. Chatfield will also employ a full-time erosion control specialist that will help supervise construction in order to monitor turbidity and any potential sediment flow. February 21, 2019 Tr. at 98.

2. Wetland Features

The Project satisfies the Council's requirements with regard to wetlands and vernal pools. There is no proposed clearing within 50 feet of the potential vernal pools. JMM Wetland Consulting Services, LLC ("JMM") published a final vernal pool report April 23, 2019 ("VP Report") based off of its site visits (March 31 and April 4, 2019) that surveyed the three potential vernal pools. VP Report. Potential Vernal Pool 1 was determined to be a vernal pool, but one that will "not serve as productive vernal pool habitat." Potential Vernal Pool 2 was determined to be a vernal pool, but one that suffers impacts from predacious amphibians and aquatic invertebrates. VP Report. Further, the function of this habitat will persist after the construction of the Project. VP Report. Potential Vernal Pool 3, which is located 75 feet *off of the Property*, was determined to be a higher productivity vernal pool than Vernal Pools 1 and 2, but would likely be preserved. VP Report. Further, the Project will have no disturbance or development within Vernal Pool 3's 100-foot Vernal Pool Envelope and will have a limited disturbance area of 20.11% within the 750-foot Critical Terrestrial Habitat (less than the 25% disturbance limit suggested by the US Army Corps of Engineers Vernal Pool Best Management Practices). VP Report; A-CSC-3-115. Overall for the Project, the percent disturbance within the 750-foot Critical Terrestrial Habitat limit is between 27.2% and 30.2%. A-CSC-3-116. The Council has also previously approved other projects with similar or significantly higher Critical Terrestrial Habitat disturbance levels. See Petition No. 1312 December 21, 2017 Decision (a 163-acre solar project that had a Critical Terrestrial Habitat disturbance level of 41.4%); see also Petition No. 1339 April 3, 2018 Decision (where the Council made a finding of no substantial adverse environmental

effect for a 158-acre solar project that included vernal pools with Critical Terrestrial Habitat disturbance levels of 28%, 29%, and 38%); Petition No. 1247 September 6, 2016 Decision (a 3.75 MW solar project that included a vernal pool with a Critical Terrestrial Habitat disturbance level of 28%).

With respect to the wetlands on the Property, the clearing line is at no point less than 3 feet, which occurs in the area of the southeastern arrays. A-CSC-3-116. There is approximately 770 linear feet of clearing within 3 feet of the wetlands and approximately 1,540 linear feet of clearing within 5 feet of the wetlands. A-CSC-3-116. Not including the 3 and 5 foot buffer areas, the average buffer from the wetlands to the clearing line is approximately 33 feet. A-CSC-3-116.

3. Air Quality

The Project satisfies the Council's requirements with regard to air quality. Given the nature of PV technology, which requires only sunlight to generate energy, there will be no air emissions resulting from the Project. Petitioner's Exhibit 1 at 11. As such, no air permit is required. Petitioner's Exhibit 1 at 11.

4. Water Quality

The Project satisfies the Council's requirements with regard to water quality. The Project will not have any negative impact on the surface waters located on the adjoining parcels. Petitioner's Exhibit 1 at 20. There are no surface water or groundwater discharges from the Property other than stormwater (discussed above). Petitioner's

Exhibit 1 at 21. The Project is not anticipated to have any impact on the groundwater quality of the Property. Petitioner's Exhibit 1 at 21.

5. Noise

The Project satisfies the Council's requirements with regard to noise-related concerns. There will be no increase in noise levels attributable to the Project, and therefore, the Project will not impact the noise levels associated with the Property or that of the area surrounding the Property. Petitioner's Exhibit 1 at 12.

6. Historic, Scenic and Recreational Values

The Project satisfies the Council's requirements with regard to concerns associated with historic, scenic and recreational values.[9] Additionally, the Killingworth 2018 Plan of Conservation and Development ("Plan") states that "in preparing such plan, the commission or any special committee shall consider . . . the objectives of energy-efficient patterns of development, the use of solar and other renewable forms of energy and energy conservation." Plan at 7. It is also worth noting that in the Plan, "solar power" was voted by the Killingworth residents as the town's most preferred "Green Initiative." Plan at 104.

[9] During cross-examination, KARS suggested that if "there's any federal money involved" Section 106 review under National Historic Preservation Act of 1966 (NHPA) by federal tribes is required. March 26, 2019 Tr. at 122. KARS' characterization of the Section 106 review is incorrect. Section 106 requires federal agencies to consider the effects on historic properties of projects they carry out, assist, fund, permit, license, or approve throughout the country. No federal project is contemplated in this Petition. Further, even if there was a federal project there is no possibility of the project affecting historic properties. See Petitioner's Exhibit 11. Accordingly, KARS' effort to create a permitting issue for the Siting Council is mis-directed.

7. Hazardous Substances

The Project will not release hazardous substances into the environment. A report by the North Carolina Clean Energy and Technology Center, which receives funding from the United States Department of Energy, published a report entitled "Health and Safety Impacts of Solar Photovoltaics" in May of 2017 that states that PV modules are not toxic, and the amount of lead solder used for an entire PV module is less than one-half the lead in a typical 12-gauge shotgun shell, and about 1/750th amount used in a single car battery. March 26, 2019 Tr. at 108. Further, the Project will implement crystalline silicon photovoltaic modules that will not contain cadmium or telluride. March 26, 2019 Tr. at 109-110.

8. Safety and Security

The Project satisfies the Council's requirements with regard to public health safety and security. The Project will generate electricity in a clean and environmentally acceptable manner unlike conventional generation such as nuclear, combustible natural gas, coal, or oil as fuel. Petitioner's Exhibit 1 at 11. The project will be fenced in with a chain-link seven-foot-high fence, a locked gate, and will have appropriate signage. Petitioner's Exhibit 1 at 11. The Project will implement inverters that are compliant with UL-1741, which means that within milliseconds of detecting an interruption in the grid they're required to immediately shut down. Therefore, based on the foregoing, the Project satisfies all of the necessary criteria for a finding that no Certificate is necessary.

V. Conclusion

The Project will not result in a substantial impact to the natural environment, ecological integrity and balance, forests and parks, scenic, historic, and recreation values,

air and water purity, fish and wildlife, or to public health and safety. The benefits of the Project far exceed any potential disruption to the property or surrounding area. Those in opposition to the Project seek to implement unique, burdensome, and arbitrary requirements never imposed for the roughly 200+ MWs of solar development previously approved by the Council. Additionally, allowing the Fire Marshal to unilaterally stop this proposal, regardless of his many faulty assertions and mischaracterizations of the NFPA, would set a precedent that not only usurps authority from the Council, but also creates a major impediment for future solar development in Connecticut. Therefore, Chatfield respectfully requests (1) that the Council find that no Certificate is necessary as provided by CGS Section 16-50k; and (2) that the Council issue orders that specifically rule on Chatfield's inability to comply with the following additional fire prevention measures as requested by the Fire Marshal because such measures would have negative environmental impacts:

1. A fire access road around the entire perimeter of the fencing of the Project designed (i) to support "imposed loads of fire apparatus"; and (ii) with an "all-weather driving surface";
2. A 30,000 gallon water storage tank; and
3. A gravel base or other noncombustible base acceptable to the Fire Marshal.

Respectfully submitted,
Chatfield Solar Fund, LLC

By: 

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CERTIFICATE OF SERVICE

This is to certify that on this 25th day of April, 2019, a copy of the foregoing has been electronically delivered to all other known parties and intervenors.

Bruce L. McDermott