

Exhibit CS-BW-29

Docket 8302

Prefiled Testimony of Brad Wilson

**STATE OF VERMONT
PUBLIC SERVICE BOARD**

Petition of Chelsea Solar LLC for a certificate	)	
of public good, pursuant to 30 V.S.A. § 248,	)	
authorizing the installation and operation of	)	Docket No. _____
the “Chelsea Solar Project” consisting of a 2.0	)	
MW solar electric generation facility to be	)	
located along Highway 7 Route 30 in	)	
Bennington, Vermont	)	
	)	

**PREFILED TESTIMONY OF
BRAD WILSON
ON BEHALF OF
CHELSEA SOLAR LLC**

June 17, 2014

EXHIBITS

Exhibit CS-ECOS-1	45 Day Advance Notice Filing
Exhibit CS-ECOS-2	ALTA Survey
Exhibit CS-ECOS-3	Aerial View of Property
Exhibit CS-ECOS-4	Site Plan, Construction Details, and Elevations
Exhibit CS-ECOS-5	System Impact Study Agreement
Exhibit CS-ECOS-6	Decommissioning Plan

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

A1. My name is Brad Wilson. I am a project developer at Ecos Energy, LLC (“Ecos”). Ecos has offices located at 222 South 9th Street, Suite 1600, Minneapolis, MN 55402. Ecos performs project development and operations support services for distribution-scale solar projects. These services include land acquisition, project permitting, project design, construction management, financing, and operations management. Ecos has provided, and will continue to provide, project development services for the Chelsea Solar Project (the “Project”), which has been proposed by Chelsea Solar LLC (the “Petitioner”). Chelsea Solar LLC is held under the same ownership as Ecos.

Q2. Please describe your educational background and work experience.

A2. I received a Bachelor of Science degree in Environmental Management from the University of Minnesota. Since joining Ecos in 2010, I have been involved in the development, construction, and operation of thirteen currently operational ground-mount, distribution-scale solar facilities, with a combined nameplate capacity of twenty-one megawatts. These facilities are very similar in design, construction, and operation to the proposed Project. At Ecos, I perform project management duties for solar projects, from land acquisition through operation, with special focus on site selection, permitting, facility design, and project operation. Prior to joining Ecos, I held a project management role, working on design and installation of interiors for commercial construction projects.

1

2 **Q3. Have you previously testified before the Public Service Board?**

3 A3. Yes. I have submitted prefiled testimony related to the Sudbury Solar Project, proposed
4 by Sudbury Solar, LLC.

5

6 **Q4. What is the purpose of your testimony?**

7 A4. My testimony introduces and describes the Project and supports the Petition by the
8 Petitioner for a Certificate of Public Good pursuant to 30 V.S.A. § 248. I provide a
9 project summary and describe specific project details. I address certain Section 248
10 criteria, and introduce testimony by other witnesses that addresses additional Section 248
11 criteria. I summarize the Petitioner's interactions with various local and state agencies. I
12 also describe the Petitioner's progress towards the non-Section 248 permits required for
13 construction of a solar project in the State of Vermont.

14

15 **Q5. Did the Petitioner submit a 45 day advance notice filing for the Project, in**
16 **accordance with 30 V.S.A. § 248(f)?**

17 A5. Yes. A copy of the 45 day advance notice filing is enclosed as Exhibit CS-ECOS-1.

18

19 **Q6. Please generally describe the Project.**

20 A6. The Project is a proposed 2.0 megawatt (AC) solar photovoltaic electricity generation
21 facility, located on a 27.3 acre parcel of land, in Bennington, VT along Highway 7. The
22 Petitioner has legal control of the property through a lease agreement. The property is

1 currently vacant, and has had no recent residential, commercial, or agricultural use. The
2 property does not carry a street address, but is identified in Book 460, Page 219 of the
3 Bennington Land Records, and the property can be located with GPS coordinates of
4 42.908764, -73.206395. The property has a zoning category of "Rural Conservation."
5 The 27.3 acre parcel is currently 100% uncleared woodland. The Project is designed to
6 fit entirely within parcel boundaries; clearing of existing woodland for the Project area is
7 proposed. The Project area occupies the northern approximately 15 acres of the property.
8 A copy of the ALTA survey for the property is enclosed as Exhibit CS-ECOS-2 and an
9 aerial view of the property is enclosed as Exhibit CS-ECOS-3.

10
11 A set of stamped engineering documents for the Project that includes a site plan, civil
12 construction details, and elevations is enclosed as Exhibit CS-ECOS-4. This set of
13 documents illustrates the proposed facility footprint, which covers approximately 13.0
14 acres inside the facility perimeter fence. The project will incorporate 14.85 acres of
15 clearing area, 2.24 acres of grading work area, and 0.75 acres of impervious surface
16 resulting from the installation of an aggregate surface private access driveway. Although
17 a square or rectangular block footprint is slightly more cost efficient from a construction
18 materials perspective, this footprint has been deliberately designed so as to minimize
19 changes in existing topography or soil conditions.

20
21 The Project is simple in its design and construction, and it consists of few major
22 elements. The most significant component of this project is the approximately 2.8 MW

1 (DC) worth of 72-cell polysilicon photovoltaic solar modules. These solar modules will
2 be of the common, commercially available type, and will serve as the electricity
3 generation element of the facility. The solar modules will be mounted above the ground
4 upon a steel fixed-tilt racking system. This racking system elevates the solar modules
5 above the ground (18 inches of ground clearance at the lowest point, 9 feet at the highest
6 point) and orients the modules due directly south at a tilt angle of 30 degrees. This
7 racking remains in a fixed position and does not move to track the sun throughout the
8 day. The racking system will be supported by steel h-beams that are pile driven directly
9 into the ground.

10
11 DC combiner/disconnect cabinets will collect the output of the solar module strings into
12 larger cabling runs that travel to an equipment skid near the center of the project. All
13 cabling runs within the project will be installed in underground conduit. The central
14 equipment skid will serve as the location for inverter, transformer, monitoring,
15 communications, and protection equipment. Most of the equipment on the central skid
16 will be at most 8 feet in height from the ground, but some camera and weather sensor
17 equipment may be up to 12 feet in height from the ground. At the central equipment
18 skid, the electric output of the solar modules will be collected, inverted from direct
19 current to alternating current and stepped-up to 12.47 kV for delivery into Green
20 Mountain Power's ("GMP") distribution grid.

21

1 In addition to the modules, racking, and central equipment skid, the Project will contain a
2 16 foot wide aggregate access road running through the center of the project. This road
3 provides access for maintenance purposes, as well as for fire and rescue, if necessary.
4 The Project footprint will be surrounded by 8-foot high fence incorporating knotted mesh
5 6x6 'game' fencing fabric material. This fence will serve as a security barrier to keep
6 unintended visitors outside of the project footprint. Outside of the fence, but remaining
7 on the Petitioner's property, the Project will interconnect with an overhead GMP
8 distribution line along Willow Road to the south of the Project footprint. These details
9 are illustrated in Exhibit CS-ECOS-4.

10
11 The Project will sell all generated electricity to GMP through a power purchase
12 agreement ("PPA") with VEPP, Inc. This agreement was executed on June 20, 2013,
13 through the Vermont SPEED standard offer program. This agreement allows the sale of
14 electricity for a period of 25 years. During its operation, the Project will contribute to the
15 State of Vermont's renewable energy goals.

16
17 **Q7. Will the project adhere to all applicable local, state, and national design codes,**
18 **regulations, and standards?**

19 A7. Yes. If the project is given approval to construct and operate, the Petitioner will engage
20 the services of licensed civil, structural, electrical, and landscape engineers to produce a
21 stamped and certified set of design documents for the Project that specifies exactly how it

1 is to be constructed. All aspects of project design will adhere to all applicable local,
2 state, and national design codes, regulations, and standards.
3

4 **Q8. Please describe the Project's proposed construction process and schedule.**

5 A8. Once initiated, construction and commissioning activities for the Project are anticipated
6 to take approximately five months. If the Project receives the required permits to
7 construction, it is anticipated that the Project will be operational in summer 2015.
8

9 Project construction can be described in four major phases; site preparation, array
10 construction, facility wiring, and system commissioning. Site preparation for the Project
11 will include clearing of the existing forest vegetation, minimal surface grading, and
12 stabilization of the exposed ground surface. This will be done in three phases, as shown
13 in Exhibit CS-ECOS-4, so as to minimize the amount of non-stabilized surface at any one
14 time. Cleared vegetation will be chipped onsite and stored in the two staging areas noted
15 in Exhibit CS-ECOS-4, before being shipped offsite and disposed of at an appropriate
16 nearby disposal facility. Surface grading will include approximately 900 cubic yards of
17 cut and 1,500 cubic yards of fill, which includes 600 cubic yards of aggregate material
18 for the private access driveway. Surface grading will not significantly alter existing site
19 topography. Surface grading will be used to install the access driveway and stormwater
20 management features. Site preparation for the Project will consist of construction
21 mobilization, survey/staking, clearing, stabilization, grading, compaction and installation

1 of aggregate access road, installation of perimeter security fence, and trenching for
2 underground conduit. This phase may take up to one month to complete.

3
4 Following site preparation, array construction will commence. Steel h-beams to support
5 the solar racking will be pile driven into the ground. Steel racking will be installed upon
6 the h-beams. Solar modules will be installed upon the racking. DC
7 disconnect/recombiner cabinets will be installed, and conduit for underground cable will
8 be put into place. A foundation for the central equipment skid will be prepared, and the
9 skid will be installed into place. This phase represents the physical installation of the
10 majority of the solar generation equipment. This phase may take up to two months to
11 complete.

12
13 Following array construction, facility wiring will commence. During this phase, all
14 wiring and cabling between the solar modules and GMP's distribution circuit will be
15 installed. Protective devices, such as fuses, switches, and breakers, will also be installed
16 during this phase. This phase may take up to one month to complete.

17
18 The final phase will be system commissioning. During this phase, the solar facility will
19 be rigorously tested and calibrated for safe and efficient operation. Any required pre-
20 operational certifications will be obtained during this phase. Only after successful testing
21 and complete certification will the facility be ready to enter operation. Also during this

1 phase final landscaping and final ground cover stabilization activities will occur. This
2 phase may take up to one month to complete.

3
4 During this period, construction activities will take place Monday through Friday, 8:00
5 AM to 5:00 PM. No construction will take place during evenings, nighttime, weekends,
6 or holidays. All applicable local, state, and national rules and regulations governing
7 proper operation of a construction site will be followed. All construction activities will
8 be performed in accordance with all issued permits, including 248 Certificate of Public
9 Good, 3-9020 Construction General Permit, and Vermont Wetlands Permit. Mechanical
10 equipment onsite may include pickup truck, bulldozer/compactor, pile driver, forklift, and
11 tractor. If water application is required for dust control, that water will be applied
12 regularly by water trucks. Equipment deliveries (such as racking materials or solar
13 modules) will take place throughout the construction period, with an estimated average of
14 0.3 53-foot vans per day. Total number of construction crew onsite per day is estimated
15 to be 30 during the construction period. This number of crew is not expected to create an
16 adverse increase in area traffic during the construction period. The Petitioner will
17 provide onsite parking for the construction crew.

18
19 **Q9. Please describe the operations of the Project, once commissioned.**

20 A9. Once operational, the Project will require little onsite Petitioner staff presence.
21 Generally, the Project equipment is designed to function automatically and
22 autonomously. There is no regular onsite staff proposed for the Project. However,

1 periodic equipment and landscaping maintenance is required, and the Project would
2 experience 2-3 site visits per month, on average, by a single-truck crew to perform these
3 maintenance duties. Once per year, a water truck crew would wash the solar modules
4 with water only; no chemicals, cleaners, or solvents are used. Unscheduled maintenance
5 or repair trips to the site may occur, as needed.

6
7 The Project will utilize a robust set of monitoring and communications equipment to
8 provide a real-time stream of data regarding system performance to offsite personnel.
9 This system will report on weather data, solar production, equipment efficiency, and
10 operating conditions. The system will send out immediate trouble alarms for all
11 equipment, allowing the Petitioner to dispatch repair personnel immediately in the event
12 of a problem. The monitoring system will also incorporate two network video cameras,
13 allowing the Petitioner to view project conditions from offsite.

14
15 In addition to the perimeter fence, site security will be bolstered by the installation and
16 operation of a series of motion-sensitive infrared video security cameras. These cameras
17 will be operated and monitored by a national security systems provider. If motion is
18 detected, the cameras will provide a video feed to a national monitoring center. If the
19 video evidence suggests an unauthorized visitor onsite, the Petitioner will be contacted.
20 If necessary, the security provider may contact the local police or sheriff with the
21 Petitioner's permission. As an additional safety measure, all electrical boxes onsite will
22 be locked, limiting access to authorized users.

1
2 In addition to equipment maintenance, it is the goal and intent of the Petitioner to
3 maintain the vegetation and landscaping of the property in a manner consistent with town
4 and neighbor standards. Landscaping and ground cover vegetation will be periodically
5 maintained to achieve a neat and groomed appearance. The Project will benefit from
6 keeping groundcover trimmed low and maintaining investments in installed landscaping.
7

8 **Q10. What benefits does the Project provide to the State of Vermont?**

9 A10. As a solar facility under the SPEED Standard Offer program, the Project will contribute
10 towards the State of Vermont reaching its legislatively mandated renewable energy goals.
11 Specifically, the goals stated in 30 V.S.A § 8005(d)(2) and 30 V.S.A § 8005(d)(4). The
12 Project will generate electricity for use by Vermont residents from solar radiation, a
13 renewable and emission-free fuel source. The electricity generated by the Project will
14 reduce the need for electricity generated using more traditional fossil fuel sources, which
15 will lead to a reduction in the negative environmental impacts associated with fossil fuel
16 based electricity generation. The Project will also create economic benefits, which are
17 described in more detail in question 15 below.

18 **Q11. Has the Petitioner consulted any local experts regarding potential project impacts?**

19 A11. Yes. The Petitioner has consulted with a number of local experts and has specifically
20 engaged the services of three individuals to ensure that the Project is developed in a
21 manner that satisfies each of the Section 248 criteria. Mark Kane, of SE Group, will
22 provide prefiled testimony addressing the aesthetic segment of 30 V.S.A. § 248(b)(5), as

1 well as addressing the Project's compatibility with the orderly development of the region
2 per 30 V.S.A. § 248(b)(1). Scott Mapes will provide prefiled testimony regarding a
3 number of Section 248 criteria, including Environmental Considerations (30 V.S.A. §
4 248(b)(5)), Outstanding Resource Waters (30 V.S.A. § 248(b)(5) and 30 V.S.A. §
5 248(b)(8)) and Historic Sites (30 V.S.A. § 248(b)(5)). Dori Barton, of Arrowwood
6 Environmental, will provide prefiled testimony regarding Environmental Considerations
7 (30 V.S.A. § 248(b)(5)), specifically addressing wetlands, other water resources, and
8 natural areas and species.

9
10 **Q12. Will the Project unduly interfere with the orderly development of the region? (30**
11 **V.S.A. § 248(b)(1))**

12 A12. No. Please refer to the prefiled testimony of Mark Kane.

13
14 **Q13. Does the Project comply with the 'need' criteria listed in 30 V.S.A. § 248(b)(2)?**

15 A13. Yes. The project is a SPEED resource, per its PPA with VEPP, Inc, dated June 20, 2013.
16 SPEED Resources meet the 'need' criteria, per 30 V.S.A. § 8005(b)(8).

17
18 **Q14. Does the Project adversely affect system stability and reliability? (30 V.S.A. §**
19 **248(b)(3))**

20 A14. No. GMP is performing a system impact study that investigates the impacts of the
21 Project's interconnection to the GMP distribution system and identifies the system
22 upgrades necessary to maintain stability and reliability. The Petitioner must enter into an

1 interconnection agreement with GMP before the Project will be allowed to interconnect
2 to GMP's distribution system. Completion of the upgrades identified in GMP's system
3 impact study (at the Petitioner's expense) will be a requirement of the interconnection
4 agreement. Final execution of that interconnection agreement is pending. A copy of the
5 system impact study agreement is enclosed as Exhibit CS-ECOS-5. A copy of the system
6 impact study results will be provided as a supplemental exhibit as soon as it is completed
7 by GMP.

8
9 **Q15. Does the Project result in an economic benefit to the State and its residents? (30**
10 **V.S.A. § 248(b)(4))**

11 A15. Yes. Project construction will create a number of temporary new construction jobs in the
12 region, as well as increased local economic activity associated with those jobs. Project
13 operation will create a smaller number of new job hours for facility and landscaping
14 maintenance purposes. The Project will generate additional tax revenue for the Town of
15 Bennington and the State of Vermont. The Project will help the State of Vermont reach
16 its renewable energy generation goals.

17
18 **Q16. Does the Project have an undue adverse effect on aesthetics? (30 V.S.A. § 248(b)(5))**

19 A16. No. Please refer to the prefiled testimony of Mark Kane.

20
21 **Q17. Does the Project have an undue adverse effect on historic sites? (30 V.S.A. §**
22 **248(b)(5))**

1 A17. No. Please refer to the prefiled testimony of Scott Mapes and Mark Kane.

2
3 **Q18. Does the Project have an undue adverse effect on air and water purity? (30 V.S.A. §**
4 **248(b)(5))**

5 A18. No. Please refer to the prefiled testimony of Scott Mapes and Dori Barton.

6
7 **Q19. Does the Project have an undue adverse effect on the natural environment? (30**
8 **V.S.A. § 248(b)(5))**

9 A19. No. Please refer to the prefiled testimony of Scott Mapes and Dori Barton.

10
11 **Q20. Does the Project have an undue adverse effect on the use of natural resources? (30**
12 **V.S.A. § 248(b)(5))**

13 A20. No. Please refer to the prefiled testimony of Scott Mapes and Dori Barton.

14
15 **Q21. Does the Project have an undue adverse effect on the public health and safety? (30**
16 **V.S.A. § 248(b)(5))**

17 A21. No. The Project creates no adverse environmental effects (see questions 16 through 20,
18 above). The Project does not create any waste or other emissions that would be harmful
19 to the public health and safety. The Project will be designed to follow all applicable
20 safety codes (see question 7, above). The Project will include safety and security
21 measures designed to discourage access to the site by unauthorized/untrained members of
22 the public (see question 9, above).

1

2 **Q22. Does the Project meet the Section 248 criteria listed in 30 V.S.A. § 248(b)(6)?**

3 A22. Yes, per State of Vermont Public Service Board Section 8007(b) order, dated August 31,
4 2010.

5

6 **Q23. Does the Project meet the Section 248 criteria listed in 30 V.S.A. § 248(b)(7)?**

7 A23. Yes, per State of Vermont Public Service Board Section 8007(b) order, dated August 31,
8 2010.

9

10 **Q24. Does the Project involve a facility affecting or located on any segment of the waters**
11 **of the State that has been designated as outstanding resource waters? (30 V.S.A. §**
12 **248(b)(8))**

13 A24. No. Please refer to the prefiled testimony of Scott Mapes and Dori Barton.

14

15 **Q25. Does the Project meet the Section 248 criteria listed in 30 V.S.A. § 248(b)(9)?**

16 A25. The Project is not a waste to energy facility, therefore 30 V.S.A. § 248(b)(9) does not
17 apply.

18

19 **Q26. Can the Project be served economically by existing or planned transmission**
20 **facilities without undue adverse effect on Vermont utilities or customers? (30**
21 **V.S.A. § 248(b)(10))**

1 A26. Yes. Per the system impact study being performed by GMP (Exhibit CS-ECOS-5), some
2 network upgrades are likely necessary before the Project may interconnect to the GMP
3 distribution grid. Those upgrades will be performed entirely at the cost of the Petitioner.
4 Final details will be provided once GMP completes the system impact study.

5
6 **Q27. Does the Project meet the Section 248 criteria listed in 30 V.S.A. § 248(b)(11)?**

7 A27. The Project is not a woody biomass facility, therefore 30 V.S.A. § 248(b)(11) does not
8 apply.

9
10 **Q28. Does the Project cause unreasonable congestion or unsafe conditions with respect to**
11 **use of the highways, waterways, airports and airways, and other means of**
12 **transportation? (10 V.S.A. § 6086(a)(5))?**

13 A28. No. The Project site will be accessed via a private access driveway connecting to Apple
14 Hill Road through an adjacent property. The proposed ingress upgrade (private access
15 driveway) is in accordance with state and local standards and will not interfere with
16 regular operation of Apple Hill Road. Additional traffic generated by the Project during
17 construction and operation periods will be of a low volume and will not cause congestion
18 or otherwise adversely affect existing traffic patterns.

19
20 **Q29. Does the Project cause an unreasonable burden on the ability of a municipality to**
21 **provide educational services (10 V.S.A. § 6086(a)(6))?**

1 A29. No. The Project does not create any permanent full time jobs and would therefore not
2 contribute to bringing new families with additional students to the area. The Project will
3 have no impact on area educational services.
4

5 **Q30. Does the Project place an unreasonable burden on the ability of the local**
6 **governments to provide municipal or governmental services (10 V.S.A. §**
7 **6086(a)(7))?**

8 A30. No. The Project does not require any municipal sewer or water services. The Project
9 will not require above average use of municipal police, fire or rescue services. Per
10 questions 7 and 21 above, the Project will be designed and installed in accordance with
11 all applicable safety codes and will not be a risk to public health and safety.
12

13 **Q31. Does the Project include a decommissioning plan in accordance with State of**
14 **Vermont Public Service Board Rule 5.402(C)(2)?**

15 A31. Yes, a detailed decommissioning plan is enclosed as Exhibit CS-ECOS-6. The
16 decommissioning plan provides details and a cost estimate for removal of the solar
17 facility and rehabilitation of the Project property back to its pre-project condition. The
18 PPA for the Project has a term of twenty-five years. At the end of the PPA term, the
19 Petitioner will determine whether: (i) it is financially viable to continue to operate the
20 Project as is; or (ii) a Section 248 amendment should be filed to repower the Project with
21 new solar modules and equipment at that time; or (iii) the Project should be
22 decommissioned. The decommissioning plan also addresses decommissioning in the

1 event of project abandonment. A detailed cost estimate totaling \$151,500 is included in
2 the decommissioning plan. The Petitioner would agree to establish a decommissioning
3 fund in this amount, prior to project construction, naming the Public Service Board as
4 beneficiary. The Petitioner is open to discussing the Public Service Board's preferred
5 vehicle for this type of fund.
6

7 **Q32. Is a permit with the Vermont Department of Transportation ("VTrans") required**
8 **for site access off of Apple Hill Road?**

9 A32. No. A Vtrans permit is not anticipated as required for site access off of Apple Hill Road.
10

11 **Q33. Will the Petitioner pursue a 3-9020 Construction General Permit with the Vermont**
12 **Agency of Natural Resources ("ANR") for stormwater runoff during construction?**

13 A33. The Project site has been assessed by a local engineer (Scott Mapes) as a Medium Risk
14 Site for stormwater runoff. A Medium Risk Notice of Intent (NOI) will be mailed to the
15 Bennington Town Clerk in pursuit of 3-9020 general permit coverage.
16

17 **Q34. Will the Petitioner pursue a Wetland Permit with the Vermont Wetland Program**
18 **(VWP) for impacts to or near a delineated wetland?**

19 A34. No. The Project will not impact wetlands. See the prefiled testimony of Dori Barton for
20 more details.
21

22 **Q35. Has the Petitioner received any comments from ANR regarding the Project?**

1 A35. Yes. The Petitioner introduced the Project to ANR and sought comments and feedback
2 on the facility design as it relates to wildlife and habitat issues. The Petitioner set up a
3 discussion with Billy Coster, an ANR representative, on January 3, 2014. The following
4 describes ANR's comments and requests regarding the Project and the Petitioner's
5 response to those comments and requests.

6
7 Regarding wetlands, ANR requested that an onsite wetlands delineation be performed
8 and the Project footprint be designed to avoid wetlands impacts. See the prefiled
9 testimony of Dori Barton for wetlands details.

10
11 Regarding existing trees and shade management, ANR questioned how much of the
12 existing forest cover would be cleared for the Project. Approximately 14.85 acres will be
13 cleared.

14
15 Regarding transformer coolant, ANR questioned whether the medium-voltage step-up
16 transformer proposed for use in the Project uses liquid coolant and whether the Petitioner
17 plans to install secondary containment to hold the transformer coolant in the event of a
18 leak. The medium voltage transformer does contain a biodegradable coolant oil, and the
19 Project will include the construction of a secondary containment structure.

20
21 Regarding perimeter fencing, ANR commented that they would like to see fencing
22 installed with at least a one foot gap between the bottom of the fence material and the

1 ground to allow for smaller wildlife to traverse the Project footprint area. The Petitioner
2 will comply with this request and will install the proposed eight foot knotted mesh game
3 fencing with a one foot gap between the bottom of the fence material and the ground.
4

5 Regarding a plant inventory, ANR would like to see a Rare, Threatened, and Endangered
6 (R/T/E) plant species inventory performed on the Project property. This inventory could
7 not be performed before the Project 248 petition was filed RTE inventories are only
8 allowed after June 15 by ANR. The Petitioner will perform an RTE inventory in early
9 July 2014 and file the results as supplemental exhibit.
10

11 **Q36. Has the Petitioner received any comments from the Town of Bennington regarding**
12 **the Project?**

13 A36. Yes. The Petitioner met with the Town of Bennington energy and development review
14 committees (the "Town") on March 4, 2014. At this meeting, the Petitioner introduced
15 and described the Project and answered questions from the Town and the public. Based
16 on comments received at the meeting, the Town supports the expansion of solar energy
17 within Vermont and Bennington, and noted that the Project is located in an area that the
18 Town has identified as optimal and preferred for solar energy. The Petitioner answered
19 questions about the design and visual appearance of the Project, and left contact
20 information for any additional questions following the meeting. No additional questions
21 or comments have been received from the Town.
22

1 **Q37. Can you describe what concrete foundations will be required for the Project?**

2 A37. Yes. As previously described, 8 concrete sonotubes will support the central equipment
3 skid structure. The concrete sonotubes will be approximately 18 inches in diameter, they
4 will have a burial depth of approximately 8 feet, and they will support the equipment skid
5 at a height of approximately 12 inches above grade. A concrete pad will be constructed
6 to support the pad-mounted interconnection equipment (metering cabinet and recloser
7 cabinet) required by Green Mountain Power (“GMP”). This pad will be located at the
8 interconnection equipment location shown on page 4 of the Project site plans (Exhibit
9 CS-ECOS-4). This pad will be approximately 13 feet in length by 10 feet in width with a
10 burial depth of approximately 18 inches. The pad will support the equipment cabinets at
11 a height of approximately 6 inches above grade. No other concrete foundations are
12 proposed.

13
14 **Q38. Will secondary containment be installed for the Project’s medium voltage**
15 **transformer?**

16 A38. Yes. The Project requires a medium voltage transformer to step up the Project’s
17 electrical output to higher voltage for interconnection to GMP’s distribution system. The
18 medium voltage transformer will contain approximately 500 gallons of biodegradable
19 cooling oil. Although the transformer is designed to contain this oil in the event of a
20 chassis failure, the Project will also incorporate a secondary containment system to
21 safeguard against the release of the biodegradable cooling oil into the environment. The
22 secondary containment system will consist of a collection curb and pipe system

1 surrounding the central equipment skid, where the medium voltage transformer is housed.
2 The pipe system will be routed to a 2.5 foot wide by 1.5 foot deep by 40 foot concrete
3 trough. The concrete trough is sized to accommodate rain impoundment and 150% of the
4 500 gallons of oil in the transformer. There will also be an outlet pipe with a reactive
5 plug to allow collected rainwater to seep out of the trough, but not any transformer oil
6 should containment occur. This will insure that the secondary containment system will
7 remain dry and fully capable of holding 150% of the transformer oil.
8

9 **Q39. Will the Project generate offsite noise impacts during operation?**

10 A39. No. The only Project equipment that has any ability to generate noise are the inverters
11 and the medium voltage transformer. The inverters generate a maximum of 50 decibels
12 at a distance of 10 feet, and the transformer generates a maximum of 60 decibels at a
13 distance of 10 feet. At the distances to and outside of the Project boundary, these sounds
14 will be inaudible or indistinguishable from ambient environmental noise
15

16 **Q40. Does the Project unnecessarily or unreasonably endanger the public or quasi-public**
17 **investment in adjacent governmental and public utility facilities, services, and lands,**
18 **or does the Project materially jeopardize or interfere with the function, efficiency,**
19 **or safety of the public's use or enjoyment of or access to the facility, service, or**
20 **lands? (10 V.S.A. § 6086(a)(9)(K))?**

21 A40. No. Existing adjacent public investments as described in 10 V.S.A. § 6086(a)(9)(K) are
22 limited to Highway 7 and GMP's overhead distribution circuit. There are no Project

1 impacts that would endanger or interfere with Highway 7. Per the previously submitted
2 system impact study performed by GMP (Exhibit SS-ECOS-5), there will be no adverse
3 effects to their distribution system as a result of the Project interconnection.

4

5 **Q41. Does this conclude your testimony?**

6 A41. Yes.