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VIA ELECTRONIC MAIL AND UPS OVERNIGHT

Mr. Robert Stein, Chairman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Petition No. 1195 – SolarCity Corporation petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed construction and operation of a 4.05 Megawatt Community Shared Solar Photovoltaic Electric Generating facility located on municipally-owned property at 1240 Poquonnock Road, Groton, Connecticut -- Response to Interrogatories - Set 1

Dear Chairman Stein:

On behalf of SolarCity Corporation (“SolarCity”), enclosed are an original and fifteen (15) copies of SolarCity’s responses to Connecticut Siting Council’s Interrogatories - Set 1.

Please contact me at 860-509-6575 with any questions or if you need additional information.

Very truly yours,

BROWN RUDNICK LLP

By: 
Philip M. Small
Counsel for SolarCity Corporation

PMS/jmb
Enclosures

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Petition No. 1195
SolarCity Corporation
1240 Poquonnock Road, Groton
Responses to Interrogatories – Set 1

1. Has SolarCity Corporation (SolarCity) received a response from the Connecticut Department of Energy and Environmental Protection (DEEP) regarding the Natural Diversity Database? If yes, provide such correspondence. If no, provide the current status of such consultations.

At this time, SolarCity Corporation (SolarCity) has not yet received a response for the Connecticut Department of Energy and Environmental regarding the Natural Diversity Database Review Request. The initial request for review by the agency was submitted on July 16, 2015.

2. What is the address and distance of the nearest residential structure to the solar project?

The closest residential property located at 196 North Road. It abuts the solar site along the eastern property line. The primary structure is approximately 24 feet from the City's property line and approximately 45 feet from the closest solar array based on GIS/aerial photography for the building location.

3. Would the proposed project adversely impact the musk turtle (i.e. stinkpot)? If so, how might these impacts be mitigated?

Musk turtle are highly aquatic with overland movement restricted to females during the nesting season (Klemens, 1993:202).¹ Mortality from roads (or other human activities) associated within overland movement, a significant conservation threat for many of Connecticut's turtles, is not a significant source of mortality for musk turtle due to their aquatic nature. No activity is proposed within wetlands or waterbodies and no alterations to wetland hydrology are proposed; therefore, there will no impact to aquatic habitats utilized by musk turtle.

Musk turtles typically nest in uplands within <45 feet of aquatic habitats (DeGraaf and Yamasaki, 2001).² The distance of proposed activity from the boundary of the reservoir ranges from approximately 25-60 feet and averages approximately 30-40 feet. Therefore it is possible that upland areas presently used for nesting may be directly affected. However, the majority of potential nesting areas will be preserved due to the fact that the immediate lake edge (i.e., <25 feet) will not be affected. Therefore any loss of potential nesting habitat is expected to be minor and not result in an adverse effect.

¹ Klemens, 1993. *Amphibians and reptiles of Connecticut and adjacent regions. State Geological and Natural History Survey of Connecticut bulletin 112. Connecticut Department of Environmental Protection.*

² DeGraaf, R.M. and Yamasaki, M. 2001. *New England Wildlife: habitat, natural history and distribution. University Press of New England, Hanover, New Hampshire.*

Given that fact, combined with the presence of suitable nesting habitat (i.e., scarified/sparse vegetated sandy areas) along the margins of the reservoir, mitigation for the loss of turtle nesting habitat was not considered warranted.

It should also be noted that the project area was searched for evidence of turtle nesting (i.e., predated and/or hatched eggs, scarified nests) but none were observed. Two areas of concentrated nesting activity were observed. These two areas consisted of open and un-vegetated sand banks along the southern shore of Smith Lake (east and west of wetland flag WF 2-01) and north of the peninsula that defines the outer limits of the project area (north of wetland flag WF 1-01). Both of these areas are not located adjacent to any areas of proposed activity.

4. Would the proposed project only utilize existing access, or would any new or improved access be required to serve the proposed solar facility?

The proposed project would utilize the existing gravel access roads. At this time, no new or improved access roads are being proposed as part of the project.

5. How close (in feet) would the project development occur to Vernal Pool #1 (located within Wetland 3)?

The closest area of the proposed development to Vernal Pool #1 (located within Wetland 3) is located approximately 70 feet to the southwest. Project-related development proposed in proximity to Vernal Pool #1 would occur in maintained open field areas associated with the existing electrical transmission corridor. No proposed Project activities will impact previously undisturbed areas proximate to Vernal Pool #1.

6. How would SolarCity handle potential snow accumulation on the panels and its effects of blocking the sunlight?

The leading edge of the panels will be a minimum of 24" above the existing ground surface providing adequate room for the snow to "sheet" off. Any production degradation due to snow build-up, has already been modeled into the annual system output and performance. At this time SolarCity does not envision conducting any "snow removal" operations, rather the snow will be allowed to melt or slide off as the panels warm up.

7. The solar panels are proposed to be facing the south and at a 20 degree angle from the horizontal. Did SolarCity choose this orientation and angle to maximize its capacity factor and total annual electrical energy production as opposed to creating peak load shaving during peak demand hours? Describe the angle chosen in context to reflection and to the two projects proposed in Norwich using a 25 degree angle.

The pitch and azimuth of the system was chosen in order to optimize energy production and did not take into concern peak load shaving. In particular, a 20 degree pitch was chosen to optimize the density of modules per sqft of area for this particular site while still retaining a high kw/kwH. A project proposing a different

pitch can be attributed to the variance of site conditions and/or preferred optimizations associated with said project.

8. Based on Sheet No. 10/10 – Typical Post Mounted Racking System Detail, the bottom edge of the solar panels would be at least 2 feet above grade. How high (in feet above grade) would the top edge (or highest point) on the solar panels be?

The height difference between the front bottom edge and back top edge of the module pair is 4.5 ft. Where the bottom edge of the module is 2 ft. above grade, the top edge of the module will be 6.5 ft. above grade.

9. Is the 4.05 megawatt power output for the proposed solar project based on direct current (DC) or alternating current (AC)? If this power output is based on DC, then provide the AC power output.)

The 4.05 MW output is for DC. The AC size – also the aggregated inverter nameplate rating – is 3.25 MW.

10. Would the solar plant have a protection system to shut the plant down in the event of a fault in the feeder(s) that connect the solar plant to the local electrical distribution system?

In the event of a fault in the utility lines, protective relays within the switchgear will be automatically triggered to isolate the solar plant from the grid. Additionally, the utility will install a manual shut-off switch at the point of connection between the solar plant and existing transmission lines.