

STATE OF CONNECTICUT
SITING COUNCIL

PETITION NO. 1312 - Candlewood Solar LLC petition for a 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.

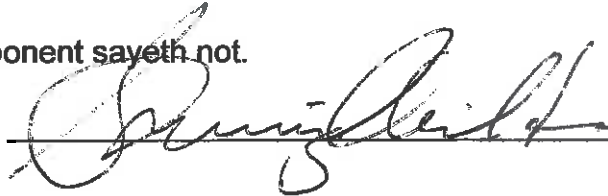
SEPTEMBER 11, 2017

AFFIDAVIT OF STARLING CHILDS

I, STARLING CHILDS, the undersigned, being duly sworn, do depose and say:

1. I am over the age of eighteen and believe in the obligations of an oath.
2. I reside at 109 LITCHFIELD RD NORFOLK, Connecticut.
3. I am the author of the pre-filed written testimony attached as well as {photos, calculations or whatever items the witness produced} labeled as Exhibit A. I believe the facts contained therein are true and accurate the best of my knowledge and belief.

FURTHER the deponent sayeth not.



Subscribed and sworn to before me this 19 th day of September, 2017.



Commissioner of the Superior Court/Notary Public.

Kath R. Ainsworth, Esq

My commission expires: _____

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PRE-FILED TESTIMONY

Petition No.1312 – Candlewood Solar, LLC

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

September 14, 2017

Dear Ms. Bachman:

I have been asked by Lisa Ostrove of Rescue Candlewood Mountain to provide my professional input as a Connecticut Certified Forester and practicing environmental consultant on the Petition No. 1312 presented by Candlewood Solar, LLC. It is not often that I find myself at odds professionally with my own personal beliefs in our society's need for alternative sources of electrical energy and my equally strong beliefs in the long term protection and conservation of our State's dwindling forest resources and habitats, but this commercial scale solar proposal raises many serious environmental and ecological concerns. Let me say at the outset that this project should in no way proceed without a full scale investigation and much more detailed analysis of the particular questions of Environmental Compatibility for which your council is thus assembled to adjudicate. Furthermore, the questions surrounding Public Need are not clearly defined in this proposal either, especially given that Connecticut's own Department of Energy and Environmental Protection (DEEP) chose not to approve this specific proposal when it was first floated as an RFP in October 2015. And yet I understand it was selected to proceed to permitting by our neighboring states of Massachusetts and Rhode Island. This one point, perhaps more than any other, should have you all wondering as to what is the public need if not shared by Connecticut's DEEP, and why in this surprisingly healthy and environmentally sensitive, forested location?

The petition you have before you landed on the docket literally days before our state Senate Bill No. 943, Public Act No. 17-218 became effective as law. In the spirit of that law, albeit passed but not yet enacted when Petitioner slid their proposal under the wire, the Siting Council should take the full measure of what is at stake here when one considers the identifiable and now legally protected areas of core forest which would be impacted by this industrial scale project. The University of Connecticut's Center for Land Use Education and Research (UConn CLEAR) makes it abundantly obvious that such forest fragmentation is highly detrimental for interior forest habitats. As a professional forester, I seriously cannot imagine how the wholesale clear felling, use conversion, and fencing off of this 60-80 acres of mature, high canopied forest and meadow land would not require a full scale environmental impact study.

To begin with, some of the intriguing wetland and faunal habitat features were characterized and identified in the Petitioner's Environmental Assessment executive summary by their specialists Ryan Hale of Amec Foster Wheeler and Thomas Pietras the consulting wetland soil scientist, but not fully studied throughout the seasons due to "insufficient time" as they claim. Along with their admitted "non-existent breeding bird survey" and any serious consideration of the interior forest sites to be demolished, these and other critical habitat features warrant much more study at the proper times of year in order to fully understand the cycle of seasonal use by, obligatory utility to, and relative abundance and diversity of wildlife which the Petitioner is quite certain can "relocate elsewhere for the life of the project" I excerpt this passage from page 19 of the AmecFW Environmental Assessment.:

"Many of the mammal, bird, reptile, and amphibian species are adaptive to changing habitat conditions and have the capability of temporarily or permanently expanding or shifting their home ranges to find alternative sources of food, water, and shelter in the adjacent upland and wetland forested areas. At the end of the operational life of the Project, anticipated to be 20 to 30 years, the Facility will be removed in accordance with decommissioning requirements and the Project Area will be allowed to revert back to natural habitat."

This statement is patently false and disregards whole bodies of science that take into consideration such accepted theories of ancestral territories and breeding grounds, essential migration corridors and the unimpeded movement between meta-populations, or any pre-existing, intraspecific and territorial niche competition in the adjacent upland forests or other forested wetland areas. By their own admission as to the relatively brief 'operational life' of these PV panels on site, one really has to wonder why there is such urgent public need to cause this much ecological disruption. Surely there must be, and actually are, other sites in close proximity to this substation or other interconnection points to which this 20 MW(AC) PV array could be located either on former industrial or commercially zoned land. Amaresco Solar has made their name and fortune, in part, in neighboring Massachusetts by installing solar arrays on essentially "orphaned" parcels of land caught between limited-access highway right of ways and off ramps or atop capped municipal landfills. It is perhaps the height of hypocrisy that Massachusetts, a state which signed on to support the power purchase from this proposed 20MW solar project, has led our other New England states in their proactive assessment of and public policies to slow the conversion of their forest lands thus protecting their state's essential core forest infrastructure and valuable ecosystem services along the way. How is it then that our Connecticut Siting Council (CSC) is being asked to preemptively waive the need for a complete environmental impact study that a similar green field solar project would require and, most probably, be denied a permit for in Massachusetts?

The multiple intermittent and perennial watercourses identified in the Aquatic Resources section of the Environmental Assessment are remarkable in that they spill off this southerly flank of Candlewood Mountain in many directions. The natural infiltration into forested uplands and episodic pooling in associated wooded swamps and ephemeral pools play an extremely important ecological function in controlling storm water runoff and protecting the water quality of Candlewood Lake and what remains of the truncated Rocky River, both of which discharge into the Housatonic River. There is a paucity of reasonably local or recent data on rainfall events and subsequent water quality implications for storm flows in this environmental assessment given

AmrecFW chose to rely on an archived, generic HydroCAD Technical Reference whose last revision was 1986. Since that time, this particular area has experienced several major storm events which exceeded even the 100 year flows referenced in this outdated reference. Precipitation in the 21st century have already proven to be more intense and well in excess of similar storm events in the 20th century. Meteorologists have even coined the new term for such storms as “rain bombs”. It is also important to note, any channel disturbance, regrading or back filling of even these many intermittent streams would most likely require the Petitioner to obtain Army Corps of Engineers permitting.

It is my contention that the CSC should certainly send the Petitioner back to refile their proposed project having gathered more recent and locally recorded storm precipitation data. They should be asked to present hydrological modelling of the runoff that will be generated given the additional impervious surface area of 75,000 PV panels, proposed steep access roads which by design run perpendicular to the mountain’s contours, and the thinly vegetated, machine-compacted soil, and in winter months, frozen ground. Much of the upper easterly portion of this runoff will be directed to the larger wetland complex, namely Wetland I in the Amec FW/Prietas environmental assessment, in the headwaters of the Rocky River to the east side of the Facility, and it is unclear what long term protective measures are planned to mitigate de-icing salts, siltation and excessive storm flows entering into this forested wetland ecosystem and cryptic vernal pool complex. The facility’s perimeter erosion and sediment controls are proposed to be removed “within 30 days of completion of the project”. That is not necessarily ideal nor advisable.

Also incomplete is the attached official Request for Connecticut’s Natural Diversity Data Base (NDDDB) State Listed Species Review which remained unanswered at the time the Petitioner filed with the CSC. Clearly, I can understand that the Petitioner’s urgency to file was intended to skirt around the July 1 enactment of the statute Public Act 17-218 which would require the Commissioner of Department of Energy and Environmental Protection (DEEP) to assess any impacts to Core Forest area and its importance to just the sort of habitats which the NDDDB may have identified. It is disingenuous to say, as the Petitioner does, that any of NDDDB’s concerns raised by the request will be addressed and mitigated when information is forthcoming. Given that the Petitioner has had more than a year and a half since first proposing this solar generation site, they had ample time to avail themselves and the CSC of the pertinent data stored at the NDDDB. The CSC should reject the petition without prejudice until such time as the Petitioner and their agents can address all these necessary environmental and possible threatened species concerns. That should be required, at a minimum, before any declaratory ruling can possibly be made on this large scale solar electrical generating facility.

The Petitioner’s consultants do cite the notable NDDDB mention of Northern long-eared bat (NLEB; *Myotis septentrionalis*) habitat in vicinity of this Project, but then go on to doubt whether or not a possible hibernacula might be located on this site for these endangered creatures. NLEB’s prime habitat is interior mature hardwood forests at higher elevations or along rocky ridgelines such as one finds all around Candlewood Mountain. Even though NLEB is perhaps the most endangered mammal in our eastern hardwood forests due to a deadly ‘white nose fungus’ that has killed off nearly 99% of the population where they tended to cohabitate in caves or other hibernacula, the NLEB has only managed to obtain a special, Federal “threatened”

status because of forest products industry concerns about limiting any level of tree harvests in close proximity (.25 mile) to the bats' woodland hibernacula. Nevertheless, clearcuts are deemed 'a taking' if they occur closer than a quarter mile to NLEB roosting and pup rearing sites. The center for Biological Diversity notes on its Save Our Bats website that the NLEB is more solitary by nature and generally chooses to roost and often hibernate in tight rocky crevices, rock talus, holes in old trees, and more often than not under the deeply furrowed or heavy plated bark of mature hickory, sugar maple, chestnut oak, and white pine. Essentially, all of these aforementioned natural features and tree species can be found on the rocky ridgeline, over-steepened slopes, and forest areas of the project site or well within the quarter mile range of the proposed facility. I do agree with the Petitioner's suggestion that they should apply to the United State Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) for a "streamlined" review of the proposed project's potential impacts on NLEB habitat as noted by the NDDB. Here again, this information should already be in the Petitioner's files and should have been completed before coming before the CSC to request an expedited permit to construct the facility without environmental review.

My final major concern is not my last nor my least, but it bears raising before the council in its deliberations. I was struck by Amec FW's E.A. Attachment F which purports to be a Greenhouse Gas Equivalencies Calculator, yet there is no accompanying annotation or explanation as to what the 23,894 metric tons of CO2 equivalency answer is in reference to. By my calculations this figure almost equals the amount of forest carbon currently stored and to be additionally captured every year for the 20-30 year life of the project. I highly doubt that was the intended carbon equivalency which they calculated, but the number of metric tons CO2 equivalent is surprisingly close based on average Southern New England forested lands of similar maturity, species mix, above baseline stocking and relatively healthy and excellent growing conditions.

Solar photovoltaic electricity requires a fossil fueled energy in order to mine, mill, and manufacture the many silicon PV panels along with their array of conducting metals, glass and aluminum cladding. Unlike our natural forests, they start their life with an embedded carbon debt before they even begin to capture photons and flow electrons to return their costs and earn their keep in any Greenhouse Gas Equivalencies Calculation. I am not saying this is bad nor should we not move apace to install more solar PV panels whenever we can, but not necessarily **wherever** we can. There is indeed a trade off in every decision to generate and utilize energy to power our world. Having played its part in history, Candlewood Mountain has stood the test of Time. We can see that its forested slopes were stripped for wood, farmed, mined, and abandoned to grow back to mature forest once again, all in the span of 300 years. For whatever argument of carbon equivalence the Petitioner might have been intending in this proposal, the only right thing to do is to find some other location which is already devoid of its resilient forest and dependent fauna, perhaps even a more socially responsible, former brownfield site of equal area and cover that with the energy source of the future to which we all aspire.

Respectfully submitted,


Starling W. Childs, MFS

CT Certified Forester F-000100