STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Petition of Chelsea Solar LLC, pursuant to 30 V.S.A. § 248, for a certificate of public good authorizing the installation and operation of the "Chelsea Solar Project," a 2.0 MW solar electric generation facility located off Willow Road in Bennington, Vermont	)	Docket No. 17-5024-PET

REBUTTAL TESTIMONY OF RYAN HAAC ON BEHALF OF PETITIONER

August 10, 2018

Q1. Please state your name, occupation, and business address.

A1. My name is T. Ryan Haac. I am a Senior Analyst at Resource System Group ("RSG"). My business address is 55 Railroad Row, White River Junction, Vermont 05001.

Q2. What is the purpose of your testimony?

A2. This supplemental testimony provides information in response to direct claims that have been made in the recent testimony filed by Libby Harris ("Harris") and Lora Block ("Block") in this docket.

Q3. What claims were made by Harris?

A3. In her June 22, 2018 prefiled testimony in this case (Pages 6-7), Harris claims that the proposed removal of trees on the Project Site will worsen the highway traffic noise that is already present throughout the Apple Hill Homeowners Association Neighborhood (the "Neighborhood") (Pages 6-7).

Q4. Is there a basis for Harris' claim?

A4. Yes. While Harris provides no substantive evidence for her claim, our study showed that traffic noise has the potential to increase 1.6 dB at Harris's residence (exterior) and 3 dB at her southern property line. To put that into context, a 3 dB increase in broadband sound levels is just perceptible by most people and anything less than that is typically imperceptible. The potential for traffic noise to increase at Harris' residence would not be an unduly adverse impact.

Q5. Does Harris's claim relate to any noise generated by the project?

A5. No. The traffic noise currently present in the Neighborhood is not a noise source generated by the project. Rather, it is the main contributor to background sound levels on the southwestern side of the Neighborhood.

Q6. What claims were made by Block?

A6. In her June 22, 2018 prefiled testimony in this case (Pages 3-4), Block claims that the highway traffic noise analysis I submitted in this case (***Exhibit CS-RH-3***) is inadequate. On Page 7 of her testimony, Block claims that the testimony and exhibits I have submitted in this case do not meet the burden of proof regarding the Project's potential noise impacts. On Page 6 of her testimony, Block claims that the Petitioner has submitted inadequate information regarding potential noise impacts of the fence screening material that has been proposed for the Project.

Q7. Please respond to the above referenced claims made by Block.

A7. Unfortunately, Block offers no reasoning for how the study was inadequate. The work I performed for the Chelsea Solar project goes beyond the burden of proof by providing more context and analysis than is typical for solar projects before the PUC. In regard to the noise impact of the fence screening material, it has never been a major or minor source of sound in any project that I am aware of. I would not expect the fence screen to create additional noise above what is currently generated by the wind blowing through the forest and trees in that location.

Q8. What are the noise impacts of the fence screen?

A8. To address Block's concern about the noise impacts of the fence screen, I contacted the manufacturer of the fence screen product. They were unable to provide technical data on the noise emissions of wind blowing over their fence screen but did recommend that their proprietary fasteners be used to attach the material to the fence and that if the fence screen were to be installed in a windy location, a fence screen with relatively less blockage should be specified. The fence screen specified for the project has 89% blockage and is referred to as "Open Mesh Poly." The range of fence screen blockage offered by the manufacturer is 80 to 100 percent blockage.

Q9. Will the proposed fence screening material generate unduly adverse levels of noise when the wind blows through it?

A9. I have no reason to believe that the fence screening material would generate sound that would create an undue adverse impact in the surrounding neighborhood. The intervenors have provided no information to support the claim that the fence may generate sound that could be considered an adverse impact.

Q10. Have you evaluated a scenario for the Project that accounts for both Project-generated noise and ambient highway traffic noise simultaneously?

A10. Yes. The Project-generated noise analysis I submitted (Exhibit CS-RH-2) found that the maximum projected daytime sound levels at the closest residence would be 28 dBA. Further, the maximum nighttime sound level (from the Project transformers only) is projected to be 10 dBA at the same residence. The background sound levels measured onsite on the adjacent orchard

property, which were presented in the highway traffic noise analysis I submitted (Exhibit CS-RH-3), indicated that existing average daytime levels were 48 dBA and average nighttime levels were 44 dBA during the monitoring period (see Table 1). The Orchard Monitor was located approximately 160 meters (525 feet) east southeast of the residence with the highest predicted project-generated sound levels referenced above, so it is reasonable to assume that the soundscape and background sound levels were similar at these two discrete points. My analysis indicated that sound levels due to traffic noise could increase less than 2 dB at the aforementioned residence (see Figure 7) as a result of the tree removal required to accommodate the project. Assuming a 2 dB increase in the overall level at the residence when the trees are removed, the average background sound levels at the residence would be 50 dBA daytime and 46 dBA nighttime. Regardless of an increase in traffic noise or not, the background sound levels in the area are at least 20 dB higher than the maximum estimated Project-generated sound levels for both day and night at the closest residence; adding the Project-generated sound levels to the background sound levels does not result in an increase in overall sound levels.

Q11. Do you believe you have presented sufficient information to support a finding that the Project will not result in an undue adverse impact related to noise?

A11. Yes.

Q12. Does this conclude your testimony?

A12. Yes.