

**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

**PREFILED DIRECT TESTIMONY
OF BRAD WILSON
ON BEHALF OF PETITIONER**

November 27, 2017

EXHIBITS

Exhibit CS-BW-1	Resume of Brad Wilson
Exhibit CS-BW-2	Clearing Boundary Comparison
Exhibit CS-BW-3	Project Footprint Comparison
Exhibit CS-BW-4	45-Day Notice Materials
Exhibit CS-BW-5	ALTA Survey of Project Parcel
Exhibit CS-BW-6	Vicinity Map of Project Parcel
Exhibit CS-BW-7	Aerial View of Project Parcel
Exhibit CS-BW-8	Decommissioning Plan
Exhibit CS-BW-9	System Impact Study
Exhibit CS-BW-10	Interconnection Agreement
Exhibit CS-BW-11	Interconnection Map
Exhibit CS-BW-12	Transcript of 08.14.17 Bennington Select Board Meeting
Exhibit CS-BW-13	Comments from BCRC Energy Committee
Exhibit CS-BW-14	Bennington County Regional Plan
Exhibit CS-BW-15	Bennington County Regional Energy Plan
Exhibit CS-BW-16	Email from VT DHP and 02.11.15 DHP Letter
Exhibit CS-BW-17	Email from Don Campbell to Libby Harris
Exhibit CS-BW-18	Bennington Solar Screening Ordinance
Exhibit CS-BW-19	Bennington Solar Facility Siting Amendment
Exhibit CS-BW-20	Bennington Letter to PUC re Paper Mill Solar Project
Exhibit CS-BW-21	Photo of Paper Mill Solar Project
Exhibit CS-BW-22	Photo of ER Bennington Solar Project
Exhibit CS-BW-23	Bennington Town Plan
Exhibit CS-BW-24	Bennington Scenic Resource Inventory
Exhibit CS-BW-25	Deposition of Dan Monks for the Town of Bennington
Exhibit CS-BW-26	Bennington RCON Design Standards
Exhibit CS-BW-27	Bennington Land Use Regulations

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

2 A1. My name is Brad Wilson. I am a Project Developer at Ecos Energy LLC (“Ecos”). My
3 business address is 222 South 9th Street, Suite 1600, Minneapolis, Minnesota 55402. Ecos and
4 the Petitioner are sister companies under indirect common ownership.

6 **Q2. Please describe your educational background and work experience.**

7 A2. I received a Bachelor of Science degree in Environmental Science, Policy, & Management
8 from the University of Minnesota. In 2010, I joined the project development team at Ecos. Ecos
9 provides project development and operations support services for utility-scale solar projects. In
10 my role as Project Developer, I perform work in all phases of the development of ground-mounted
11 utility-scale photovoltaic (“PV”) solar projects. I specialize in project design, permitting &
12 community outreach, project construction, and project operation. I have been directly involved,
13 from concept through operation, in the development of 21 currently-operational solar generating
14 facilities with a combined nameplate generating capacity of 43 megawatts (“MW”), including one
15 in Vermont (the Sudbury Solar Project in Sudbury, VT). A copy of my resume is included as
16 *Exhibit CS-BW-1*.

18 **Q3. Have you previously testified before the Public Utility Commission or in other**
19 **judicial or administrative proceedings?**

20 A3. Yes. I have testified on multiple other ground-mounted solar projects before the Public
21 Utility Commission, including the Sudbury Solar Project (PUC Docket No. 8225), the Apple Hill
22 Solar Project (PUC Docket No. 8454), the Otter Creek 1 Solar Project (PUC Docket No. 8797),

1 the Otter Creek 2 Solar Project (PUC Docket No. 8798), and the Battle Creek 1 Solar Project (PUC
2 Docket No. 17-3727-PET).

3
4 **Q4. What is the purpose of your testimony?**

5 A4. My testimony introduces the Chelsea Solar Project (the “Project”), and it introduces the
6 testimony and exhibits being provided by Dori Barton, Ian Jewkes, Mark Kane, Harnoor Dhaliwal,
7 Ryan Haac, and Scott Reynolds. My testimony describes details regarding Project design,
8 construction, operation, and decommissioning. My testimony details the community outreach
9 undertaken by Chelsea Solar LLC (the “Petitioner”) during the development of the Project site
10 design prior to the filing of this petition for a Certificate of Public Good (“CPG”) under 30 V.S.A.
11 § 248. My testimony describes the Project’s compliance with specific elements of certain
12 municipal and regional plans. In addition, my testimony discusses the Project’s compliance with
13 the relevant statutory criteria under 30 V.S.A. § 248, 10 V.S.A. § 6086, and 10 V.S.A. § 6001.

14
15 **Q5. Can you briefly describe how the Project differs from the project that was the**
16 **subject of PUC docket 8302?**

17 A5. The design of the Project is an amended version of the design for the project that was the
18 subject of PUC docket 8302. The amended design significantly reduces the Project’s footprint and
19 clearing area compared to the original design in docket 8302. The reduced clearing results in
20 increased setbacks and substantial vegetation being retained which naturally screens the Project.
21 The design for the Project’s generation facility sits completely within the footprint reviewed
22 previously in docket 8302. However, portions of the Project’s access road corridor (and associated

clearing area) sits outside of the original clearing and Project footprint boundaries. See the included *Exhibit CS-BW-2* for a comparison of clearing boundaries between the original and amended site plans. See the included *Exhibit CS-BW-3* for a comparison of Project footprint boundaries between the original and amended site plans. Versus the original plans in docket 8302, the amended plans also reduce the Project's equipment profile as described later in my testimony. The footprint reduction was accomplished by switching to the use of higher-wattage solar modules, reducing the module tilt angle, and reducing the amount of space between each row of module racking. Fencing height has been increased to 10-feet so that a partially-opaque mesh screening material can be used in certain locations for aesthetics purposes. The amended plans also call for a different method of clearing the site to reduce impact; specifically cutting stumps off at ground level and leaving them in place in most locations rather than site-wide mechanized grubbing.

Q6. Did the Petitioner submit a 45-day advance notice filing for the Project in accordance with 30 V.S.A. § 248(f)?

A6. Yes. 45-day advance notice documents for the Project were delivered to the required parties on October 13, 2017. A copy of these documents and confirmation of delivery is included as *Exhibit CS-BW-4*.

Q7. Please generally describe the Project.

A7. The Project is a 2.0 MW ground-mounted PV solar electricity generation facility located on a portion of a 27.3 acre parcel of land in the town of Bennington, Vermont. The generator portion of the Project sits entirely within the boundaries of the project boundaries proposed in

1 docket 8302. The Project utilizes crystalline silicon PV solar modules to convert solar radiation
2 to electricity. Through a grid interconnection, that electricity would be placed onto the distribution
3 circuit of a local electric utility (Green Mountain Power (“GMP”) in this case) and would be sold
4 under a long-term standard offer power purchase agreement (“PPA”) to VEPP, Inc. The Project
5 is simple in its design and construction, and it consists of only a few major elements. The primary
6 component of the Project is an array of PV solar modules. These modules perform the work of
7 converting solar radiation into direct-current (“DC”) electricity. These modules are of the
8 crystalline silicon variety, which is the most common type of solar module and widely used on top
9 of homes, on top of businesses, and within other ground-mounted solar projects across Vermont.
10 The Project is designed to use a higher-wattage variety of crystalline silicon solar module widely
11 known as “mono PERC.” The solar cells used in a mono PERC module have a dark black color,
12 as opposed to the blue color seen in the more common polysilicon variety of solar module. The
13 modules are positioned above the ground and held in place by a steel and aluminum racking
14 system. The racking system groups the modules into multiple rows that run west to east. The
15 racking system orients the modules facing directly south at a tilt angle of 15 degrees. The racking
16 system is “fixed-tilt,” meaning that the modules are held in a fixed position and do not move during
17 the course of a day; there are no moving parts or pieces within the racking system. The racking
18 system is planned to be supported above the ground by galvanized steel h-beams that are driven
19 directly into the soil. The h-beams are designed to allow for 36 inches of clearance between the
20 ground surface and the lowest edge of the solar modules. In this arrangement, the solar modules
21 will reach a maximum height of approximately 7 to 8 feet above the ground surface at their highest
22 edge. A cross-section illustration of the racking system can be found on Sheet 102 of **Exhibit CS-**

1 **IJ-2**, which is included with the Prefiled Testimony of Ian Jewkes in this docket. The majority of
2 the Project footprint is comprised of the rows of racking and modules. Solar modules are
3 connected to a number of “string” dc-to-ac inverters, located behind the racking rows, throughout
4 the array. Underground collection wiring connects the inverters to an equipment skid located along
5 the northern boundary of the solar module array. This equipment skid will house the switchboard,
6 transformer, and communications/monitoring equipment for the Project. The skid supports the
7 equipment atop a pre-fabricated steel floor that includes a secondary transformer oil containment
8 system built into the base. The major equipment cabinets on the skid, as well as the skid frame
9 and floor, will be painted ANSI 61 dark gray. Underground cabling will connect the skid location
10 to a set of pole-mounted utility equipment located at the southeastern corner of the Project
11 footprint. Here, the utility interconnection equipment will be installed and the Project output
12 cabling will run above-ground and ultimately connect with the existing GMP electric circuit that
13 runs overhead along Willow Road at the southern boundary of the Project property. The Project
14 also includes a 14-foot wide gravel private access driveway that extends south approximately 850
15 feet from Willow Road to the Project equipment skid location. A 10-foot high security fence will
16 surround the perimeter of the Project. The fence will utilize metal fence posts and chain-link style
17 fencing fabric. No barbed wire will be used atop the perimeter fence, and a padlocked vehicle gate
18 will control access through the fence at the access driveway entrance near the equipment skid.
19 Certain portions of the fenceline will also be covered with a partially opaque mesh screening
20 material, which is described in more detail in the Prefiled Testimony of Mark Kane in this docket.
21 Within the Project footprint, ground-cover will consist of mulch, periodically-mown native grass
22 mix, and existing brush vegetation. There are no other major Project components. The area inside

1 the perimeter fence (the “Project Site”) will cover approximately 7.1 acres with the solar modules
2 occupying approximately 3.34 acres. The Project’s overall site plan is detailed in ***Exhibit CS-IJ-***
3 ***2***, which is included with the Prefiled Testimony of Ian Jewkes in this docket.

4
5 **Q8. Where is the Project located?**

6 A8. The Project is located on a portion of a 27.3 acre parcel of land in the town of Bennington,
7 Vermont. The ALTA survey for the entire 27.3 acre parcel (the “Parcel”) is included as ***Exhibit***
8 ***CS-BW-5***, a vicinity map is included as ***Exhibit CS-BW-6***, and an aerial view of the Parcel is
9 included as ***Exhibit CS-BW-7***. The Parcel is located in the northern area of the Town and is
10 situated within the northeastern quadrant of the Route 7 / Route 279 interchange. The Parcel is
11 accessed via Willow Road, which is a public road that intersects the Parcel’s southern boundary.
12 The Parcel is vacant, containing no structures. The Parcel can be identified with the GPS
13 Coordinates 42.9083, -73.2059. Decades ago, portions of the Parcel were used as grazing pasture;
14 however, currently the Parcel is almost entirely covered in a mix of existing invasive species and
15 forest-type vegetation. The Parcel contains a small segment of Class II wetlands in the
16 southwestern corner, which are entirely avoided by the Project. Please refer to the Prefiled
17 Testimony of Dori Barton and related exhibits in this docket for a more detailed description of the
18 ecological characteristics of the Parcel and Project Site. The solar array portion of the Project site
19 slopes gently to the southwest at an average slope around 8%. It is that slope together with the
20 proximity to existing hedgerows and other topographical features that naturally screen the Project.
21 Please refer to the Prefiled Testimony of Ian Jewkes and related exhibits in this docket for a more
22 detailed description of the civil and topographical characteristics of the Parcel and Project Site.

1 The Parcel is located within the Rural Conservation Land Use District in the Bennington Town
2 Plan and the Rural Conservation Zoning District in the Bennington Land Use Regulations. The
3 Project Site is bounded (i) on the west by the Route 7 corridor, (ii) on the south by the Route 279
4 / Route 7 interchange, (iii) on the north by existing residential uses, and (iv) on the east by an old
5 apple orchard, no longer in use. Please refer to the Prefiled Testimony of Mark Kane and related
6 exhibits in this docket for a further description of the Parcel and Project Site's land use designation
7 and neighboring land uses. The Petitioner will lease the land necessary for the Project from the
8 owner of the Project Site, PLH LLC ("PLH") (PLH LLC and Chelsea Solar LLC are indirectly
9 under common ownership).

10
11 **Q9. Please describe the construction phase of the Project.**

12 A9. Given that the Project Site is currently vegetated, an area for the Project footprint must be
13 cleared of existing vegetation prior to the commencement of Project construction. The area to be
14 cleared for the Project is estimated to be 9.64 acres. The area to be cleared is the minimum needed
15 for the construction and efficient operation of the Project. The boundary of this clearing area is
16 detailed on Sheet 103 of *Exhibit CS-IJ-2*, which is included with the Prefiled Testimony of Ian
17 Jewkes in this docket. Also please refer to the Prefiled Testimony of Ian Jewkes for a more detailed
18 description of how these clearing activities will be performed. Vehicles and equipment associated
19 with the clearing work will access the site via the vehicle access driveway off of Willow Road.
20 Vehicle traffic could vary from day to day, but may reach up to a maximum of 6 heavy trucks and
21 30 passenger vehicles to and from the site per day. Average traffic per day over the course of the
22 clearing phase would likely be substantially less than this. The clearing work will take up to 1 to

1 2 months to complete, depending on site conditions and weather conditions. Construction of the
2 vehicle access driveway would occur in tandem with site clearing activities, as the driveway would
3 be used to access the site. Clearing activities will be limited to Monday through Friday, 8:00 AM
4 to 5:00 PM, with no work on Saturdays, Sundays, or state/national holidays. If possible, the
5 Petitioner would prefer to commence this work no later than April 15, 2017. Once the site clearing
6 work is complete, the Project Site will be ready for construction of the actual solar facility. Project
7 construction will take an estimated 2 to 4 months to complete, depending on site conditions and
8 weather conditions. The construction activities for this Project using motorized machinery will be
9 limited to between the hours of 8:00 AM and 5:00 PM Monday through Friday. Non-machinery
10 construction activities will be limited to between the hours of 7:00 AM and 6:00 PM Monday
11 through Friday and 8:00 AM to 5:00 PM on Saturdays and Sundays. Although generally work on
12 Sundays is not anticipated, we are not certain as to when a CPG for this Project might be issued in
13 relation to the Project completion deadline in the PPA. Therefore, we propose quiet non-
14 machinery work on Sundays so that option is available if needed to meet the construction
15 completion deadline. No construction activities will occur on state/federal holidays. Vehicles and
16 equipment associated with the construction work will access the site via the vehicle access
17 driveway off of Willow Road. Vehicle traffic could vary from day to day, but may reach up to a
18 maximum of 4 heavy trucks and 40 passenger vehicles to and from the site per day. Average
19 traffic per day over the course of the construction phase would be less than this. In particular,
20 most days would see no heavy truck traffic whatsoever, as those are associated with equipment
21 deliveries to the site. Project construction will begin with the site grading activities to complete
22 the gravel access driveway and to perform the contour smoothing in the southeastern portion of

1 the Project. Once grading is complete, Project equipment will be physically installed, including
2 pier supports, racking, modules, equipment skids, wiring, security fence, and interconnection
3 equipment. After the Project equipment is installed, the Project Site will be cleaned up and
4 landscaping work performed, which includes re-seeding disturbed areas with a native grass mix.
5 Once all Project components are in place, the Project can be connected to the utility distribution
6 grid and commissioned to begin full operation.

7
8 **Q10. Please describe the operation phase of the Project.**

9 A10. Once Project construction and commissioning are complete, the Project will begin
10 operation. The Project will operate 24 hours a day, 7 days a week, although it will only generate
11 electricity during daylight hours. The Project is an unmanned facility; it is designed to operate
12 correctly without personnel onsite. There will not be personnel visiting the site on a daily or even
13 weekly basis. Maintenance personnel may visit the site approximately twice a month on average
14 to perform equipment testing or repairs. Periodically, grounds-keeping personnel may visit the
15 site approximately once every five weeks on average (during the non-winter months) to mow the
16 ground cover. Vehicle traffic due to these visits would be limited to passenger vehicles with
17 trailers, unless in the event of a major equipment malfunction. Washing of the solar modules is
18 not anticipated in the Vermont environment, but if module washing is needed, that would be
19 performed with only water (no solvents) that is trucked in from offsite. Other than some cooling
20 fans within the string inverters, there are no moving parts during Project operation. Project
21 operation generates no waste of any kind – liquid, solid, or gas. Noise generated during Project
22 operation is minimal. Please refer to the Prefiled Testimony of Ryan Haac for a more detailed

1 description of the Project's potential operational noise impacts. The Project includes a robust set
2 of monitoring, metering, and communications equipment. All aspects of Project equipment
3 operation will be monitored via internet connection from a remote location, and any equipment
4 problems will result in immediate notifications being sent to maintenance personnel. The Project
5 Site will be monitored by a set of infrared, motion-sensitive video security cameras which will
6 alert maintenance personnel to any unauthorized persons trespassing within the Project Site area.

7
8 **Q11. Please describe the decommissioning phase of the Project.**

9 A11. Most of the equipment installed for the Project carries a manufacturer warranty of 25 years,
10 however up to 40 years of useful life for the Project equipment is anticipated. At the end of the
11 Project's useful life, the Project would be decommissioned. Decommissioning involves the
12 removal of Project equipment from the site, restoration of any stockpiled soils, revegetation, and
13 restoration of the Project Site to a natural state. During decommissioning, all above-ground
14 electrical equipment would be removed from the site and taken to the appropriate nearby materials
15 recycling facility. This includes solar modules, racking, foundation posts, combiner boxes, and
16 equipment skids. Most of the Project components can be recycled for their base materials.
17 Underground conduits, wiring, and foundation posts will be cut off at a depth of 24 inches below
18 ground surface level and backfilled. Concrete foundations for the equipment skid would be
19 removed entirely. The gravel access driveway and perimeter security fence may remain, as those
20 elements may offer some benefit to future uses of the Project Site. Once the Project equipment is
21 removed, any stockpiled soils on the site would be restored. Then, the site would be re-seeded for
22 natural vegetation ground-cover and monitored for invasive species for a period of one year. To

1 provide assurance to the PUC that the decommissioning activities would be performed at the end
2 of the Project's useful life, the Petitioner will agree to create a decommissioning fund at its own
3 expense prior to the commencement of Project construction. The decommissioning fund would
4 be an escrow account or letter of credit, funded by the Petitioner, with the PUC named as
5 beneficiary. If the Petitioner fails to execute the decommissioning plan as required, these funds
6 would be released to the PUC for the purpose of covering the cost of the decommissioning
7 activities. However, if the Petitioner does execute the decommissioning plan, as is anticipated,
8 then those funds are released back to the Petitioner. A decommissioning plan is included as
9 ***Exhibit CS-BW-8***. This document was prepared in a format that has been previously approved by
10 the PUC and the Department of Public Service ("DPS") in other solar project dockets. This
11 document provides more detail about the decommissioning process and the decommissioning
12 fund, as well as providing an estimated amount to perform the decommissioning activities. This
13 amount matches the approximate dollar amount-per-MW that has been approved by the PUC and
14 DPS in previous other solar project dockets. I have also reviewed this dollar amount and
15 determined it to be reasonable for the proposed activities.

16
17 **Q12. How will the Project interconnect to the electric distribution grid?**

18 A12. The Project will interconnect to a GMP overhead distribution line that runs up to the
19 Parcel's southern boundary along Willow Road. This line is apparently identified by GMP as
20 "Line 2136," which is part of distribution circuit "MS50," which connects to the "Mill Street
21 Substation." This is a three-phase circuit with a voltage of 12.47 kV. The Petitioner submitted
22 an interconnection application for the Project to GMP in May of 2013. GMP evaluated the

1 proposed interconnection and generated a System Impact Study. The System Impact Study is
2 included as **Exhibit CS-BW-9**. The Petitioner has entered into an executed Interconnection
3 Agreement for the Project with GMP and made payment to GMP for all interconnection costs.
4 The Interconnection Agreement is included as **Exhibit CS-BW-10**. An executed interconnection
5 agreement means that GMP has evaluated the proposed Project and determined that, after the
6 implementation of the identified system upgrades, interconnection of the proposed Project can be
7 safely and reliably done in accordance with good utility practice and Federal and State standards
8 and will not result in any adverse impacts to the electrical grid or any degradation of reliability.
9 The existing overhead circuit along a portion of Willow Road near the Parcel is currently a single-
10 phase line. Per the upgrades detailed in the Facilities Report, a section of new overhead three-
11 phase line will be installed along a portion of Willow Road and Hewitt Drive. The portion of new
12 line will connect with existing three-phase overhead line along East Road. A map detailing the
13 location of the new line is included as **Exhibit CS-BW-11**. There will be approximately 20 new
14 poles required for this portion of new line; the new poles will be approximately 38 feet in height.
15 A set of pole-mounted protection and metering equipment will be installed on three poles located
16 within the southern portion of the Project array as shown on the Project site plan. Please refer to
17 the Prefiled Testimony of Dori Barton in this docket for a description of potential ecological
18 impacts of the GMP line extension. Please refer to the Prefiled Testimony of Mark Kane in this
19 docket for an aesthetic review of the GMP line extension, which Mark Kane has concluded would
20 not be adverse. While the GMP line extension and associated equipment will serve the Project
21 Site once installed, it will remain an element of public utility infrastructure. The line extension

1 will not be owned or controlled by the Petitioner, and other landowners along the line extension's
2 route may utilize it.

3
4 **Q13. How will the Petitioner sell the electricity that is generated by the Project?**

5 A13. The Project will sell the electricity under the PPA with VEPP, Inc., which provides a fixed
6 rate for the sale of all electricity and renewable energy credits generated by the Project for a period
7 of 25 years.

8
9 **Q14. Will the Project generate Renewable Energy Credits?**

10 A14. Yes. For every 1 megawatt-hour ("MWh") of electricity that the Project generates, the
11 Project will also produce 1 Renewable Energy Credit ("REC"). RECs are tradable and non-
12 tangible units that represent the environmental benefit attributes of 1 MWh of electricity that has
13 been generated by a renewable energy source (rather than a fossil-fuel based source). Per 30 V.S.A
14 § 8001 through 30 V.S.A § 8010, the Project is a distributed renewable generation resource and
15 RECs from the Project are eligible to count towards the Vermont Renewable Energy Standard
16 ("RES") goals, as long as they are transferred to and then retired by a Vermont retail electricity
17 provider. RECs generated by the Project will be transferred to VEPP, Inc. under the terms of the
18 Project's PPA.

19
20 **Q15. How much electricity will the Project generate annually?**

21 A15. The Project will generate an (estimated) 3,350 MWh of electricity annually. This amount
22 matches up to the annual electricity usage of approximately 491 average Vermont homes. This is

1 an average estimate, and Project performance will vary closely in line with local weather
2 conditions. Some years may see lower performance and some years may see higher performance.
3 This number is an estimate, not a guarantee.

4
5 **Q16. Has the Petitioner received feedback from any neighbors, Town boards, Regional**
6 **commissions, or State agencies?**

7 A16. Yes. Due to the history of the development of the Project, the Petitioner has had multiple
8 opportunities to discuss the Project with the Town of Bennington, Bennington County Regional
9 Commission, neighboring property owners, the Vermont Department of Public Service (“DPS”),
10 the Agency of Natural Resources (“ANR”), and the Vermont Division for Historic Preservation
11 (“DHP”). Part of the history of those discussions are part of the record in PUC docket 8302. For
12 the better part of the last year, Petitioner has continued to engage neighbors and the Town of
13 Bennington to address their concerns and to ensure the Project and the neighboring Apple Hill
14 Solar Project (docket 8454) would be adequately screened from the public or the neighbors. The
15 Project plans submitted herewith were made based upon the continuing input from the Town.
16 Revised plans and visual simulations for the Project were prepared and distributed to the Town,
17 the neighbors, and made available to the public. The Town’s Select Board held several public
18 meetings on the revised plans, culminating in August 2017 in the Select Board voting to withdraw
19 its opposition to the Apple Hill Solar Project because, in the words of the Town Attorney, the
20 revised plans are “consistent with what I see is the text of the Town Plan.” (See included **Exhibit**
21 **CS-BW-12**, Transcript of August 14, 2017 Select Board meeting, at 38.) The Town, however,
22 voted to continue its opposition of the original plans for the Chelsea Solar Project in the Vermont

1 Supreme Court and as a result did not express a view on the Project plans submitted herewith. On
2 November 20, 2017, the Town held a joint session of the Bennington Planning Commission and
3 the Select Board to review Project. Petitioner had provided to them the 45-day notice documents
4 and also shared the visual simulations attached to Mark Kane's prefiled testimony. The Town
5 adjourned their consideration of the Project until the Select Board's upcoming November 27, 2017
6 meeting. No written comments or recommendations were received from the Town during the 45-
7 day notice period and prior to the filing of this Petition. The Bennington County Regional
8 Commission ("BCRC") energy committee reviewed the 45-day notice documents for the Project
9 and provided the email comments attached as *Exhibit CS-BW-13*, expressing the Project's
10 compliance with the regional plan. For reference, that Bennington County Regional Plan is
11 included as *Exhibit CS-BW-14* and the Bennington County Regional Energy Plan is included as
12 *Exhibit CS-BW-15*. The Petitioner received comments from the Vermont Division for Historic
13 Preservation ("DHP") (see included *Exhibit CS-BW-16*), and these comments are described in
14 more detail in my answer to Question 28 below. No other state agencies provided have provided
15 feedback to the Petitioner.

16
17 **Q17. What other experts has the Petitioner consulted with regarding the Project design?**

18 A17. The Petitioner has worked closely with a number of local experts to make sure that the
19 Project design is in accordance with applicable Vermont rules regarding ground-mounted solar
20 facilities. Those experts will also provide testimony and exhibits in this docket. Dori Barton will
21 provide testimony regarding wildlife, ecology, wetlands, and water quality issues. Ian Jewkes will
22 provide testimony regarding the Project's civil and stormwater designs, as well as overall facility

1 design. Mark Kane will provide testimony regarding the Project's aesthetics and compatibility
2 with orderly development of the region. Ryan Haac will provide testimony regarding the Project's
3 potential noise impacts. Scott Reynolds will provide testimony regarding the behavior of wind at
4 the Project Site. Harnoor Dhaliwal will provide testimony regarding the Project's effect on
5 greenhouse gas emissions.

6
7 **Q18. Will the Project adhere to all applicable local, state, and national design codes,**
8 **regulations, and standards?**

9 A18. Yes. If the Project is issued a Certificate of Public Good, all aspects of Project design will
10 adhere to all applicable local, state, and national design codes, regulations, and standards.

11
12 **Q19. Will the Project unduly interfere with the orderly development of the region? (30**
13 **V.S.A § 248(b)(1))**

14 A19. No. This conclusion is supported by my testimony that follows, and the testimony of Mark
15 Kane, as well as the comments from the BCRC Energy Committee (see *Exhibit CS-BW-13*). The
16 Project is well-sited per the current Town and Regional plans, and the Project design also complies
17 with the Town's design standards for the Rural Conservation zoning district. The appropriateness
18 of the site for solar is highlighted by a recent email by Bennington Select Board Vice Chair, Don
19 Campbell, to Project neighbor Libby Harris, a copy of which was provided by Harris to Petitioner,
20 and is included as *Exhibit CS-BW-17*:

21 "the lot is small, there is no river or lake to protect, the forest is in terrible condition (basal
22 area is so low it barely qualifies as forest in many places and it is rife with invasives), it

1 does not connect to other conserved lands, it is not part of an animal corridor, it does not
2 provide significant public access, it is not high quality farm land nor is it suitable for low-
3 income housing, and is not tribal or cultural heritage land.”

4 The Project complies with the screening requirements of the Town of Bennington solar screening
5 bylaw adopted in 2015 as further described later in my testimony and in the Prefiled Testimony of
6 Mark Kane. The Project is effectively screened year round as viewed from public streets and
7 thoroughfares, scenic viewpoints, and adjacent properties. The retained hedgerows and vegetation
8 on the site enables the Project to be naturally screened making the Project site a preferred location
9 for solar under the current Town Plan. But as described herein and in Mark Kane’s testimony, the
10 Project far surpasses the requirements set forth in the screening bylaw and the Town Plan.

11
12 **Q20. Does the Project meet the Section 248 criteria listed in 30 V.S.A § 248(b)(1)(A)?**

13 A20. The Project is not a natural gas transmission line, therefore 30 V.S.A. § 248(b)(1)(A)
14 does not apply.

15
16 **Q21. Does the Project comply with the screening requirements of a municipal bylaw in**
17 **the town of Bennington? (30 V.S.A. § 248(b)(1)(B))**

18 A21. Yes. This conclusion is supported by Mark Kane’s testimony and my testimony below.
19 The Town’s screening requirements are set forth in the Town’s solar screening ordinance (included
20 as *Exhibit CS-BW-18*) and the Town Plan solar facility siting amendment (included as *Exhibit*
21 *CS-BW-19*). Neither the screening ordinance nor the solar facility amendment set forth any clear
22 or measurable standards that could be used to design a project screening plan. The screening

1 ordinance (Article 29) states that, “All solar facilities shall be sited and screened so that visual
2 impacts of such facilities [...] are mitigated as viewed from public streets and thoroughfares, scenic
3 viewpoints, and/or adjacent properties.” However, there are no definitions or standards given for
4 what constitutes ‘mitigated.’ In the absence of clearly written standards, it is possible to get some
5 guidance on what constitutes ‘mitigated’ in this context by examining other solar facilities that
6 have been reviewed by the Town and determined by the Town to be compliant with Article 29. I
7 am aware of two completed commercial-scale solar facilities that have been reviewed by the Town
8 since Article 29 was adopted in November 2015; the 500 kW ER Bennington Solar Project (“ER
9 Bennington”) and the 500 kW Paper Mill Solar Project (“Paper Mill”). ER Bennington was
10 awarded a CPG in October 2016 under PUC case number 16-0044-NMP and Paper Mill was
11 awarded a CPG in November 2016 under PUC case number 16-0049-NMP. The PUC final orders
12 for both of these projects state that the projects comply with the Town’s screening requirements
13 (Article 29). In the case of Paper Mill, both the Town Planning Commission and Select Board
14 reviewed the project, and the Select Board voted unanimously that it found no adverse impacts
15 resulting from Paper Mill; the Town stated this in an October 2016 comment letter to PUC, which
16 is included as **Exhibit CS-BW-20**. The Select Board identified no issues with Paper Mill’s
17 screening plan. The Town did not send a letter to PUC regarding ER Bennington, however ER
18 Bennington was also reviewed by both the Town Planning Commission and Select Board, and the
19 Select Board voted unanimously to support the project. The Select Board identified no issues with
20 ER Bennington’s proposed screening plan. A photo of Paper Mill from Murphy Road, dated
21 November 20, 2017, is included as **Exhibit CS-BW-21**. A photo of ER Bennington from Route 7,
22 dated October 16, 2017, is included as **Exhibit CS-BW-22**. These photos demonstrate the visual

1 appearance of solar facilities that the Town has determined are in compliance with Article 29. In
2 the absence of any language in Article 29 that could be used to evaluate compliance, the examples
3 provided by Paper Mill and ER Bennington serve as meaningful benchmarks that indicate what
4 type and level of mitigation is necessary to comply with the Town's requirements. Mark Kane's
5 testimony and exhibits in this docket clearly demonstrate the level of mitigation planned for the
6 Project, which far exceeds that for either Paper Mill or ER Bennington. Therefore, I conclude that
7 the Project complies with the screening requirements of Article 29 and the Town solar facility
8 siting amendment.

9
10 **Q22. Is the Bennington Town Plan a duly adopted municipal plan that has received an**
11 **affirmative determination of energy compliance under 24 V.S.A § 4352? (30 V.S.A. §**
12 **248(b)(1)(C))**

13 A22. No, it is not.

14
15 **Q23. Is the Bennington Regional Energy Plan a duly adopted regional plan that has**
16 **received an affirmative determination of energy compliance under 24 V.S.A § 4352? (30**
17 **V.S.A. § 248(b)(1)(C))**

18 A23. Yes, it is.

Q24. Does the Project provide satisfy the requirements of 30 V.S.A. § 248(b)(2)?

A24. As a renewable project with a plant capacity of 2.0 MW, the Project is waived from evaluation under 30 V.S.A. § 248(b)(2) per Public Utility Commission Section 8007(b) order, dated August 31, 2010.

Q25. Will the Project adversely affect system stability and reliability? (30 V.S.A. § 248(b)(3))

A25. No. Please refer to my response to Question 12, above, for more details.

Q26. Does the Project satisfy the criteria of 30 V.S.A. § 248(b)(4)?

A26. As a solar facility under the Standard Offer program with a plant capacity of 2.0 MW, the Project is waived from evaluation under this criteria per Public Utility Commission Section 8007(b) order, dated August 31, 2010.

Q27. Does the Project have an undue adverse effect on aesthetics? (30 V.S.A. § 248(b)(5))

A27. No. Please refer to the Prefiled Direct Testimony of Mark Kane and associated exhibits in this docket for more details, and my testimony below regarding the Project's compliance with the Town Plan.

1 **Q28. Does the Project have an undue adverse effect on historic sites? (30 V.S.A. §**
2 **248(b)(5))**

3 A28. No. The original, larger, project design's potential impacts on cultural or historic resources
4 was addressed in the June 18, 2014 prefiled testimony of Scott Mapes in docket 8302. Mr. Mapes
5 stated that the Project was reviewed with a representative from DHP and DHP concluded that the
6 Project did not have potential for any undue adverse impacts on cultural or historic resources or
7 archaeological sites. Mr. Mapes provided similar testimony in docket 8454. I also took part in
8 that consultation with DHP. DHP's conclusion was based upon their determination that the Project
9 site did not have potential for containing any significant cultural or historic resources. DHP issued
10 a letter, dated February 11, 2015 confirming its conclusion. (See *Exhibit CS-BW-16*) I recently
11 requested DHP to review the Project site plan as submitted herewith. DHP reached the same
12 conclusions that the Project will not have an undue adverse impact on cultural or historic sites, and
13 the resulting correspondence from DHP is included as *Exhibit CS-BW-16*. Based on
14 conversations with DHP, DHP may submit further confirmation in this docket once the Petition is
15 marked complete and the corresponding docket is open to state agencies.

16
17 **Q29. Does the Project have an undue adverse effect on air and water purity? (30 V.S.A. §**
18 **248(b)(5))**

19 A29. No. Please refer to the Prefiled Direct Testimony of Dori Barton, Ian Jewkes, and Harnoor
20 Dhaliwal in this docket for more details. The Project will not create undue adverse impacts on
21 nearby air and water resources, and the Project will result in a net positive and beneficial effect on
22 greenhouse gas ("GHG") emissions. The Project will emit no GHG's or other emissions during

operation, and the Project will displace the use of fossil fuels, which have a damaging effect on the natural environment. The Project will also reduce the need for other non-renewable sources of electricity generation.

Q30. Does the Project have an undue adverse effect on the natural environment? (30 V.S.A. § 248(b)(5))

A30. No. Please refer to the Prefiled Direct Testimony of Dori Barton in this docket for more details and my response to Question 29, above.

Q31. Does the Project have an undue adverse effect on the use of natural resources? (30 V.S.A. § 248(b)(5))

A31. No. Please refer to the Prefiled Direct Testimony of Dori Barton in this docket for more details.

Q32. Does the Project have an undue adverse effect on the public health and safety? (30 V.S.A. § 248(b)(5))

A32. No. The Project creates no adverse environmental effects (see Questions 27 through 31 above). The Project does not create any waste or other emissions that would be harmful to the public health and safety. The Project will be designed to follow all applicable safety codes and will include safety and security measures designed to discourage access to the site by unauthorized/untrained members of the public.

1 **Q33. Does the Project have an undue adverse effect on outstanding resource waters? (30**

2 **V.S.A. § 248(b)(5))**

3 A33. No. Please refer to the Prefiled Direct Testimony of Dori Barton in this docket for more
4 details.

6 **Q34. Does the Project have an undue adverse effect on primary agricultural soils? (30**

7 **V.S.A. § 248(b)(5))**

8 A34. No. Please refer to the Prefiled Direct Testimony of Ian Jewkes in this docket for more
9 details.

11 **Q35. Does the Project result in undue adverse greenhouse gas impacts? (30 V.S.A. §**
12 **248(b)(5))**

13 A35. No. Please refer to the Prefiled Direct Testimony of Harnoor Dhaliwal in this docket for
14 more details. The Project has a positive impact on greenhouse gases by displacing fossil fuel-
15 based electricity generation.

17 **Q36. Does the Project meet the Section 248 criteria listed in 30 V.S.A. § 248(b)(6)?**

18 A36. The Project is a non-utility renewable energy generation facility with a plant capacity of
19 2.0 MW, and as such is not subject to the criteria in section 248(b)(6) per Public Utility
20 Commission Section 8007(b) order, dated August 31, 2010.

1 **Q37. Is the Project in compliance with the 2016 Vermont Comprehensive Energy Plan and**
2 **Electric Plan? (30 V.S.A. § 248(b)(7))**

3 A37. The Project is a non-utility renewable energy generation facility with a plant capacity of
4 2.0 MW, and as such is not subject to the criteria in section 248(b)(7) per Public Utility
5 Commission Section 8007(b) order, dated August 31, 2010.

6

7 **Q38. Does the Project involve a facility affecting or located on any segment of the waters**
8 **of the State that have been designated as outstanding resources waters? (30 V.S.A. §**
9 **248(b)(8))**

10 A38. No. Please refer to the Prefiled Direct Testimony of Dori Barton in this docket for more
11 details.

12

13 **Q39. Does the Project meet the Section 248 criteria listed in 30 V.S.A § 248(b)(9)?**

14 A39. The Project is not a waste-to-energy facility, therefore 30 V.S.A. § 248(b)(9) and related
15 sub-criteria does not apply.

16

17 **Q40. Can the project be served economically by existing or planned transmission facilities**
18 **without undue adverse effect on Vermont utilities or customers? (30 V.S.A. § 248(b)(10))**

19 A40. Yes. Please refer to my answer to Questions 12 and 25, above. The Project will
20 interconnect to the utility distribution system rather than the utility transmission system, and any
21 required system upgrade costs are paid (and have been paid) by the Petitioner rather than the utility
22 or utility customers.

Q41. Does the Project meet the Section 248 criteria listed in 30 V.S.A. § 248(b)(11)?

A41. The Project is not a woody biomass facility, therefore 30 V.S.A. § 248(b)(11) and related sub-criteria does not apply.

Q42. Will the Project result in undue water or air pollution? (10 V.S.A. § 6086(a)(1))

A42. No. Please refer to the Prefiled Direct Testimony of Dori Barton and Ian Jewkes in this docket for more details.

Q43. Will the Project result in undue adverse impact to headwaters? (10 V.S.A. § 6086(a)(1)(A))

A43. No. Please refer to the Prefiled Direct Testimony of Dori Barton in this docket for more details.

Q44. Will the Project inject waste materials or toxic substances into ground water or wells? (10 V.S.A. § 6086(a)(1)(B))

A44. No.

Q45. Does the Project design consider water conservation and incorporate multiple use or recycling where technically and economically practical? (10 V.S.A. § 6086(a)(1)(C))

A45. As a renewable project with a plant capacity of 2.0 MW, the Project is waived from evaluation under this criteria per Public Utility Commission Section 8007(b) order, dated August 31, 2010.

1 **Q46. Will the Project result in undue adverse impact to floodways? (10 V.S.A. §**
2 **6086(a)(1)(D))**

3 A46. No. Please refer to the Prefiled Direct Testimony of Dori Barton in this docket for more
4 details.

5
6 **Q47. Will the Project result in undue adverse impact to streams? (10 V.S.A. §**
7 **6086(a)(1)(E))**

8 A47. No. Please refer to the Prefiled Direct Testimony of Dori Barton in this docket for more
9 details.

10
11 **Q48. Will the Project result in undue adverse impact to shorelines? (10 V.S.A. §**
12 **6086(a)(1)(F))**

13 A48. No. Please refer to the Prefiled Direct Testimony of Dori Barton in this docket for more
14 details.

15
16 **Q49. Will the Project result in undue adverse impact to wetlands? (10 V.S.A. §**
17 **6086(a)(1)(G))**

18 A49. No. Please refer to the Prefiled Direct Testimony of Dori Barton in this docket for more
19 details.

20
21

1 **Q50. Does the Project have sufficient water available for the reasonably foreseeable needs**
2 **of the subdivision or development? (10 V.S.A. § 6086(a)(2))**

3 A50. As a renewable project with a plant capacity of 2.0 MW, the Project is waived from
4 evaluation under this criteria per Public Utility Commission Section 8007(b) order, dated August
5 31, 2010.

6
7 **Q51. Will the Project cause an unreasonable burden on an existing water supply if one is**
8 **to be utilized? (10 V.S.A. § 6086 (a)(3))**

9 A51. As a renewable project with a plant capacity of 2.0 MW, the Project is waived from
10 evaluation under this criteria per Public Utility Commission Section 8007(b) order, dated August
11 31, 2010.

12
13 **Q52. Will the Project cause unreasonable soil erosion or reduction in capacity of the land**
14 **to hold water so that a dangerous or unhealthy condition may result? (10 V.S.A. § 6086**
15 **(a)(4))**

16 A52. No. Please refer to the Prefiled Direct Testimony of Ian Jewkes in this docket for more
17 details.

18
19
20

1 **Q53. Will the Project cause unreasonable congestion or unsafe conditions with respect to**
2 **use of the highways, waterways, railways, airports and airways, and other means of**
3 **transportation existing or proposed? (10 V.S.A. § 6086 (a)(5))**

4 A53. No. The Project will be accessed via a private access driveway connecting to Willow Road.
5 The proposed ingress upgrade (private access driveway) is in accordance with state and local
6 standards and will not interfere with regular operation of Willow Road. Additional traffic
7 generated by the Project during construction and operation periods will be of a low volume and
8 will not cause congestion or otherwise adversely affect existing traffic patterns. Please see my
9 answers to Questions 9 and 10, above, for more detail regarding anticipated traffic patterns.

10
11 **Q54. Will the Project cause an unreasonable burden on the ability of the municipality to**
12 **provide educational services? (10 V.S.A. § 6086 (a)(6))**

13 A54. As a renewable project with a plant capacity of 2.0 MW, the Project is waived from
14 evaluation under this criteria per Public Utility Commission Section 8007(b) order, dated August
15 31, 2010.

16
17 **Q55. Does the Project place an unreasonable burden on the ability of the local**
18 **governments to provide municipal or governmental services? (10 V.S.A. § 6086 (a)(7))**

19 A55. No. The Project does not require any municipal sewer or water services. The Project will
20 not require above average use of municipal police, fire, rescue, or maintenance services. Per
21 Questions 17 and 31, above, the Project will be designed and installed in accordance with all
22 applicable safety codes and will not be a risk to public health and safety.

1 **Q56. Will the Project have an undue adverse effect on the scenic or natural beauty of the**
2 **area, aesthetics, historic sites, or rare and irreplaceable natural areas? (10 V.S.A. § 6086**
3 **(a)(8))**

4 A56. No. Please refer to the Prefiled Direct Testimony of Mark Kane, Dori Barton, and Ian
5 Jewkes in this docket. Also please refer to my answer to Question 28, above and Questions 64
6 through 75 herein.

7
8 **Q57. Will the Project have an undue adverse effect on necessary habitat or endangered**
9 **species? (10 V.S.A. § 6086 (a)(8)(A))**

10 A57. No. Please refer to the Prefiled Direct Testimony of Dori Barton in this docket for more
11 details.

12
13 **Q58. Does the Project unnecessarily or unreasonably endanger the public or quasi-public**
14 **investment in adjacent governmental and public utility facilities, services, and lands, or**
15 **does the Project materially jeopardize or interfere with the function, efficiency, or safety of**
16 **the public's use or enjoyment of or access to the facility, service, or lands? (10 V.S.A. §**
17 **6086(a)(9)(K))**

18 A58. No. Existing adjacent public investments are limited to Willow Road, GMP's overhead
19 distribution circuit, and the Route 279 / Route 7 interchange and Vermont Welcome Center area.
20 There are no Project impacts that would endanger or interfere with Willow Road or the Route 279
21 / Route 7 interchange and Vermont Welcome Center area, and per Question 11, above, there will
22 be no adverse impacts to GMP's distribution system.

1 **Q59. Is a permit with the Vermont Department of Transportation required for site access**
2 **off of Willow Road?**

3 A59. No. A Vermont Department of Transportation permit is not required for site access off of
4 Willow Road.

5
6 **Q60. Will the Petitioner pursue a 3-9020 Construction General Permit with the Vermont**
7 **Agency of Natural Resources for stormwater runoff during construction?**

8 A60. Yes. Please refer to the Prefiled Direct Testimony of Ian Jewkes in this docket for more
9 details.

10
11 **Q61. Will the Petitioner pursue a Wetlands Permit with the Vermont Wetlands Program**
12 **for impacts to or near a delineated wetland?**

13 A61. No. The project will not impact wetlands. Please refer to the Prefiled Direct Testimony
14 of Dori Barton in this docket for more details. GMP may need to pursue a Wetlands Program
15 permit for installation of some of the utility poles for the line extension within Class II wetland
16 buffer areas.

17
18 **Q62. Does the Project comply with the setback requirements described in 30 V.S.A. §**
19 **248(s)?**

20 A62. Yes. The Project is set back more than 100 feet from Willow Road and Route 7 and at
21 least 50 feet from the property boundaries.

22

1 **Q63. Is noise generated by vehicles traveling on a public highway a valid criteria under**
2 **Section 248 review by which to evaluate an energy generation project located on privately-**
3 **owned property?**

4 A63. No, I do not believe so. The topic of noise generated by vehicles traveling on a public
5 highway is addressed in more detail in the prefiled testimony of Ryan Haac in this docket. Some
6 neighboring residents have raised concerns that the proposed removal of trees on the Project
7 property might result in an unduly adverse increase in vehicle noise that they experience at their
8 homes. The vehicle noise in question is generated by vehicles traveling on highway Route 7,
9 which is located south and west of the Project property. In my own words, the vehicle noise in
10 question is not generated by the Project or on the Project property, and it is not generated by a
11 source that is associated with the Project in any way. The vehicle noise in question is not generated
12 by a source that the Petitioner has any control over or any responsibility for. While it is
13 theoretically possible that existing trees on the Project site may currently be providing some
14 amount of “noise break” benefit to neighboring properties, that is a benefit to which neighboring
15 properties have no rights whatsoever, and it is a benefit that the Petitioner is under no obligation
16 to continue to provide, regardless of the type of development project being proposed. Such a noise
17 source is not described under any applicable element of 30 V.S.A § 248, 10 V.S.A. § 6001, or 10
18 V.S.A. § 6086. This topic does not seem to fall under the scope of Section 248 review, and if the
19 Route 7 highway noise is a legitimate concern for certain residents, then it seems that it would be
20 reasonable to discuss the issue with the Vermont Agency of Transportation and not the Petitioner.
21 Still, the Petitioner anticipates that the question of highway noise may be raised during this
22 proceeding and therefore sought an analysis of the concern, which is included with the prefiled

1 testimony of Ryan Haac in this docket. That analysis concludes that any potential effect regarding
2 highway noise would not be significant and would not be unduly adverse.

3
4
5 **Q64. Is naturally occurring wind speed a valid criteria under Section 248 review by**
6 **which to evaluate a solar energy generation project located on privately-owned property?**

7 A64. No, I do not believe so. The topic of wind speeds for wind crossing the Project property is
8 addressed in more detail in the prefiled testimony of Scott Reynolds in this docket. Some
9 neighboring residents have raised concerns that the proposed removal of trees on the Project
10 property might result in an unduly adverse increase in wind speeds that they experience at their
11 homes. Wind is a naturally occurring environmental phenomenon that is experienced at every
12 residence in Vermont. While naturally occurring wind may frequently pass across the Project
13 property onto neighboring properties, that wind is certainly not being generated or amplified by
14 any element of the Project or the Project property. While it is theoretically possible that existing
15 trees on the Project site may currently be providing some amount of “wind break” benefit to
16 neighboring properties, that is a benefit to which neighboring properties have no rights whatsoever,
17 and it is a benefit that the Petitioner is under no obligation to continue to provide, regardless of the
18 type of development project being proposed. Whether or not a proposed project provides relief
19 from naturally occurring wind speeds to neighboring properties is not a criteria that is described
20 under any applicable element of 30 V.S.A. § 248, 10 V.S.A. § 6001, or 10 V.S.A. § 6086. This
21 topic does not seem to fall under the scope of Section 248 review. Still, the Petitioner anticipates
22 that the question of wind speeds may be raised during this proceeding and therefore sought an

1 analysis of the concern, which is included with the prefiled testimony of Scott Reynolds in this
2 docket. That analysis concludes that any potential effect regarding wind speeds would not be
3 significant and would not be unduly adverse.

4
5 **Q65. Is the Project located in the Rural Conservation zoning district as described in the**
6 **Town Plan?**

7 A65. Yes. The Project is in the Bennington Rural Conservation (“RCON”) district, which
8 encompasses roughly half of all land in Bennington and is described in the Bennington Town Plan
9 (included as *Exhibit CS-BW-23*). The Project would be bordered to the east by a 5-acre apple
10 orchard (which is under Petitioner’s control), to the north by wooded property of a neighbor, to
11 the west by a tree line along Route 7 North, and to the south by a heavily vegetated area across
12 from which is Route 279 and then the Vermont Welcome Center. The Town has designated certain
13 areas as scenic resources in the Town’s scenic resources inventory (included as *Exhibit CS-BW-*
14 *24*), and the Parcel is not one of them.

15
16 **Q66. Are commercial ground-mounted solar facilities, such as the Project, permitted in**
17 **the RCON district?**

18 A66. Yes. The Bennington Town Attorney has publicly stated that it is simply not credible to
19 argue that solar facilities such as the Project are excluded from the RCON district. (See *Exhibit*
20 *CS-BW-12*, Transcript, August 14, 2017, Select Board hearing at 21.):

21 “the Town Plan I do not think can credibly be construed to bar alternative energy projects
22 in the rural [conservation] district because of the preceden[ts], because of the language of

1 the plan, because of the way the zoning by-laws allow specific uses in that area and because
2 of the planning that's been underway for the future that includes a number of properties in
3 that area for solar energy."

4 Moreover, in the rule 30(b)(6) deposition of the Town of Bennington in docket 8454 (included as
5 *Exhibit CS-BW-25*), Dan Monks (Town of Bennington Planning Director) also confirmed that
6 commercial solar facilities are treated like any other development in the RCON district, which
7 means they are permitted and must meet the design guidelines. (see *Exhibit CS-BW-25* at 7)

8
9 **Q67. Has the Town supported and the Commission approved other commercial ground-**
10 **mount solar facilities and other electrical facilities in the RCON district?**

11 A67. Yes. There may be more, but I am aware of the Commission approving commercial
12 electrical facilities in the RCON district in (i) CPG # NMP-6523, Kobelia Bennington GLC Solar
13 LLC, (ii) CPG # 16-0044-NMP, ER Paper Mill Village Solar, LLC, and (iii) the Bennington
14 Substation Project (PUC Docket 7763).

15
16 **Q68. What are the general guidelines for development in the RCON district under the**
17 **Town Plan?**

18 A68. The Town Plan has two relevant guidelines. The first states that development should not
19 be located "in prominently visible locations on hillsides." The second states that any development
20 should minimize clearing.

1 **Q69. Is the Project sited in a prominently visible location on a hillside?**

2 A69. No. First, there is no definition of what is a “hillside,” so it is impossible to apply that
3 guideline and create any meaningful development standards. But regardless of the issue of what
4 constitutes a “hillside” the Project is not sited in a prominently visible location.

5

6 **Q70. Has the Project minimized clearing?**

7 A70. Yes. Clearing has been limited to what is reasonably necessary for the construction and
8 operation of the Project.

9

10 **Q71. Is the phrase “prominently visible location on a hillside” a clearly written**
11 **community standard?**

12 A71. No. The Merriam-Webster Dictionary defines “hillside” as “the side of a hill,¹” and
13 “hill” as “a usually rounded area of land that is higher than the land around it but that is not as
14 high as a mountain; an area of sloping ground on a road, path, etc; a pile of something.²” The
15 American Heritage dictionary defines “hillside” as “The side or slope of a hill,³” and “hill” as “1.
16 A well-defined natural elevation smaller than a mountain. 2. A small heap, pile, or mound. 3. a.
17 A mound of earth piled around and over a plant. b. A plant thus covered. 4. An incline,
18 especially of a road; a slope.⁴”

19 As the ordinary dictionary definitions make clear, the definition of hill and hillside can
20 cover virtually any piece of land that has any change in slope, which would cover virtually every

¹ <http://www.merriam-webster.com/dictionary/hillside>

² <http://www.merriam-webster.com/dictionary/hill>.

³ <https://www.ahdictionary.com/word/search.html?q=hillside&submit.x=55&submit.y=20>.

⁴ <https://www.ahdictionary.com/word/search.html?q=hill&submit.x=20&submit.y=25>.

1 parcel of land in Bennington. Here, the test is whether there is a clear, unambiguous written
2 community standard. When development on hillsides is to be restricted, clear standards must be
3 set, and that must begin with defining hillside. Here there is no objective standard to guide
4 enforcement.

5 The American Heritage dictionary defines “prominent” as “1. Projecting outward or
6 upward from a line or surface; protuberant: prominent eyebrows. 2. Immediately noticeable;
7 conspicuous: a product with a prominent place in the store.”⁵ Similarly, the Merriam-Webster
8 dictionary defines “prominent” as “easily noticed or seen: sticking out in way that is easily seen
9 or noticed.”⁶

10 The Town Plan does not contain a definition of “prominently visible locations.” Without
11 a definition, the term is ambiguous and there is no meaningful way to have the term create a
12 development standard. However, even assuming the Project site is a hillside, the Project design
13 complies with the Town’s design standards for the Rural Conservation zoning district, which are
14 included as *Exhibit CS-BW-26*. Table 3.13(F)3.b of the Bennington Land Use Regulations
15 (included as *Exhibit CS-BW-27*) lists eight criteria for development on “hillsides or ridgelines:”

16 i. “Development shall be blended into the existing natural landscape to minimize its
17 visual impact from public roads and lands. This effect shall be accomplished through one or more
18 of the following: siting of structures within forest or forest edge areas.” That is precisely what has
19 been done with the Project. It is located within or at the edge of the wooded area. It is not visible
20 from the Vermont Welcome Center or other public lands or the neighbors, and visibility from

⁵ <https://www.ahdictionary.com/word/search.html?q=prominently&submit.x=0&submit.y=0>.

⁶ <http://www.merriam-webster.com/dictionary/prominently>.

1 public roads and the neighbors is screened. Of critical importance, the By-law makes it clear that
2 development is not prohibited. The statements of the Town's Attorney at the Bennington Select
3 Board meeting of August 14, 2017, confirm that is the case. Under the Town Plan, the visual
4 impact must be "minimized". That is what the Petitioner has done.

5 ii. "Development shall not cause undue alteration of natural topography." The Project
6 does not significantly alter the natural topography, and only minimal grading is required.

7 iii. "[T]ree removal shall not cause undue alteration of the natural vegetation patterns
8 of the hillside or ridgeline." This criteria provides two photo examples which emphasize that the
9 tree removal guideline is focused solely on the visual impact. Here the cleared area and the Project
10 would be screened from the Vermont Welcome Center or other public lands. Clearing will
11 eliminate the invasive vegetation.

12 iv. "Development shall be sited so that no structure shall exceed the height of land
13 serving as the visual and physical backdrop to the site as viewed from a public road or other public
14 land." The solar facility does not exceed the height of the trees serving as the visual and physical
15 backdrop and is screened from the Vermont Welcome Center or other public lands, or the
16 neighboring properties.

17 v. "Outdoor lighting should not illuminate off-site locations." The Project does not
18 include outdoor lighting that would illuminate off-site locations.

19 vi. "Utility lines should be constructed and routed to minimize the effects on the visual
20 setting. Above ground lines should follow tree lines and avoid straight runs across open fields."
21 The utility lines associated with the Project satisfy this requirement.

vii. “Towers and similar structures should not be prominently visible in a manner that would detract from the scenic character of the area.” The Project does not include towers or similar structures.

viii. “Windows that generate excessive glare shall not be used. Uninterrupted expanses of glass shall be avoided.” The Project does not include windows or uninterrupted expanses of glass.

Moreover, when one considers the Town’s example of a “prominently visible location on a “hillside” that is contained in the Amendment to the Bennington Land Use and Development Regulations, it is clear that the Project site is not on a “prominently visible” location on a hillside nor on a “hillside” at all. The Bennington Town Plan and Land Use Regulations allow for ground-mounted solar projects in the RCON district where the Project is proposed, and the Project meets the relevant design criteria contained in the Town Plan and Town bylaws. The Project also meets a number of goals for renewable energy contained in both the Town Plan and Bennington County Regional Plan.

Q72. Is the “minimize clearing” guideline a clearly written community standard?

A72. No. The RCON district guideline that development “must minimize clearing of natural vegetation” is on its face vague as there is no clear guidance as to what the requirements are.

Q73. Does the Town Plan contain other provisions on the development of solar facilities?

A73. Yes. In 2016 the Town targeted solar facilities greater than 150 kW through a solar facility siting amendment to the Town Plan. (see *Exhibit CS-BW-19*)

1 **Q74. Does the solar facility siting amendment contain any clearly written community**
2 **standards that are enforceable against the Project?**

3 A74. No, for many reasons. *First*, the solar facility siting amendment does not apply on a non-
4 discriminatory basis to development. It does not apply at all to ground-mounted solar facilities
5 less than 150 kW. It does not apply to any other kind of electric generation facilities, such as wind,
6 biomass, natural gas, or hydro. It does not apply to any other type of development in the Town.

7 *Second*, it seeks to regulate off-site improvements such as electrical grid improvements,
8 which are either within the jurisdiction of the Commission or the Federal Energy Regulatory
9 Commission, and only if those off-site improvements happen to be connected to a solar project.
10 For example, if a landowner was building a single family home and needed a line extension, the
11 Town would not be regulating those at all even though they might be the identical improvements
12 that would be required if a solar facility were placed on the property.

13 *Third*, the “community standards” section of the Town’s solar amendment does not contain
14 any clear standards, and that section only applies to “municipal solar electricity projects and
15 programs,” which the Project is not.

16 *Fourth*, the “Solar Facility Siting” section states that “Projects must meet the following
17 criteria in order to be supported by this Town Plan.” It is not phased in terms of prohibition, but
18 rather gaining support from the Town Plan.

19 *Fifth*, the Project is located in what the solar amendment describes as a “Preferred Area”—
20 i.e., “Proximity to existing hedgerows or other topographical features that naturally screen the
21 entire proposed array.” As the visual simulations from SE Group clearly show, the existing

1 topographical features “naturally screen the entire proposed array.” As a result the Project is sited
2 in a preferred location under the Town Plan.

3
4 **Q75. Please comment on the last section of the solar facility siting amendment entitled**
5 **“Mass and Scale.”**

6 A75. That last part of the solar facility siting amendment states, “Except for solar facilities
7 located in preferred areas, solar facilities larger than 10 acres, individually or cumulatively,
8 cannot be adequately screened or mitigated to blend into the municipality’s landscape and are,
9 therefore, explicitly prohibited.” That section does not apply to the Project for several reasons.

10 *First*, the Project is sited in a preferred area as discussed above and in Mark Kane’s
11 testimony.

12 *Second*, the expressed rationale for the 10-acre restriction is that larger projects cannot be
13 adequately screened or mitigated to blend into the landscape. The visual simulations show that
14 rationale is manifestly erroneous and without merit. Therefore the entire 10-acre restriction is an
15 attempt at land-use government regulation not based upon a rational basis.

16 *Third*, the 10-acre provision is vague and ambiguous. There is no objective standard from
17 which it can be measured. This is plainly shown by referring to the rules under the Massachusetts
18 SMART program, 225 CMR 20.00 *et seq.* Those provision have a power purchase agreement rate
19 penalty for certain projects based upon the acreage the project occupies. The Massachusetts rule
20 provides a clear objective methodology for measuring the acreage occupied by a solar facility.
21 Based upon the Massachusetts rule, the Project would be occupying 3.34 acres, far below the 10
22 acres.

1 *Fourth*, the 10-acre rule applies to solar only and no other kind of development in
2 Bennington. It is unconstitutionally discriminatory on its face. It also violates 24 V.S.A.
3 §4413(g)(2) which provides a municipal bylaw may not “[p]rohibit or have the effect of
4 prohibiting the installation of solar collectors ... or other energy devices based on renewable
5 resources.” As applied, the Town Plan and By-laws would prohibit and have the effect of
6 prohibiting the installation of the Project if it exceeded the 10-acre provision. Thus the Town Plan
7 or Bylaws could not be applied, either directly or indirectly, to prohibit the Project. Furthermore,
8 24 V.S.A. §4413(g)(2) also overrides the first prong of the second part of the *Quechee* test, because
9 if it did not, then a clear community standard could do indirectly what the Legislature has
10 prohibited directly.

11
12 **Q76. Does this conclude your testimony?**

13 A76. Yes.