

STATE OF VERMONT
PUBLIC SERVICE BOARD

Proposal for Decision

Docket No. 8302

Petition of Chelsea Solar LLC for a certificate of)
public good, pursuant to 30 V.S.A. § 248, authorizing)
the installation and operation of a 2.0 MW solar)
electric generation facility at 500 Apple Hill Road,)
Bennington, Vermont)

Hearing at
Montpelier, Vermont
July 16, 2015

Order entered:

PRESENT: Michael E. Tousley, Esq., Hearing Officer

APPEARANCES: Michael Melone, *pro se*
Thomas Melone, *pro se*
for Chelsea Solar LLC

Jeanne Elias, Esq.
for Vermont Department of Public Service

Donald Einhorn, Esq.
for Vermont Agency of Natural Resources

Libby Harris, *pro se*

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I. INTRODUCTION

This case involves a petition filed by Chelsea Solar LLC ("Chelsea" or "Petitioner") requesting a certificate of public good ("CPG") under 30 V.S.A. § 248 for the proposed construction and operation of a 2.0 MW solar electric generation facility at 500 Apple Hill Road, Bennington, Vermont (the proposed "Project"). In this proposal for decision, I recommend that the Vermont Public Service Board ("Board") approve the Project subject to the conditions described below.

II. PROCEDURAL HISTORY

On June 19, 2014, Chelsea filed a petition with the Board including supporting testimony and exhibits requesting a CPG under 30 V.S.A. § 248 to install and operate a 2.0 MW AC solar electric generating facility at 500 Apple Hill Road, Bennington, Vermont.

On August 25, 2014, I held a prehearing conference. Appearances were entered by Jeanne Elias, Esq., for the Vermont Department of Public Service ("Department" or "DPS"); Donald Einhorn, Esq., for the Vermont Agency of Natural Resources ("ANR"); Michael Melone, *pro se* for Chelsea; and Peter M. Lawrence, Esq., for Libby Harris, the Estate of David Sholes, Teresa Sholes, and the Apple Hill Homeowners Association (the "Landowners").

On August 4, 2014, the Landowners filed a motion to intervene. At the prehearing conference I denied the motion to intervene without prejudice because it did not meet the criteria of Board Rule 2.209.¹

On August 28, 2014, I issued a Prehearing Conference Memorandum and Scheduling Order. That Order established dates for the site visit and public hearing, as well as deadlines for filing motions to intervene as well as any responses. The Order also established October 10, 2014, as the deadline for the parties to file either a stipulation or proposed litigation schedules.²

1. Docket 8302. Order of 8/28/14 at 1.

2. Docket 8302. Order of 8/28/14 at 2.

On October 14, 2014, I issued a procedural order establishing February 11, 2015, as the date for a technical hearing.³

On October 16, 2014, I conducted a site visit and public hearing. Seven individuals provided comments on the proposed Project during the public hearing. The comments received at the public hearing are summarized later in this proposal for decision.

On December 29, 2014, Chelsea requested that the deadline for the Project's commissioning set in its standard offer contract be extended ten months from June 19, 2015, to April 19, 2016. On January 8, 2015, the Board approved that request.

On January 9, 2015, Chelsea filed a request to extend the deadline for filing a stipulation among the parties to January 20, 2015, and represented that the other parties agreed to the extension. On the same day, I granted the requested extension to the stipulation deadline.

On January 21, 2015, Chelsea filed a partial memorandum of understanding ("MOU") between Chelsea and ANR ("First ANR MOU").

On January 22, 2015, the Department requested a second extension of the stipulation deadline until January 27, 2015, in order to permit the DPS to complete its review of the matter. The DPS represented that Chelsea and ANR agreed to the second extension.

On January 26, 2015, I granted this second requested extension.

January 27, 2015, passed without the filing of a stipulation.

On January 29, 2015, I conducted a status conference via telephone. At the status conference, the parties acknowledged the need for filing additional testimony which would not be available until July or August, and requested that the February 11 technical hearing be cancelled.

On February 3, 2015, I vacated the remaining schedule for the proceeding, cancelling the February 11 technical hearing.

On March 12, 2015, Chelsea filed a proposed schedule.

On March 16, 2015, I issued a Second Scheduling Order adopting the schedule proposed by Chelsea.

3. Docket 8302, Order of 10/14/14 at 2.

On March 23, 2015, Ms. Harris filed a motion to intervene.⁴

On March 25, 2015, Chelsea filed a response opposing Ms. Harris's motion to intervene.

On April 16, 2015, I granted Ms. Harris permissive intervenor status limited to the issues of orderly development, aesthetics, wind, and noise on the condition that the evidence to be presented on those topics would be provided by individuals capable of being qualified as experts in those areas.⁵

On May 18, 2015, Ms. Harris filed a motion requesting that the Board order Chelsea to pay the projected expenses associated with her retention of expert witnesses.

On May 20, 2015, Chelsea filed a response opposing Ms. Harris's motion for expert witness funding.

On June 9, 2015, the Board denied Ms. Harris's motion.⁶

On June 17, 2015, Chelsea filed a second partial MOU with ANR ("Second ANR MOU") and a second partial MOU with the DPS ("Second DPS MOU").⁷

On July 9, 2015, Ms. Harris requested that the technical hearing be rescheduled from July 16, 2015, to July 14, 2015.⁸

On July 16, 2015, a technical hearing was held in the Board's hearing room in Montpelier, Vermont.

4. The deadline for motions to intervene was October 31, 2014.

5. Docket 8302, Order of 4/16/15 at 5.

6. Docket 8302, Order of 6/9/15 at 1.

7. On February 10, 2015, Chelsea e-mailed a first partial MOU with the DPS ("First DPS MOU") to the Clerk of the Board. This electronic copy of the First DPS MOU did not include a signature page. The e-mail was not followed up by a hard copy filing of the First DPS MOU. In the Second DPS MOU, which was signed and filed, the parties state that they had entered into the First DPS MOU on February 9, 2015. At the July 16, 2015, technical hearing, the First DPS MOU was entered into the record as exhibit CS-MOU-3 without objection.

8. Specifically, Ms. Harris requested that the technical hearing be rescheduled to be coincident with a technical hearing that had been scheduled on that date in Docket 8454, which is the Board's investigation into a petition filed by Apple Hill Solar LLC. Ms. Harris's request was untimely inasmuch as there was insufficient time to effectuate notice of a July 14 hearing date. Ultimately, her request was overcome by events because the Apple Hill Solar LLC technical hearing was cancelled. *Petition of Apple Hill Solar LLC*, Docket 8454, Order of 7/8/15 at 2.

On July 28, 2015, Chelsea filed a draft of a proposed Order in this matter, representing that the Department and ANR agreed to waive their rights to submit comments on a proposal for decision provided the Board's Order is consistent with the draft submitted by Chelsea.⁹

On August 7, 2015, Chelsea and Ms. Harris each filed post-hearing briefs. Ms. Harris's brief (the "Harris Brief") requested that the Board "deny Chelsea Solar's CPG or stay its decision until the Apple Hill docket has been completed."¹⁰ On that same date, the Department filed notice stating that "having reached a Memorandum of Understanding with the Petitioner, supporting the project . . . [the Department] will not be filing a post hearing brief with the Board in this matter."¹¹

On August 13, 2015, Chelsea filed a brief replying to the Harris Brief in which it requested that the Board not delay its final Order in this Docket.

Summary of Public Comments Received During the Public Hearing

Seven individuals commented on the proposed Project during the October 16, 2014, public hearing at the Bennington Fire House. Concerns raised by the speakers about the Project included the potential noise and wind impacts of the Project, the Project's impact on traffic on Apple Hill Road, and aesthetic impacts, both general and specific, as to the view of the Project from the new Welcome Center on U.S. Route 7. Other speakers expressed concerns about the potential impacts on surrounding property values, the potential effect of the Project on deer wintering areas, the limited economic benefit of the Project to the community, the rapid pace of solar deployment in the state, the highly visible nature of the Project site, and the site's proximity to U.S. Route 7. Still other speakers were concerned about the potential impacts on certain wildlife habitat, whether Project decommissioning could be assured, and the industrial nature of the Project in an otherwise rural setting. A member of the Bennington County Regional

9. Letter from Michael Melone to Susan M. Hudson, Clerk of the Board, dated July 28, 2015.

10. Harris Brief at 15.

11. Letter from Jeanne Elias, Esq., to Susan M. Hudson, Clerk of the Board, dated August 7, 2015.

Commission also commented that he was in favor of the Project because of its proposed placement in a non-agricultural setting that does not include significant wildlife habitat.

III. FINDINGS

Based on the evidence of record, I hereby report the following proposed findings to the Board in accordance with 30 V.S.A. § 8(c).

Background and Project Description

1. Chelsea Solar LLC is a Vermont limited liability company with offices located at 70 Maple Street, Middlebury, Vermont. Petition at 1.
2. Chelsea proposes to develop and operate a 2.0 MW AC solar photovoltaic electric generation facility, located on an approximately 27.3-acre parcel of land along U.S. Route 7 in Bennington, Vermont. The property is currently vacant, and has no recent residential, commercial, or agricultural use. Brad Wilson, Chelsea ("Wilson") pf. at 2.
3. The Project would occupy 14.85 acres of the approximately 27-acre tract located just north of the Vermont Welcome Center at the U.S. Route 7/VT Route 279 interchange in Bennington, Vermont. The Project site is bounded on the south and west by the highway system, on the north by a shared property line with three residential properties, and on the east by a parcel of land formerly used as an apple orchard. The nearest neighbor's property line is approximately 175 feet north of the Project fence. At present, the Project site is almost entirely wooded with northern hardwood species, and is accessed via Apple Hill Road. Wilson pf. at 2; Mark Kane, Chelsea ("Kane") pf. at 3-5; exh. CS-MK-2 .
4. The photovoltaic array would be set back approximately 200 feet from the eastern edge of U.S. Route 7. Exh. CS-MK-2 at 3.
5. The most significant component of the Project would be the approximately 2.8 MW (DC) of 72-cell polysilicon photovoltaic solar modules. These solar modules would be of the common, commercially available type, and would serve as the electricity generation element of

the facility. The solar modules would be mounted above the ground upon a steel fixed-tilt racking system. This racking system would elevate the solar modules above the ground (18 inches of ground clearance at the lowest point, 9 feet at the highest point) and would orient the modules due south at a tilt angle of 30 degrees. Wilson pf. at 3-4.

6. The racking would remain in a fixed position and would be supported by a steel H-beam that is encased in a cylinder of cement grout material. The grout material would be poured in place within 8-inch diameter borings that are 11.5-feet deep. An auger/drill machine would drill these borings in the soil and rock ground foundation. Soil tailings from the borings would be distributed on-site, while rock tailings from the borings would be disposed of at an off-site waste facility per Vermont state regulations for construction byproducts. This type of design does not utilize hammer or vibratory machinery. Wilson pf. supp. at 5.

7. Direct current combiner/disconnect cabinets would collect the output of the solar module strings into larger cabling runs that would travel to an equipment skid near the center of the Project. All cabling runs within the Project would be installed in underground conduit. Wilson pf. at 4.

8. A central equipment skid would serve as the location for transformer, monitoring, communications, and protection equipment. Most of the equipment on the central skid would be at most 8 feet aboveground, but some camera and weather-sensor equipment may be up to 12 feet aboveground. Wilson pf. at 4.

9. The foundation for the central equipment skid would consist of concrete sonotubes approximately 18 inches in diameter, with a burial depth of approximately 8 feet, and would support the equipment skid at a height of approximately 12 inches above grade. Wilson pf. at 20; exh. CS-ECOS-4.

10. At the central equipment skid, the electric output of the solar modules would be collected, inverted from direct current to alternating current, and stepped-up to 12.47 kV for delivery into Green Mountain Power Corporation's ("GMP") distribution grid. Wilson pf. at 4.

11. The medium voltage transformer that would service the Project would contain a biodegradable coolant oil, and the Project would include the construction of a secondary containment structure for this transformer consistent with the specifications contained in the First

ANR MOU and described in exhibit CS-ECOS-10. Wilson pf. supp. at 7-8; exh. CS-ECOS-10; exh. CS-MOU-1 at ¶ 8.

12. A concrete pad would be constructed to support the pad-mounted interconnection equipment – a metering cabinet and a recloser cabinet – required by GMP. This pad would be approximately 13 feet in length by 10 feet in width with a burial depth of approximately 18 inches. The pad would support the equipment cabinets at a height of approximately 6 inches above grade. The concrete pad would be located at the interconnection equipment location near the western edge of the Project site. Wilson pf. at 20; exh. CS-ECOS-4 at 4.

13. A 14-foot-wide gravel permanent access driveway would be constructed from Apple Hill Road at the Project's northeastern corner to the center of the Project. It would be used for operations and maintenance ("O&M") traffic, as well as emergency vehicle access during Project operation. Wilson pf. supp. at 2-3; exh. CS-ECOS-4.

14. A 12-foot-wide gravel temporary access driveway would extend approximately 750 feet to connect Willow Road with the southern boundary of the Project footprint. It would be used for site clearing, site preparation, and construction traffic for the Project. Wilson pf. supp. at 2-3; exh. CS-ECOS-4.

15. No site clearing, site preparation, or construction traffic would utilize the permanent Apple Hill Road driveway, and no Project O&M traffic would utilize the temporary Willow Road driveway. Wilson pf. supp. at 2-3; exh. CS-ECOS-4.

16. The Project footprint would be surrounded by 7-foot-high knotted-mesh fencing. This fence would serve as a security barrier to keep unintended visitors outside of the Project. A one-foot gap between the bottom of the fence material and the ground would allow for smaller wildlife to traverse the Project area. Wilson pf. at 18-19.

17. Outside the fence, but on the Petitioner's property, the Project would interconnect with an overhead GMP distribution line along Willow Road to the south of the Project. Wilson pf. at 5; exh. CS-ECOS-4.

18. If constructed, the Project would sell all electricity generated through a standard-offer purchase power agreement ("PPA") with VEPP, Inc. The agreement allows the sale of electricity for a period of 25 years. Wilson pf. at 5.

19. Project construction and commissioning would take approximately five months. Wilson pf. at 6.

20. Project construction would occur in four major phases: (1) site preparation; (2) array construction; (3) facility wiring; and (4) system commissioning. Wilson pf. at 6.

21. Site preparation for the Project would consist of: construction mobilization; survey/staking; clearing; stabilization; grading; compaction; installation of the aggregate access road; installation of the perimeter security fence; and trenching for the underground conduit. This would be done in four stages of five acres or less each so as to minimize the amount of non-stabilized surface at any one time. Cleared vegetation would be chipped on-site and stored in two staging areas before being shipped off-site and disposed of at an appropriate nearby disposal facility. Surface grading would include approximately 900 cubic yards of cut and 1,500 cubic yards of fill, with the excess 600 cubic yards being made up of aggregate material for the temporary access driveway. Surface grading would not significantly alter existing site topography. Surface grading would be used to install the access driveway and stormwater management features. Site preparation may take up to one month to complete. Wilson pf. at 6-7.

22. Following site preparation, array construction would commence. Steel H-beams to support the solar racking would be pile-driven into the ground and steel racking would be installed upon the H-beams. Solar modules would then be installed upon the racking. Direct current disconnect/recombiner cabinets would be installed, and conduit for underground cable would be put into place. A foundation for the central equipment skid would be prepared, and the skid installed into place. Array construction includes the physical installation of the majority of the solar-generation equipment and may take up to two months to complete. Wilson pf. at 7; exh. CS-ECOS-9.

23. Following array construction, facility wiring would commence. During this phase, all wiring and cabling between the solar modules and GMP's distribution circuit would be installed. Protective devices, such as fuses, switches, and breakers, would also be installed during this phase. This phase may take up to one month to complete. Wilson pf. at 6-7.

24. The final construction phase would be system commissioning. During this phase, the solar facility would be tested and calibrated for safe operation. Any required pre-operational

certifications would be obtained during this phase. Only after successful testing and complete certification would the Project be ready to enter operation. Also during this phase, final landscaping and groundcover-stabilization activities would occur. This phase may take up to one month to complete. Wilson pf. at 7-8.

25. Chelsea proposes hours of construction between 8:00 A.M. and 5:00 P.M. Monday through Friday with no construction taking place during evenings, nighttime, weekends, or state or federal holidays. Wilson pf. at 7.

26. Once operational, the Project would require little on-site Petitioner staff presence. Generally, the Project equipment is designed to function automatically and autonomously. There is no regular on-site staff proposed for the Project. However, periodic equipment and landscaping maintenance would be required, and the Project would experience 2-3 site visits per month, on average, by a single truck crew to perform these maintenance duties. Once per year, a water truck crew would wash the solar modules with water only; no chemicals, cleaners, or solvents would be used. Unscheduled maintenance or repair trips to the site may occur, as needed. Wilson pf. at 8-9.

27. The Project would utilize monitoring and communications equipment to provide a real-time stream of data regarding system performance to off-site personnel. This system would report on weather data, solar production, equipment efficiency, and operating conditions. The system would send out trouble alarms for all equipment, allowing the Petitioner to dispatch repair personnel immediately in the event of a problem. The monitoring system would incorporate two network video cameras, allowing the Petitioner to view Project conditions from off-site. Wilson pf. at 9.

28. In addition to the perimeter fence, Project site security would include motion-sensitive infrared video security cameras. These cameras would be operated and monitored by a national security systems provider. If motion is detected, the cameras would provide a video feed to a national monitoring center. If the video evidence suggests an unauthorized visitor on-site, the Petitioner would be contacted. If necessary, the security provider may contact the local police or sheriff with the Petitioner's permission. As an additional safety measure, all electrical boxes on-site would be locked, limiting access to authorized users. Wilson pf. at 9.

29. The Petitioner would maintain the vegetation and landscaping of the property in a manner consistent with town and neighbor standards. Landscaping and groundcover vegetation would be periodically maintained to achieve a neat and groomed appearance. The Project would benefit from keeping groundcover trimmed low and maintaining investments in installed landscaping. Wilson pf. at 10.

Discussion

As required by 30 V.S.A. § 8007(b), the Board has implemented procedures governing the application and review of renewable energy projects with a plant capacity that is greater than 150 kW and is 2.2 MW or less by adopting standards and procedures for such projects which include the conditional waiver of several Section 248 criteria.¹² Because the Project is a standard offer renewable energy project and would have a plant capacity not to exceed 2.2 MW, the Project meets the requirements for conditional waivers of certain Section 248 criteria pursuant to 30 V.S.A. § 8007(b) and the Section 8007(b) Order. These criteria are identified in the findings below.

Ms. Harris argues that the Project should not be approved because the Project will not meet the Board's "requirement that contiguous projects shall be served by separate roads and infrastructure" because the Project will share roads and infrastructure with the Apple Hill Solar LLC project being reviewed in Docket 8454 ("Apple Hill").¹³ Ms. Harris further "moves to stay the issuance of the CPG in this Chelsea Solar docket until after the PSB completes review of the second Apple Hill Solar project."¹⁴

I recommend that the Board deny Ms. Harris's motion to defer issuing a decision in this case. Chelsea filed this petition on June 19, 2014. As highlighted in the procedural history, there have been several significant delays in processing this petition including the extension of the Project's standard offer contract commissioning deadline by ten months. The original scheduling

12. *In Re: Simplified Procedures for Renewable Energy Plants with a Capacity Between 150 kW and 2.2 MW*, Order of 8/31/10 ("Section 8007(b) Order").

13. *See* Docket 8454. Petition of 3/5/15.

14. Harris Brief at 2.

order in this Docket projected a technical hearing in February 2015. Apple Hill was filed on March 5, 2015. Had Chelsea proceeded without delays, a final order would have been issued in this case well before consideration of the Apple Hill petition, possibly before Apple Hill was even filed.

The evidence in this Docket has established that Chelsea is a stand-alone project served by separate roads and infrastructure. A decision in this Docket has been long-delayed and should be made as soon as possible. Ms. Harris relies upon information submitted in the Apple Hill Docket to support her argument for a delay.¹⁵ However, there was no evidence presented in this Docket that the Chelsea Solar Project will share any roads or infrastructure. Therefore, I recommend that the Board deny Ms. Harris's motion to stay this decision and not further delay a decision in this Docket.

Review of Project Under the Section 248 Criteria

Orderly Development of the Region [30 V.S.A. § 248(b)(1)]

Findings

30. The Project will not unduly interfere with the orderly development of the region, with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of the municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. This finding is supported by findings 31 through 34 below.

31. There are extensive public and conservation land holdings in the Town of Bennington, including portions of the Green Mountain National Forest, as well as significant areas of private conservation easements and recreation parks. The Project site is not located on or near an identified conservation area. Kane pf. at 5; exh CS-MK-3.

32. The Project site is zoned and identified in the 2010 Bennington Town Plan as part of the Rural Conservation District. The language describing this district states that while sensitivity to

15. *Id.* at 5-6.

environmental and visual impacts for land use development is important, development is not precluded. Kane pf. at 5; exh CS-MK-3.

33. The Town of Bennington has a Parks and Open Space Plan (2007). The property on which the Project site is proposed is not a candidate for open space protection or land conservation. Kane pf. at 5; exh CS-MK-3.

34. The Bennington Regional Plan (2007) considers the future land use of the region and advances regional goals. It states that "rural development must not be widely scattered throughout the countryside, but should occur as relatively compact and cohesive units that serve to reinforce, rather than replace the region's rural character." The Project site is at the edge of developed highway infrastructure and the Project has been designed compactly. Kane pf. at 6; exh. CS-MK-4; exh. CS-MK-5.

Need for Present and Future Demand for Services

[30 V.S.A. § 248(b)(2)]

Findings

35. Pursuant to the Section 8007(b) Order, this criterion is conditionally waived for the Project, and no party presented any testimony that would warrant rescinding that waiver in this proceeding.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

Findings

36. The Project will not have an adverse impact on system stability and reliability. This finding is supported by findings 37 and 38, below.

37. GMP has completed a system impact study that investigated the impacts of the Project's interconnection to the GMP distribution system and identified the system upgrades necessary to maintain stability and reliability. Wilson pf. at 11-12; exh. CS-ECOS-5.

38. The Petitioner must enter into an Interconnection Agreement with GMP before the Project would be allowed to interconnect to GMP's distribution system. Completion of the

upgrades identified in GMP's system impact study at the Petitioner's expense would be a requirement of the Interconnection Agreement. Wilson pf. at 11-12.

Discussion

Pursuant to Board Rule 5.500, I recommend that the Board require that, prior to commencing operation of the Project, Chelsea must: (1) enter into an Interconnection Agreement with GMP that conforms to the requirements of Board Rule 5.500; and (2) be responsible for the cost of GMP's electric system upgrades reasonably necessary to implement interconnection for the Project, including those identified in exhibit CS-ECOS-5, and such other costs appropriately submitted to Chelsea. Subject to these conditions, I recommend that the Board conclude that the Project would not adversely affect system stability and reliability.

Economic Benefit to the State

[30 V.S.A. §248(b)(4)]

Findings

39. Pursuant to the Section 8007(b) Order, this criterion is conditionally waived for the Project, and no party presented any testimony that would warrant rescinding that waiver in this proceeding.

Aesthetics, Historic Sites, Air and Water Purity, the Natural Environment, and Public Health and Safety

[30 V.S.A. § 248(b)(5)]

Findings

40. Subject to the conditions described below, the proposed Project will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment, the use of natural resources, and public health and safety, with due consideration having been given to the criteria specified in 10 V.S.A. §§ 1424a(d) and 6086(a)(1) through (8) and (9)(K), and greenhouse gas impacts. This finding is supported by findings 41 through 131, below, which give due consideration to the criteria specified in 10 V.S.A. § 1424a(d) and 10 V.S.A. §§ 6086(a)(1) through (8) and (9)(K).

Outstanding Resource Waters

[10 V.S.A. § 1424a(d); 30 V.S.A. § 248(b)(8)]

Findings

41. The Project will not result in an undue adverse effect on any outstanding resource water as defined by 10 V.S.A. § 1424a(d) or 30 V.S.A. § 248(b)(8), as the Project is not located on or in the vicinity of any segment of such waters. Dori Barton, Chelsea ("Barton") pf. at 3; Barton pf. supp. at 3; Scott Michael Mapes, Chelsea ("Mapes") pf. at 7.

Water Pollution

[10 V.S.A. § 6086(a)(1)]

Findings

42. The Project will not result in undue water pollution. This finding is supported by findings 43 and 44, below, and the findings under criteria 10 V.S.A. §§ 6086(a)(1)(B)–(a)(4).

43. Chelsea would use a non-toxic, bio-based coolant – FR3 or equivalent – for the Project transformer. To provide secondary containment for the cooling oil should the transformer housing fail and leak, a secondary containment system would be built sufficient to accommodate 110% of the transformer coolant volume, plus 5 inches of freeboard for rain. The specifications of the secondary containment system are set forth in the First ANR MOU. Exh. CS-MOU-1 at ¶ 8; exh. CS-ECPS-10.

44. Chelsea's O&M contractor would perform periodic inspections of the secondary oil containment system and maintain the system in good working order for the life of the Project. Exh. CS-MOU-1 at ¶ 8.

Air Pollution, Sound, Wind, and Greenhouse Gas Impacts

[30 V.S.A. § 248(b)(5); 10 V.S.A. § 6086(a)(1)]

Findings

45. The Project will not result in undue air pollution, sound, wind, or greenhouse gas emissions. This finding is supported by findings 46 through 64, below.

46. Any air emissions from the Project would be related to limited vehicle and equipment emissions and dust, and would be present mostly during construction of the Project. Mapes pf. at 5-6.

47. Undue generation of dust is not anticipated for the following reasons: (1) the construction entrance and Project access drive would be stabilized; (2) the access drive would be a gravel surface; (3) while there would be extensive tree and brush clearing, that activity would be conducted in accordance with the Project's Erosion Prevention and Sediment Control ("EPSC") plan phasing and Vermont Department of Environmental Conservation ("DEC") Construction General Permit 3-9020; (4) there would be limited soil disturbance associated with installation of the solar panel support structures as these would be pile-driven; (5) the installation of the perimeter security fence would involve limited soil disturbance as the fence posts would be pile-driven or augured; (6) there would be only limited, temporary soil disturbance associated with the installation of underground conduit; (7) water would be applied as needed during the construction phase; and (8) during construction-phase activities the Petitioner would implement best management practices ("BMPs") as detailed in the Project's EPSC plan and as required by the Project's coverage under the DEC Stormwater Construction General Permit 3-9020. Mapes pf. at 5-6; exh. CS-SMM-2.

48. Emissions from delivery vehicles and construction equipment would be of short duration and minimal impact. Tr. 7/16/15 at 39 (Mapes).

49. There would be no burning or other emissions during either construction or operation of the Project. The Project would not produce air pollutants during operation. Wilson pf. supp. at 8.

50. Chelsea proposes hours of construction between 8:00 A.M. and 5:00 P.M. Monday through Friday with no construction taking place during evenings, nighttime, weekends, or state or federal holidays. Wilson pf. at 7.

51. The only Project equipment that would generate sound are the inverters and the medium voltage transformer. The inverters would generate a maximum of 50 decibels at a distance of 10 feet, and the transformer would generate a maximum of 60 decibels at a distance of 10 feet. This equipment would only be in use during sunlit hours. Wilson pf. at 21.

52. The Town of Bennington Noise Standards by Time of Day (the "Bennington Standards") limit the sound pressure level at the receiving property line for residential and commercial or industrial properties during the day and at night as follows:

Receiving Property	Time of Day	
	6:00 a.m. to 10:00 p.m	10:00 p.m to 6:00 a.m.
Residential	60 dBA	45 dBA
Commercial/Industrial	70 dBA	55 dBA

When a sound exceeds the dBA sound level specified above, it is a violation of the Bennington Standards. Exh. CS-DIS-DEPT-2, exhibit B.

53. Chelsea sponsored a noise study performed by Rincon Consultants of Ventura, California (the "Rincon Study"). The Rincon Study relied upon a Federal Highway Administration ("FHWA") model and noise volume levels recorded by the Vermont Agency of Transportation ("VTTrans") along U.S. Route 7 and VT Route 279 to estimate the current sound levels at 17 locations around the Project site and to model the potential sound levels at those locations after the Project was constructed. The Rincon Study concluded that during operations the Project would not generate significant sound levels that would violate the Bennington Standards. Exh. CS-DIS-DEPT-2, exhibit B.

54. The primary sound source at the Project site is from the nearby highway traffic. The Rincon Study determined that traffic noise would increase up to 3.6 dBA due to the removal of the trees at the Project site. The resultant sound level, including both traffic noise and the sound coming from Project equipment, would remain below the Bennington Standards and within the normal sound levels for a rural area. The Rincon Study further concluded that "surrounding residential units would not be exposed to unusual or unacceptable noise levels in excess of criteria and no substantial noise effect is anticipated to be caused by the removal of trees from the proposed project site." Exh. CS-DIS-DEPT-2, exhibit B at 5.

55. The FHWA's Traffic Noise and Noise Barrier Design Handbook projects that the removal of a forested area similar in size in proximity to a highway may raise noise levels between 5 and 10 dBA. Exh. Harris-1; tr. 7/16/15 at 52 (Harris).

56. The Rincon Study projected that the highest sound level, including both traffic noise and Project equipment, within the Project area after tree removal would be 46.1 dBA and hence would not exceed the 60 dBA Bennington Standard. Exh. CS-DIS-DEPT-2, exhibit B.

57. The average annual wind speed in Bennington is approximately 4.5 meters per second and, as such, is among the least windy areas in Vermont, where average annual wind speeds may reach up to 10 meters per second. Exh. CS-DIS-DEPT-2, exhibit C.

58. Residential properties within one-quarter mile of the Project site were built without any windscreen from trees, unlike the residences adjacent to the forested Project area. Tr. 7/16/15 at 56 (Wilson).

59. An in-depth, site-specific wind analysis at the Project site would take at least six months, and hiring an anemometry consultant would have a significant cost. Tr. 7/16/15 at 54 (Wilson).

60. After assessing: (1) the low average wind speed for the Bennington area, (2) the proximity to the Project site of other residences without forested windscreens, and (3) the time and cost of conducting a site-specific wind analysis, Chelsea determined that while there might be some adverse impact created by the wind after the site was deforested, that adverse impact would not be undue. Therefore, Chelsea decided not to commission a wind study. Tr. 7/16/15 at 56-57 (Wilson).

61. Chelsea agrees to provide ANR with the following Project "as-built" information within 60 days of the commissioning date of the Project to assist ANR with compiling and analyzing greenhouse gas impacts:

- a. Solar panel manufacturer and model;
- b. Solar panel cell technology (e.g., mono-Si, multi-Si, CdTe, etc.);
- c. Rated solar panel output (in watts);
- d. Number of solar panels installed;
- e. Array mounting type (fixed, 1-axis tracking, 2-axis tracking, ground, roof, other);
- f. For fixed or 1-axis tracking, panel orientation and mounting angle;
- g. Rack system manufacturer and model;
- h. Rack system components, including the number of aluminum rails, steel mounting posts, etc.;
- i. Number and type of any other mounting components (e.g., concrete ballasts and foundation blocks);

- j. Manufacturer, model, and number of inverters;
- k. Manufacturer, model, and number of transformers;
- l. Mass of concrete used (for ballasts, foundations, mounting pads, etc.);
- m. Percent of Portland cement composition of concrete;
- n. Description, quantity, and source of any recycled materials used (e.g., recycled content concrete, recycled aluminum racking, etc.);
- o. Amount (length) and gauge of wiring used for Project;
- p. Components for connection to grid (circuit boxes, circuit breaker panels, metering equipment, etc.);
- q. Distance (e.g., truck miles traveled) for transport of system components to site; and
- r. Distance to grid connection.

Exh. CS-MOU-1 at ¶ 4.

62. By January 30 of each year, ANR may request that Chelsea provide ANR with an annual report for the previous calendar year of operations that would contain the information set out below which would be used to assist ANR with compiling and analyzing greenhouse gas impacts. Chelsea would have 60 days from the date of ANR's request to supply the information. Should ANR not request the information set out below by January 30, Chelsea would not have any obligation to provide an annual report from the previous year of operations. The information to be provided includes the following:

- a. Electric generation in kWh for the prior year, broken down by month; and
- b. Any information about the replacement of PV panels, inverters, transformers, or a complete racking system. In instances of failure and replacement of equipment (e.g., PV panels, inverters, etc.), Chelsea would provide descriptions of both the failed and replacement components at the same level of detail as required by the "as-built" reporting requirements of finding 61, above. This provision does not require Chelsea to provide information about *de minimis* replacement of system components (e.g., replacement of racking system hardware), or information regarding regular maintenance activities.

Exh. CS-MOU-1 at ¶ 5.

63. Should ANR not request the information in finding 62, above, in any two consecutive years after Project commissioning, Chelsea's reporting obligations would automatically cease. Exh. CS-MOU-1 at ¶ 6.

64. ANR and Chelsea, by mutual agreement, may cancel Chelsea's reporting obligations at any time. Exh. CS-MOU-1 at ¶ 7.

Discussion

There has been considerable public comment related to the potential sound and wind impacts of the Project. These concerns are also reflected in the Harris Brief and in the discovery conducted by the Department in this case, as well as in the evidence addressed in this proceeding. While the assessment of the potential sound impacts of projects is a regular part of the Board's review of Section 248 projects under the air pollution criterion, assessing potential wind impacts is not. The Harris Brief treats sound and wind as aesthetic impacts. As it is the Board's practice to assess sound under the air pollution criterion, I have reported the findings related to both sound and wind here and discuss them here under this criterion for the Board's consideration.

The Rincon Study, placed into evidence by Chelsea, relied upon a robust set of sound volume readings recorded by VTrans in 2012 to project current sound levels at various locations around the site using an FHWA model and to further project the potential impact of clear cutting the Project site on those locations using the same model. As noted in the Harris Brief,¹⁶ the Rincon Study did not conduct ambient sound measurements at the Harris property or anywhere around the Project site. Nonetheless, the Rincon Study did rely on actual ambient sound measurements done by VTrans to project sound levels at various other locations around the Project site using a FHWA sound propagation model. The VTrans data documents the predominance of the nearby traffic, on local roads, notably Route 7, as the primary sound source.

The Harris Brief characterizes the Rincon Study as reflective of a lack of due diligence. I disagree. Both Chelsea and Ms. Harris have cited the FHWA in this proceeding as a source of expertise in measuring sound; using the FHWA model to analyze the 2012 VTrans sound

16. Harris Brief at 9 and 12.

measurements in relation to locations around the Project site reflects an application of accepted methods for sound analysis and was not unreasonable. Relying upon FHWA's model, the Rincon Study found that the sound created by the Project, both additional traffic noise caused by cutting down trees and Project equipment sound, did not breach the Bennington Standards. I therefore recommend that the Board conclude that the potential increase in sound is not an adverse Project impact.

There was also concern from the public and Ms. Harris about the effect that clear-cutting the Project site would have on wind at local residences. The premise of this concern was that trees serve as a windscreen and removing trees would increase the wind speed at the residences. Chelsea responded to this concern by assessing the available local data which indicates that annual wind speeds in the Bennington area are relatively low. Further, Chelsea noted that several other homes were built in the area unshielded by the trees at the Project site. Based on this data, as well as an assessment of the cost and time delay associated with conducting a site-specific wind study, Chelsea decided not to conduct a wind study.

Based on my review of the record I have concluded that no persuasive evidence was presented to substantiate the concern that clear-cutting the Project site would create an adverse wind impact. Thus, given relatively low wind speeds in the Bennington area and the lack of data to support a concern about wind impacts, I recommend that the Board find that cutting down the trees will not create an adverse wind impact.

Ms. Harris also raised a concern about carbon sequestration in her brief, an issue that had not previously been addressed during this Docket's extended proceedings. Ms. Harris argues that "[t]he evaluation of the Greenhouse Gas Emissions must include the contribution that the forest Chelsea Solar proposes to cut is making in terms of carbon sequestration."¹⁷

Section 248(b)(5) requires that the Board give "due consideration" to "greenhouse gas impacts." There is no specific statutory requirement to conduct a carbon sequestration assessment or a carbon balancing test. Section 248(a)(3)(E) provides that ANR "shall appear as a party" in Section 248 proceedings and "shall provide evidence and recommendations concerning

17. Harris Brief at 14.

any findings to be made under subdivision (b)(5)." The findings above and the two ANR MOUs reflect both Chelsea's due diligence in addressing greenhouse gas impacts and ANR's fulfillment of its statutory duties by including extensive greenhouse gas emission data requirements upon which I recommend the Board condition approval of a CPG.

As a matter of straight-forward logic, I recognize that cutting down approximately 15 acres of forest to construct the Project means that 15 acres of forest would cease to exist and therefore will cease to sequester carbon. As a matter of simple logic, I further recognize that the operation of the Project – a solar generation facility – would likely have a lower carbon impact than electrical power generated by fossil-fuel. However, based on the record developed by the parties in this proceeding, there is no evidentiary basis for me to determine, one way or another, whether the Project would have a detrimental greenhouse gas impact due to the clearing of 15 acres of trees. Nor does the language of Section 248(b)(5) require that such a determination be made to satisfy the requirement that the Board give "due consideration" to greenhouse gas impacts. For these reasons, I recommend that the Board find there would be no adverse impact from the Project related to greenhouse gas emissions.

Headwaters

[10 V.S.A. § 6086(a)(1)(A)]

Findings

65. The Project will not result in an undue, adverse impact to any of Vermont's headwaters. This finding is based on findings 66 through 69, below.

66. The Project is located within a headwater as defined by 10 V.S.A. § 6086(a)(1)(A) because the Project site is in a drainage area of less than 20 square miles. However, the Project is not characterized by other features that define headwaters. It is not characterized by steep slopes or shallow soils, is not above 1,500 feet in elevation, is not in a watershed of a public water supply as designated by ANR, and is not in an area supplying significant amounts of recharge water to aquifers. Mapes pf. at 7.

67. ANR Geographic Information System ("GIS") databases and site observations show that runoff from the site drains to a VTrans storm-system network at the U.S. Route 7 and VT Route 279 interchange. This water eventually discharges to an unnamed tributary of Furnace Brook,

which eventually flows into Furnace Brook roughly a quarter mile from the Project. Furnace Brook then flows into the Walloomsac River. This headwater sub-watershed is less than one square mile at the point where the Project runoff would discharge to the VTrans storm-system network. Mapes pf. at 7.

68. Despite the size of the sub-watershed, the Project would meet any health and DEC regulations regarding the reduction of the quality of ground or surface waters flowing through lands defined as a headwater. According to Chelsea, the conditions contained in DEC's Stormwater Construction General Permit 3-9020, under which the Project would be covered, would ensure that ground- and surface-water quality are not affected by the Project's construction activities. Mapes pf. at 7; exh. CS-SMM-2.

69. The Project's transformer would use Envirotamp FR3, a bio-based coolant, or an equivalent, and would be constructed with a secondary spill containment system. Exh. CS-MOU-1 at ¶ 8.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

Findings

70. The Project will meet applicable health and Vermont DEC regulations regarding the disposal of wastes and would not involve the injection of waste materials into groundwater or wells. This finding is supported by findings 71 through 79, below.

71. The Project would meet applicable health and DEC regulations regarding the disposal of wastes. Mapes pf. at 8.

72. The Project does not involve disposal of wastes or injection of any material into groundwater or wells. Mapes pf. at 8.

73. The Project does not involve any domestic waste or potable water supply needs. Therefore, according to Chelsea, the Project does not require a state Water Supply and Wastewater Disposal Permit. Mapes pf. at 8.

74. There would be brush and tree clearing, and solid wastes generated would be processed and/or recycled in accordance with Vermont solid waste management rules. Mapes pf. at 8.

75. According to Chelsea, due to the nature and size of the new development and the resulting new impervious surface created (less than one acre), the Project would not require

coverage under the DEC Stormwater Operational Phase General Permit 3-9015. However, the Project has been designed with appropriate operational phase stormwater BMPs to provide flow mitigation and water quality treatment practices given the change in site characteristics from pre- to post-development. Mapes pf. at 8; exh. CS-SMM-5.

76. Because earth disturbances during construction would include tree and brush clearing and would be greater than one acre, Chelsea would seek coverage under DEC Stormwater Construction General Permit 3-9020. Mapes pf. at 9; exh. CS-SMM-7.

77. The majority of the soils for the Project area are mapped by the Natural Resources Conservation Service as either very stony Georgia loam (67C) or very stony Stockbridge loam (65C). There is a small mapped section of Galway-Farmington complex (41C). These soils are moderately to very deep and are moderately to well-drained and tend not to be erodible when exposed for lengthy periods of time. Exhibit CS-SMM-4.

78. However, to lessen the chance of any erosion, all disturbed areas would be promptly stabilized with temporary or final measures within 7 days of initial disturbance, and no more than 5 acres would be disturbed at any one time. Provided Chelsea follows both this protocol and the requirements of the DEC Stormwater Construction General Permit 3-9020, the site should experience little to no erosion. Mapes pf. at 9; exhs. CS-SMM-2, CS-SMM-5, CS-SMM-7, and CS-ECOS-4.

79. Chelsea has agreed to perform post-construction, as-built, field verification of all impervious surfaces associated with both the solar array and the GMP line that would interconnect with the Project ("GMP Line Extension") and report the total new impervious surface area to DEC's Stormwater Management Program. If the Stormwater Program determines that the total impervious surface area associated with the Project, in combination with the total impervious surface area of any other project deemed by the Stormwater Program to be part of a common plan of development as defined in the DEC's stormwater rules, results in a total amount of impervious surfaces greater than one acre, Chelsea would obtain an operational stormwater discharge permit and the Project would be retrofitted with required stormwater treatment practices pursuant to the Vermont Stormwater Management Manual, Volume I. Exh. CS-MOU-2 at ¶ 4.

Water Conservation
[10 V.S.A. § 6086(a)(1)(C)]

Findings

80. Pursuant to the Section 8007(b) Order, this criterion is conditionally waived for the Project, and no party presented any testimony that would warrant rescinding that waiver in this proceeding.

Floodways
[10 V.S.A. § 6086(a)(1)(D)]

Findings

81. The Project will have no undue adverse effects on floodways. The Project is not located in a floodway or floodway fringe. The Project is located outside of and at an elevation above a mapped Special Flood Hazard Area for Bennington. Mapes pf. at 10.

Streams
[10 V.S.A. § 6086(a)(1)(E)]

Findings

82. The Project will not result in an undue, adverse impact to any streams. This finding is supported by findings 83 and 84, below, and the findings under the criteria of 10 V.S.A. § 6086(a)(1)(G) and 10 V.S.A. § 6086(a)(4).

83. The Project would not be on or adjacent to the bank of any perennial stream. The closest mapped stream is approximately 1600 feet to the west of the Project area. GIS databases and site observations show that runoff from the site drains to a VTrans storm-system network at the U.S. Route 7 and VT Route 279 interchange which eventually discharges to an unnamed tributary of Furnace Brook which eventually flows into Furnace Brook roughly a quarter mile away from the Project. Furnace Brook then flows into the Walloomsac. Given the scope and nature of construction-phase activities, the associated implementation of the Project's EPSC plan, and the state of the completed Project, no impacts are expected to occur to those identified watercourses as a result of the Project. Mapes pf. at 11; Barton pf. at 2.

84. The GMP Line Extension would be located adjacent to or near a stream. The stream assessment for this part of the Project involved both a remote review of the United States

Geological Survey topographic maps, the Vermont Hydrography Dataset (streams, rivers, waterbodies), 2-foot contours derived from the Federal Emergency Management Agency Bennington Light Detection and Ranging Study (2012), and a field investigation on May 11, 2015. There are a series of small tributaries to the Walloomsac River within the proposed interconnection route. However, the proposed interconnection route would result in minimal clearing of trees along Hewitt and Willow Roads. Poles would be installed within the existing road fill slope and would not result in any new disturbance to stream riparian zones. Barton 2d. pf. supp. at 2-3; exh. CS-DB-5.

Shorelines

[10 V.S.A. § 6086(a)(1)(F)]

Findings

85. Neither the Project site nor the GMP Line Extension are located on or in proximity to a shoreline. Therefore, the Project will not have an undue adverse impact on shorelines. Barton pf. at 3; Mapes pf. at 11; Barton 2d. pf. supp. at 3.

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

Findings

86. The Project will not have an undue adverse effect on wetlands. This finding is supported by findings 87 through 90, below.

87. There are no Class II wetlands or 50-foot wetland buffer resources within the Project site. Barton pf. at 4.

88. With respect to the GMP Line Extension, five wetlands were identified, delineated and mapped along the proposed route. Barton 2d. pf. supp at 4-5.

89. For the purposes of pole layout along the GMP Line Extension, each of the five wetlands was assumed to be Class II and included a 50-foot buffer. The proposed placement would result in three poles within the wetland buffer zones of three wetlands. The Project was thus designed to avoid direct wetland impacts. The poles would be installed within the existing road fill slope resulting in minimal disturbance to wetland buffer areas. The proposed

interconnection would not involve extensive tree clearing and GMP concluded that no wetlands permit would be required. Barton 2d. pf. supp. at 4-5.

90. Chelsea has agreed that if any wetlands permit is required by DEC's Wetlands Program, neither Chelsea nor GMP would commence construction of the GMP Line Extension prior to obtaining any such wetlands permit. All GMP Line Extension construction would be performed in accordance with any such permit. Exh. CS-MOU-1 at ¶ 4.

Sufficiency of Water and Burden on Existing Water Supply

[10 V.S.A. §§ 6086(a)(2) & (3)]

Findings

91. Pursuant to the Section 8007(b) Order, these criteria are conditionally waived for the Project, and no party presented any testimony that would warrant rescinding that waiver in this proceeding.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

Findings

92. The Project will not cause unreasonable soil erosion or a reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result. This finding is supported by findings 93 through 95, below.

93. There are no streams or wetlands located on the Project site. Any of these features located off-site, including the route of the GMP Line Extension, would be sufficiently protected by the implementation of a comprehensive EPSC plan. The EPSC Plan, at a minimum, would include: (1) installing and maintaining silt fencing in down-gradient of areas of earth disturbance, and (2) stabilizing all earth disturbances with temporary BMPs. Mapes pf. at 12-14; exhs. CS-ECOS-4, CS-SMM-2, and CS-SMM-7.

94. Permanent stabilization would be achieved with native grass seed upon completion of construction activities. During Project operations, service vehicles would access the Project site from the existing driveway off Apple Hill Road. This access would be improved and stabilized with a stone construction entrance to prevent the tracking of sediment off-site. Any tracked

sediments found on Apple Hill Road would be routinely swept up. To control dust during construction-phase activities, water would be applied as needed. Mapes pf. at 12.

95. During construction-phase activities, Chelsea would implement BMPs as detailed in the Project EPSC plan and as required by Stormwater Construction General Permit 3-9020. Mapes pf. at 12-14; exhs. CS-ECOS-4, CS-SMM-2, and CS-SMM-7.

Transportation Systems

[10 V.S.A. § 6086(a)(5)]

Findings

96. The Project will not cause unreasonable congestion or unsafe conditions with respect to transportation systems. This finding is supported by findings 97 through 101, below.

97. Construction traffic for the Project would access the Project site via a temporary construction access driveway along the southern boundary of the property to connect the Project site to Willow Road. Wilson pf. supp. at 1.

98. Construction traffic is estimated to be low volume and would not cause congestion or affect regular traffic patterns. Wilson pf. at 15.

99. No Project O&M traffic would use the temporary construction access driveway or Willow Road. Wilson pf. supp. at 1.

100. A permanent access driveway would be constructed along the northeastern corner of the property to connect the Project site to Apple Hill Road. The permanent access driveway would be used for O&M traffic as well as emergency vehicle access. Wilson pf. supp. at 1.

101. O&M traffic is estimated to amount to approximately four pickup-truck trips per month. Wilson pf. supp. at 3.

Educational Services

[10 V.S.A. § 6086(a)(6)]

Findings

102. Pursuant to the Section 8007(b) Order, this criterion is conditionally waived for the Project, and no party presented any testimony that would warrant rescinding that waiver in this proceeding.

Municipal Services
[10 V.S.A. § 6086(a)(7)]

Findings

103. The Project will not place an unreasonable burden on the ability of the affected municipality to provide municipal or government services. The Project does not require any municipal sewer or water services. The Project would not require above-average use of municipal police, fire, or rescue services. Wilson pf. at 16.

Aesthetics, Historic Sites, and Rare and Irreplaceable Natural Areas
[10 V.S.A. § 6086(a)(8)]

Findings

104. The Project will not have an undue adverse effect on aesthetics or on the scenic or natural beauty of the area, nor will the Project have an undue adverse effect on historic sites or rare and irreplaceable natural areas. This finding is supported by findings 105 through 123, below.

Aesthetics

105. The Project is located on 14.85 acres of an approximately 27-acre tract just north of the U.S. Route 7/VT Route 279 interchange in Bennington, Vermont. The Project site is bounded on the southern and western edges by the highway system, on the north by a shared property line with three residential properties, and on the east by a parcel of land formerly used as an apple orchard which is currently undeveloped. The nearest neighbor is 175 feet north of the Project fenceline. Kane pf. at 3-5; exh. CS-MK-2.

106. At present, the Project site is almost entirely wooded with northern hardwood species and is accessed via Apple Hill Road. The site gently slopes at an 8% grade from the northeast corner to the southwest corner, falling approximately 94 feet over this distance. While the grade is gently sloping, the topography exhibits some slight undulations. Apple Hill Road, which provides access to the Project site, is set within and at the northern edge of the forested hillside, which limits views from the road of the Project site to the south. Kane pf. at 3-5; exh. CS-MK-2.

107. The area surrounding the site is dominated by extensive highway infrastructure, including the Vermont Welcome Center, as well as nearby industrial and commercial development. The northbound lanes of U.S. Route 7 define the western edge of the Project. The site sits within a broader valley terminated to the west by the foothills of the Green Mountains and to the east by rolling hillsides. Exh. CS-MK-2 at 4 and Figure 1.

108. The roadways associated with the U.S. Route 7/VT Route 279 interchange are highly traveled. The VTrans route logs indicate that approximately 9,000 vehicles pass through the interchange each day. Kane pf. at 4.

109. The Bennington Battle Monument is approximately 1.2 miles south of the Project site. The Monument's observation level has four narrow viewing windows at compass bearings of 340°, 070°, 160°, and 250°. The Project site would be located between two windows at a bearing of 020° and would likely be only minimally visible from the Monument. Visibility of the Project site from the Monument grounds is also highly limited due to the presence of both structures and trees in the foreground. Kane pf. at 12; exh. CS-DIS-DEPT-1 at Response 11.

110. The visibility of the Project site is limited by the nature of the terrain, the preservation and addition of landscaping on the periphery of the site, and by the fact that the surrounding land is used primarily by people in vehicles. Along with the Vermont Welcome Center, other areas within the viewshed are accessible only by vehicle. In fact, the nature of the roadways – on/off ramps, merge lanes – makes it a highly fluid, mobile visual environment. The view duration would be low, nonetheless the number of potential observers would likely be high, given the location. The extent of visibility would not be large, but the clearing associated with the Project would be noticeable. In due consideration of those factors and using the Quechee Test, the Project would create an adverse impact with respect to the visual resources of the area. Kane pf. at 4; exh. CS-MK-2.

111. The broader landscape in which the Project site is situated is generally scenic, despite the presence of the adjacent roadways and nearby commercial and industrial development. The presence of the Project would not undermine the broader landscape's visibility or degrade its scenic visual quality. Though potentially visible to a large number of people, the direct view of

the Project components would be largely screened by retained vegetation and mitigating plantings on the periphery of the site. Kane pf. at 4-5; exh. CS-MK-2.

112. The Bennington Town Plan, Bennington Scenic Resource Inventory, and Bennington Regional Plan identify many areas of the community as scenic, but the Project site is not part of those areas. Review of the current town and regional plans reveals no written standards intended to preserve the scenic beauty of the Project site or area. The Project site is not specifically identified as a scenic area or designated for land conservation, and no standards exist which prohibit development of the parcel. Kane pf. at 5.

113. The tree clearing needed to accommodate the placement of the array may result in the visibility of the back side of the northern-most panels of the Project from the three adjacent residential properties. Within this area, the array would be about 290 feet away from the closest residential structure and set well below it in grade. Existing vegetation would intervene between that residential structure and the array. Kane pf. supp. at 3-4; exh. CS-MK-7.

114. Chelsea agreed to reduce the visibility of the Project from the residences to the north by: (1) adjusting the Project fence line by moving it further south; (2) reducing the amount of large tree and vegetative clearing along the northern fenceline; and (3) planting additional, mitigating native deciduous and evergreen trees and shrubs. A specific quantity for this supplemental mitigation planting would be determined after clearing of the site is completed. This zone for potential supplemental mitigation plantings would extend along the entire northern edge of the property, including areas uphill of the access road from the Apple Hill neighborhood to the north and east. Kane pf. supp. at 4-5; exh. CS-MK-7.

115. Chelsea also agreed to mitigate the view on the eastern edge of the Project site. This eastern mitigation zone would extend from where the access road enters the property at the northeast corner of the parcel, southward to the point where the parcel heads further east. The pattern and density of landscaping in this zone would be determined based on the post-clearing condition. Kane pf. supp. at 5; exh. CS-MK-7.

116. In the Second DPS MOU, Chelsea agreed that:

- a. The central equipment skid would be of a dark grey color:

- b. The Supplemental Mitigation Plan described at Figure 2 of exhibit CS-MK-7 would be adhered to for the life of the Project; and
- c. A post-construction aesthetics review would be conducted by Chelsea's aesthetics expert and the Department's aesthetics expert to determine what areas along the Project's northern boundary, if any, require additional vegetative screening.

Exh. CS-MOU-4.

117. The Project would be the most visible from the south at the highway interchange and the Vermont Welcome Center. SE Group prepared a visual simulation of the currently proposed design as seen from the south. The retention of vegetation along the southern portion of the property effectively screens views of the Project from the Vermont Welcome Center. Kane pf. supp. at 5-6; exh. CS-MK-7.

118. The Vermont Welcome Center is south of the Route 7 northbound on-ramp and lower in elevation than the Project site. The topography, elevation changes, and existing vegetation make it unlikely that the GMP Line Extension would be visible from the Vermont Welcome Center or its parking area. VT Route 279 is further south and west of the GMP Line Extension. In addition to being slightly lower in elevation, dense vegetation along the southwest corner of the Project property make it unlikely that the GMP Line Extension would be visible from VT Route 279. If some poles would be visible, they would appear largely backed by retained trees when observed from the south or west. This would significantly reduce their visual presence in the landscape. Kane 2d. pf. supp. at 5-6; exhs. CS-SUP-MK-2, CS-SUP-MK-3, and CS-SUP-MK-4.

119. An aesthetics assessment was also conducted of the GMP Line Extension that is proposed along the southern edge of Willow Road. Both sides of the roadway are predominantly wooded and the grade rises slightly to the south. The final appearance of the GMP Line Extension to a viewer on the lightly-traveled Willow Road would be visually consistent with typical roadside line infrastructure commonly seen in and around the area. Kane 2d. pf. supp. at 5; exhs. CS-SUP-MK-3 and CS-SUP-MK-4.

120. The GMP Line Extension would expand the Project's overall visual impact but does not create an unduly adverse condition with respect to the scenic beauty of the area. Kane 2d. pf. supp. at 7-8.

Discussion

In determining whether a proposed project would have an undue adverse impact on aesthetics, the Board is guided by the so-called Quechee Test. The Board has previously summarized the Quechee Test as follows:

Pursuant to this procedure, first a determination must be made as to whether a project would have an adverse impact on aesthetics and the scenic and natural beauty. In order to find that it would have an adverse impact, a project must be out of character with its surroundings. Specific factors used in making this evaluation include the nature of the project's surroundings, the compatibility of the project's design with those surroundings, the suitability of the project's colors and materials with the immediate environment, the visibility of the project, and the impact of the project on open space.

The next step in the two-part test, once a conclusion as to the adverse effect of the project has been reached, is to determine whether the adverse effect of the project is "undue." The adverse effect is considered undue when a positive finding is reached regarding any one of the following factors:

1. Does the project violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area?
2. Have the applicants failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the project with its surroundings?
3. Does the project offend the sensibilities of the average person? Is it offensive or shocking because it is out of character with its surroundings or significantly diminishes the scenic qualities of the area?¹⁸

In addition to this guidance from the Quechee Test, the Board's consideration of aesthetics under Section 248 is "significantly informed by overall societal benefits of the project."¹⁹

In the current proceeding, Chelsea states that the Project would result in an adverse aesthetic impact. I agree that there would be an adverse impact due to the Project's scale and

18. *Amended Petition of UPC Vermont Wind*, Docket 7156, Order of 8/8/07 at 64-65.

19. *In Re: Northern Loop Project*, Docket 6792, Order of 7/17/03 at 28.

proximity to the Vermont Welcome Center and the heavily-traveled U.S. Route 7/VT Route 279 highway complex, and its proposed placement in a densely-forested and undeveloped 27-acre parcel that currently shields nearby residences from the highway complex. Accordingly, the Board must determine whether that adverse impact would also be undue.

The first step in evaluating whether the Project would have an undue adverse aesthetic impact is to determine whether the Project would violate a clear, written community standard intended to preserve the aesthetics or scenic beauty of the area. A review of the Bennington Town Plan and the Bennington Regional Plan does not reveal any such standards that the Project would violate. I therefore recommend to the Board that it find that the Project would not violate any clear, written community standard intended to preserve the aesthetics or scenic beauty of the area.

The second step in evaluating whether the Project would have an undue adverse aesthetic impact is to determine whether Chelsea has taken generally available mitigating steps which a reasonable person would take to improve the harmony of the Project with its surroundings. Subject to three conditions, I recommend that the Board find that Chelsea meets this requirement.

Chelsea asserts that the placement, design, and low profile of the Project, in conjunction with the proposed vegetative screening plan, constitute appropriate mitigation for the Project's visual impacts. Chelsea, consistent with prior solar facilities approved by the Board, has proposed undergrounding Project wiring and has selected neutral tones for Project infrastructure to the extent possible. Additionally, the proposed vegetative screening plan would help ameliorate the views of the public traveling on nearby highways as they pass by the Project's western and southern edges. Finally, the supplemental mitigation plan described in exhibit CS-MK- 7 reflects Chelsea's agreement to conduct a post-construction review to determine whether further plantings along the Project's northern and eastern edges are required to screen the Project from the view of its residential neighbors.

In order to further mitigate aesthetic impacts from the Project, I recommend that the Board explicitly impose the following conditions set forth in the Second DPS MOU (finding 115) and in Chelsea's additional agreement (finding 116) to mitigate the view on the eastern edge of the Project site:

- (1) Chelsea shall ensure that the central equipment skid is of a dark grey color:
- (2) Chelsea shall comply with the Supplemental Mitigation Plan described at Figure 2 of exhibit CS-MK-7 for the life of the Project; and
- (3) A post-construction aesthetics review shall be conducted by Chelsea's aesthetics expert and the Department's aesthetics expert to determine what areas along the Project's northern and eastern boundaries, if any, require additional vegetative screening. Chelsea shall consult with the property owners along the northern edge of the Project and the Town of Bennington for the purpose of obtaining their input on the final landscaping design.

The final step under the Quechee Test is to determine whether the Project would be shocking or offensive to the average person. Given (1) the limited duration of views from public vantage points when passing the Project site while driving the U.S. Route 7/VT Route 297 highway complex, (2) the highly constrained and distant view from the Bennington Battle Monument, (3) the mitigation proposed by Chelsea which would mitigate the view from the highway complex including the Vermont Welcome Center, and (4) the conditions set forth above, I recommend that the Board find that the Project would not offend the sensibilities of the average person.

Historic Sites

Findings

121. The Project will not have an undue adverse effect on historic or archaeological sites or resources. Mapes pf. at 14.

Rare and Irreplaceable Natural Areas

Findings

122. The Project site is not considered a significant natural community or rare and irreplaceable natural areas ("RINA"). Barton pf. supp. at 3.

123. The GMP Line Extension also would not have an undue adverse impact on any RINA. No RINA are present within the proposed route. Moreover, pole placement for the proposed interconnection route would be approximately 10 feet from the traveled edge of Willow and

Hewitt Roads. This area is characterized as mowed road shoulder and existing fill slope. Barton 2d. pf. supp at 5-6.

Wildlife, Including Necessary Wildlife Habitat and Endangered Species

[10 V.S.A. § 6086(a)(8)(A)]

Findings

124. The Project will not destroy or significantly imperil any necessary wildlife habitat or any endangered species. This finding is supported by findings 125 through 129, below.

125. Arrowwood Environmental ("AE") conducted a Rare, Threatened, or Endangered ("RTE") plant survey of the Project area on August 14, 2014. The following rare or uncommon species were found during the inventory: Arrow-Leaved American Aster (*Symphotrichum Urophyllum*), Nimblewill Muhly (*Muhlenbergia Schreberi*), Spreading Sedge (*Carex Laxiculmis*) and Rough-Leaved Goldenrod (*Solidago Patula*). Barton pf. supp. at 2; exh. CS-DB-3.

126. AE worked with ANR and Chelsea to develop a mitigation strategy that would minimize impacts from the proposed Project to the Arrow-Leaved American Aster on the site. This strategy involved the establishment of two conservation areas centered around the largest concentrations of rare plants found on the site. Permission from ANR was obtained to transplant the Arrow-Leaved American Aster plants in the fall of 2014 into the conservation areas. On October 15, 2014, two AE personnel conducted the transplanting. Barton 2d. pf. supp. at 3; exh. CS-DB-4.

127. In response to the presence at the Project site of Arrow-Leaved American Aster (*Symphotrichum Urophyllum*), an S1-ranked very rare species, and Nimblewill Muhly (*Muhlenbergia Schreberi*), an S2-ranked rare species, Chelsea has agreed to follow the protocol in the First ANR MOU, quoted below, to mitigate Project impacts so that such impacts are not unduly adverse.

1. Prior to site preparation or construction of the Project:

(a) Petitioner shall establish, and designate, two Conservation Areas in the areas shown on the Site Plan included as Attachment C to the Rare, Threatened and Endangered Plant Mitigation Report dated November 11, 2014 (Plant Report), and admitted into evidence in this proceeding. The Conservation Areas shall encompass the entire polygons of the areas shown in the southwest (to be

designated Conservation Area 1) and southeast (to be designated Conservation Area 2) corners of the property on the Site Plan. In other words, the Conservation Area polygons shall include the totality of the contiguous diagonal line markings shown on the Site Plan and illustrated in various colors designating the RTE survey information for "S3 - Uncommon", "S1 - Very Rare," and "Proposed Mitigation area" in the southwest and southeast corners of the property.

(b) The Conservation Areas shall be identified with GPS coordinates, as shall the three 2' by 2' transplant plots identified in the Plant Report. The GPS coordinates shall be provided to ANR's Natural Heritage Inventory program, and the locations of the transplant plots shall be added to, and clearly shown on, a larger scale version of the Site Plan (or a current aerial photo), which shall also to [sic] be provided to ANR.

(c) The Arrow-Leaved American Aster plants located in the area of the proposed solar arrays shall be transplanted to the transplant plots in a manner, under conditions, and within a date range, approved in advance by ANR.

(d) Petitioner shall carry out the activities (tree and shrub removal) as described in the Plant Report for establishment of the Conservation Areas, taking care not to damage or disturb the Arrow-Leaved American Aster plants existing in, or transplanted to, those areas. All equipment shall be cleaned of soil and plant material prior to entry into the Conservation Areas in order to minimize the spread of invasive species by reducing the transportation and introduction of seeds and plant material.

(e) Prior to site clearing and construction, Petitioner shall place a temporary perimeter fence, consisting of an orange snow fence, or similar fencing, to ensure that construction workers and machinery avoid the Conservation Areas. Petitioner shall have a representative of Arrowwood Environmental inspect the fencing prior to construction, to confirm it is appropriately located, secured, and clearly visible. The Arrowwood Environmental representative shall also brief the construction crew on the locations of, and need for avoidance of, the Conservation Areas prior to commencement of construction and site preparation activities.

(f) The temporary perimeter fencing shall be removed upon completion of all construction activities.

(g) The Nimblewill Muhly plant populations identified in the northeast corner of the easterly-most [sic] portion of the property shall also be fenced off and avoided during construction and site preparation activities, utilizing the same protocols in subpart l.e, above. The temporary fencing shall also be removed upon completion of all construction activities.

2. Monitoring of Conservation Areas:

(a) The Conservation Areas shall be monitored by Arrowwood Environmental for a period of three years from completion of construction to document survivorship of the transplanted plants as further described in the Plant Report.

(b) The Conservation Areas, and surrounding 50' zone, shall be inspected by Arrowwood Environmental at least one time per year for a period of three years from completion of construction to monitor and control any invasive plants within the Conservation Areas and the surrounding 50' zone. All invasive plants shall be removed from these areas. The use of herbicides is not permitted without express written approval of ANR. Mechanical removal is allowed.

(c) An annual report detailing the activities identified in subparts 2.a and 2.b, above, shall be submitted to ANR's Natural Heritage Inventory program by December 31 of each year during the three-year monitoring period.

(d) Representatives of ANR's Natural Heritage Inventory program shall be permitted to access the Conservation Areas, at reasonable hours, in order to independently inspect the conditions of those areas and the plants growing therein during the life of the Project.

3. During operation of the Project:

(a) Petitioner shall make its operations and maintenance contractors aware of the Conservation Areas. All operations and maintenance activities shall be conducted in a manner that avoids damage or harm to the Arrow-Leaved American Aster plants, and other plants noted in the Plant Report. The Conservation Areas shall be mowed at least once every three years. All mowing in these areas shall take place after October 15.

(b) All equipment shall be cleaned of soil and plant material prior to entry into the Conservation Areas in order to minimize the spread of invasive species by reducing the transportation and introduction of seeds and plant material.

4. During decommissioning of the Project:

(a) Prior to decommissioning activities, Petitioner shall place a temporary perimeter fence, consisting of an orange snow fence, or similar fencing, to ensure that construction workers and machinery avoid the Conservation Areas. Petitioner shall have a qualified botanist inspect the fencing prior to decommissioning, to confirm it is appropriately located, secured, and clearly visible. The qualified botanist shall also brief the decommissioning crew on the locations of, and need

for avoidance of, the Conservation Areas prior to commencement of decommissioning activities. All decommissioning activities shall avoid the Conservation areas.

(b) The temporary perimeter fencing shall be removed upon completion of all decommissioning activities.

Exh. CS-MOU-1 at ¶3; exh. CS-DIS-ANR-1.

128. With respect to the GMP Line Extension, the RTE survey will be conducted during the summer of 2015 pursuant to the protocol set forth in paragraph 5 of the Second ANR MOU. Chelsea has agreed to complete the RTE survey and to implement appropriate avoidance and mitigation measures, if warranted, prior to commencing any work on the GMP Line Extension. Barton 2d. pf. supp. at 6; exhs. CS-DB-5 and CS-MOU-2 at ¶5.

129. The Project area does not contain necessary wildlife habitat, and is not in close proximity to any necessary wildlife habitat. Barton pf. at 4; exh. CS-DB-2.

Discussion

I recommend that the Board condition its approval on Chelsea's compliance with the First ANR MOU and the Second ANR MOU. Subject to these conditions, I recommend that the Board conclude that the Project would not adversely affect endangered species.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

Findings

130. The Project will not unnecessarily or unreasonably endanger any public or quasi-public investment in any facility, service, or lands, and it would not materially jeopardize the function, efficiency, or safety of, or the public's use or enjoyment of, or access to any facility, service, or lands. This finding is supported by the findings under 10 V.S.A. § 6086(a)(5), above, and finding 131, below.

131. Existing adjacent public investments are limited to the U.S. Route 7/VT Route 279 interchange including the Vermont Welcome Center and GMP's overhead distribution circuit. There are no Project impacts that would endanger or interfere with the highway complex including the Vermont Welcome Center. Per the system impact study performed by GMP, there

would be no adverse effects to GMP's distribution system as a result of the Project's interconnection provided certain system upgrades are implemented. Wilson pf. at 22; exh. CS-ECOS-5.

Public Health and Safety
[30 V.S.A. § 248(b)(5)]

Findings

132. The Project will not have an undue adverse effect on the health, safety, or welfare of the public and would not unnecessarily or unreasonably endanger the public or adjoining landowners. This finding is supported by findings 133 through 136, below, and the findings under 10 V.S.A. § 6086(a)(5), above.

133. The Project would not present any unique risks to the public and would not have an undue adverse effect on public health and safety. The Project would not create any adverse environmental effects or generate any waste or other emissions that would be harmful to the public health and safety. Wilson pf. at 13.

134. The Project is designed to follow all applicable safety codes and would include safety and security measures designed to discourage access to the site by unauthorized members of the public. Wilson pf. at 13.

135. The Project would utilize monitoring and communications equipment to provide a real-time stream of data regarding system performance to off-site personnel. This system would report on weather data, solar production, equipment efficiency, and operating conditions. The system would send out trouble alarms for all equipment, allowing the Petitioner to dispatch repair personnel immediately in the event of a problem. The monitoring system would incorporate two network video cameras, allowing the Petitioner to view Project conditions from off-site. Wilson pf. at 9.

136. In addition to the perimeter fence, Project site security would include motion-sensitive infrared video security cameras. These cameras would be operated and monitored by a national security systems provider. If motion is detected, the cameras would provide a video feed to a national monitoring center. If the video evidence suggests an unauthorized visitor on-site, the Petitioner would be contacted. If necessary, with the Petitioner's permission, the security

provider may contact the local police or sheriff. As an additional safety measure, all electrical boxes on-site would be locked, limiting access to authorized users. Wilson pf. at 9.

Least-Cost Integrated Resource Plan

[30 V.S.A. § 248(b)(6)]

Findings

137. The Board has not required non-utilities to have a least-cost integrated resource plan. Therefore, this criterion is inapplicable.

Compliance With Twenty-Year Electric Plan

[30 V.S.A. § 248(b)(7)]

Findings

138. Pursuant to the Section 8007(b) Order, this criterion is conditionally waived for the Project, and no party presented any testimony that would warrant rescinding that waiver in this proceeding.

Waste-to-Energy Facility

[30 V.S.A. § 248(b)(9)]

Findings

139. The proposed Project does not involve construction of a waste-to-energy facility. Therefore, this criterion is inapplicable.

Existing or Planned Transmission Facilities

[30 V.S.A. § 248(b)(10)]

Findings

140. The Project can be served economically by existing or planned transmission facilities without undue adverse effects on Vermont utilities or customers. Per the system impact study performed by GMP, some network upgrades would be necessary before the Project could interconnect to the GMP distribution network. Those upgrades would be performed entirely at the cost of the Petitioner. Wilson pf. at 15; exh. CS-ECOS-5.

IV. DECOMMISSIONING PLAN AND FUND

Findings

141. Chelsea has developed a decommissioning plan and fund for decommissioning the Project at the end of its useful life. *See* exh. CS-ECOS-6.

142. The decommissioning plan provides for the complete decommissioning, removal, and disposal of Project infrastructure in accordance with any necessary permits and then-applicable regulations. Exh. CS-ECOS-6.

143. The decommissioning plan for the Project provides details and a cost estimate for removal of the solar facility and rehabilitation of the Project property back to its pre-project condition. The PPA for the Project has a term of twenty-five years. At the end of the PPA term, the Petitioner will determine whether: (i) it is financially viable to continue to operate the Project as is; or (ii) a Section 248 amendment should be filed to repower the Project with new solar modules and equipment at that time; or (iii) the Project should be decommissioned. The decommissioning plan also addresses decommissioning in the event of Project abandonment. A detailed cost estimate totaling \$151,500 is included in the decommissioning plan. The Petitioner has agreed to establish a decommissioning fund in this amount, prior to Project construction, naming the Public Service Board as beneficiary. Wilson pf. at 16-17; exh. CS-ECOS-6.

144. The decommissioning fund would initially be funded by an irrevocable standby letter of credit ("LC") that includes an auto-extension provision (i.e., "evergreen clause"), and would be issued by an A-rated financial institution solely for the benefit of the Board, or a security deposit to be held in a federally insured bank in the United States. No other entity, including Chelsea, shall have the ability to demand payment under the LC or withdraw funds from the deposit without the consent of the Board. Documentation that demonstrates the establishment of the fund would be filed with the Board prior to commencement of construction. Exh. SS-MOU-1 at Exhibit B.

145. Chelsea proposes to establish the fund in the amount of \$151,500 based on a cost estimate that it prepared. The amount represents the full estimated cost of decommissioning in 2014 dollars and does not net out salvage value. The estimated cost of decommissioning would be adjusted annually to account for inflation, based upon the current Consumer Price Index

("CPI") as maintained by the Bureau of Labor Statistics. Chelsea would file an annual report with the Board and the Department on the status of the decommissioning fund after each annual adjustment. The report would include the annual inflation adjustment to determine a revised estimated cost of decommissioning. In the event the CPI has a negative value at the time the annual adjustment is calculated, the value of the decommissioning fund would not be reduced. Exh. CS-ECOS-6.

146. Upon completion of decommissioning, Chelsea would seek a certification of completion from the Board. The certification would be provided to the entity issuing the LC or holding the security deposit with instructions to release and terminate the LC or security deposit account. Thereafter, Chelsea or its successor or assignee would be entitled to the remainder of the decommissioning fund. Exh. CS-ECOS-6.

147. The Board would have the right to draw on the LC or the security deposit to pay the costs of decommissioning in the event that Chelsea is unable or unwilling to commence decommissioning within a reasonable period of time, not to exceed ninety days, following issuance of a final Board order requiring decommissioning of the Project. Exh. CS-ECOS-6.

Discussion

Board Rule 5.402(C)(2) requires non-utility petitioners proposing to construct generation facilities greater than 1 MW in capacity to include with their petition a plan for decommissioning the project at the end of its useful life.

Chelsea agrees to decommission the Project at the end of its useful life, and has submitted a detailed plan for decommissioning that estimates it would cost \$151,500 to decommission the Project.

Previously, the Board has approved plans for decommissioning that include: (1) a detailed plan for decommissioning the proposed project and an estimate of the decommissioning costs; and (2) a plan for the creation of a decommissioning fund. Chelsea has provided a detailed plan for decommissioning the Project and an estimate of the decommissioning costs. Chelsea proposes that the decommissioning fund would be funded with an irrevocable, standby LC from an A-rated financial institution or other institution approved by the Board, that includes an

auto-extension provision (i.e., "evergreen clause"), and names the Board as the sole beneficiary, or in the alternative, a security deposit to be held in a federally insured bank in the United States.

Chelsea's plan for decommissioning and the proposed funding amount are consistent with the requirements the Board has imposed on decommissioning plans in the past, provided Chelsea increases the amount of the fund as necessary on an annual basis in response to any adjustments for inflation. I recommend the Board adopt, as a condition of approval, the following:

Prior to the commencement of site preparation or construction, Chelsea shall file with the Board and obtain Board approval of a final executed letter of credit ("LC") from an A-rated financial institution or other financial institution approved by the Board, or shall file documentation demonstrating that a security deposit account has been established at a federally insured bank located in the United States. If Chelsea elects to establish the fund using an LC, the LC shall be an irrevocable standby LC that: (i) is bankruptcy remote; (ii) includes an auto-extension provision (i.e., "evergreen clause"); and (iii) is issued solely for the benefit of the Board. If Chelsea elects to establish the fund using a security deposit account, that account shall be established solely for the benefit of the Board. No other entity, including Chelsea, shall have the ability to demand payment under the LC or withdraw from the security deposit without the consent of the Board. The amount of the LC shall represent the full estimated costs of decommissioning without netting out any estimated salvage value for Project infrastructure.

V. MEMORANDA OF UNDERSTANDING

Findings

148. The Department and Chelsea, and ANR and Chelsea, respectively, have executed and filed First and Second Partial MOUs with the Board in which they agree on matters related to the Project. *See generally* exhs. CS-MOU-1, CS-MOU-2, CS-MOU-3, and CS-MOU-4.

149.

150. The MOUs provide that if the Board does not approve the MOUs in their entirety, then the agreements contained in the MOUs may terminate. Exh. CS-MOU-3 at 4; exh. CS-MOU-4 at 4.

Discussion

I recommend that the Board accept the MOUs with all of their provisions and conditions without material change or condition and require Chelsea to comply with the terms and conditions of the MOUs as a condition of any Board approval of the Project.

VI. CONCLUSION

Chelsea has provided sufficient evidence to demonstrate that the Project, subject to the conditions discussed above, complies with all applicable Section 248 criteria. Based upon the evidence in the record, I conclude that the Project, subject to the conditions set forth in the Proposed Order and CPG below:

(a) would not unduly interfere with the orderly development of the region with due consideration having been given to the recommendations of the municipal and regional planning commissions, and the recommendations of the municipal legislative bodies;

(b) is a renewable energy project with a plant capacity greater than 150 kW and no more than 2.2 MW and thus is not required to comply with 30 V.S.A. § 248(b)(2);

(c) would not adversely affect system stability and reliability;

(d) is a renewable energy project with a plant capacity greater than 150 kW and no more than 2.2 MW and is participating in the standard offer program and thus is not required to comply with 30 V.S.A. § 248(b)(4);

(e) would not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment, the use of natural resources, and public health and safety, with due consideration having been given to the criteria specified in 10 V.S.A. §§ 1424a(d) and 6086(a)(1) through (8) and (9)(K), and greenhouse gas impacts;

(f) is a non-utility renewable energy project with a plant capacity greater than 150 kW and no more than 2.2 MW and thus is not required to comply with 30 V.S.A. § 248(b)(6);

(g) is a non-utility renewable energy project with a plant capacity greater than 150 kW and no more than 2.2 MW and thus is not required to comply with 30 V.S.A. § 248(b)(7);

(h) does not involve a facility affecting or located on any segment of the waters of the state that has been designated as outstanding resource waters by the Water Resources Board;

(i) does not involve a waste-to-energy facility; and

(j) can be served economically by existing or planned transmission facilities without undue adverse effect on Vermont utilities or customers.

I recommend that the Board approve the proposed Project and issue a CPG for construction of the proposed Project with the conditions set forth in the proposed Order and CPG, below.

According to Chelsea, the Department and ANR have waived their right to file comments on this Proposal for Decision provided that it is consistent with the draft order submitted by Chelsea. I am circulating this Proposal for Decision for comment by the parties because I have made changes and added recommended conditions beyond those contained in the proposed order submitted by Chelsea and because 3 V.S.A. § 811 requires the parties to waive their comments in writing. Additionally, Ms. Harris was also a party to this proceeding and there is no indication that Ms. Harris has waived her right to comment.

Dated at Montpelier, Vermont, this 2nd day of October, 2015.

s/Michael E. Tousley
Michael E. Tousley, Esq.
Hearing Officer

VII. ORDER

IT IS HEREBY ORDERED, ADJUDGED, AND DECREED by the State of Vermont Public Service Board ("Board") that:

1. Ms. Harris's request that the Board defer issuing a decision in this case is denied.
2. The findings, conclusions and recommendations of the Hearing Officer are adopted.
3. The construction and operation of a 2.0 MW solar electric generation facility located in Bennington, Vermont (the "Project"), by Chelsea Solar LLC ("Chelsea") would promote the general good of the State of Vermont in accordance with 30 V.S.A. § 248 and a certificate of public good ("CPG") to that effect shall be issued.
4. Construction, operation, and maintenance of the Project shall be in accordance with the plans and evidence as submitted in this proceeding. Any material deviation from these plans or a substantial change to the Project must be approved by the Board. Failure to obtain advance approval from the Board for a material deviation from the approved plans or a substantial change to the Project may result in the assessment of a penalty pursuant to 30 V.S.A. §§ 30 and 247.
5. Chelsea shall obtain any state and federal permits required for the Project and shall comply with all conditions set forth in any required permits.
6. Chelsea shall comply with the terms and conditions of the two partial Memoranda of Understanding ("MOU") entered into with the Vermont Agency of Natural Resources ("ANR"), and the two partial MOUs entered into with the Vermont Department of Public Service ("Department"), identified in the evidentiary record as exhibits CS-MOU-1, CS-MOU-2, CS-MOU-3, and CS-MOU-4, and herein incorporated by reference.
7. Prior to commencing construction, Chelsea shall file with the Board, the parties, and the Town of Bennington a letter stating that it has fulfilled all requisite CPG conditions and that it intends to commence construction of the Project.
8. Chelsea shall restrict construction activities and related deliveries to the hours between 8:00 A.M. and 5:00 P.M. Monday through Friday with no construction taking place during evenings, nighttime, weekends, or on state or federal holidays.
9. Chelsea shall enter into an Interconnection Agreement with Green Mountain Power Corporation ("GMP") that conforms to the requirements of Public Service Board Rule 5.500 and

shall be responsible for the cost of GMP's electric system upgrades reasonably necessary to implement interconnection of the Project, including those identified in exhibit CS-ECOS-5, and such other costs appropriately submitted to Chelsea.

10. Chelsea shall provide ANR with the following Project "as-built" information within 60 days of the commissioning date of the Project to assist ANR with compiling and analyzing greenhouse gas impacts:

- a. Solar panel manufacturer and model;
- b. Solar panel cell technology (e.g., mono-Si, multi-Si, CdTe, etc.);
- c. Rated solar panel output (in watts);
- d. Number of solar panels installed;
- e. Array mounting type (fixed, 1-axis tracking, 2-axis tracking, ground, roof, other);
- f. For fixed or 1-axis tracking, panel orientation and mounting angle;
- g. Rack system manufacturer and model;
- h. Rack system components, including the number of aluminum rails, steel mounting posts, etc.;
- i. Number and type of any other mounting components (e.g., concrete ballasts and foundation blocks);
- j. Manufacturer, model, and number of inverters;
- k. Manufacturer, model, and number of transformers;
- l. Mass of concrete used (for ballasts, foundations, mounting pads, etc.);
- m. Percent of Portland cement composition of concrete;
- n. Description, quantity, and source of any recycled materials used (e.g., recycled content concrete, recycled aluminum racking, etc.);
- o. Amount (length) and gauge of wiring used for project;
- p. Components for connection to grid (circuit boxes, circuit breaker panels, metering equipment, etc.); and
- q. Distance to grid connection.

11. By January 30 of each year, ANR may request that Chelsea provide an annual report for the previous calendar year of operations to ANR that would contain the information set out below which would be used to assist ANR with compiling and analyzing greenhouse gas impacts. Chelsea shall have 60 days from the date of ANR's request to supply the information. Should ANR not request the information set out below by January 30, Chelsea would not have any obligation to provide an annual report from the previous year of operations. The information to be provided includes the following:

- a. Electric generation in kWh for the prior year, broken down by month; and
- b. Any information about the replacement of PV panels, inverters, transformers, or a complete racking system. In instances of failure and replacement of equipment (e.g., PV panels, inverters, etc.), Chelsea shall provide descriptions of both the failed and replacement components at the same level of detail as required by the "as-built" reporting requirements of condition 10, above. This provision does not require Chelsea to provide information about *de minimis* replacement of system components (e.g., replacement of racking system hardware), or information regarding regular maintenance activities.

12. Should ANR not request the information in condition 11, above, in any two consecutive years after Project commissioning, Chelsea's reporting obligations will automatically cease. ANR and Chelsea, by mutual agreement, may cancel Chelsea's reporting obligations at any time.

13. Chelsea shall perform post-construction, as-built, field verification of all impervious surfaces associated with both the solar array and GMP line extension portions of the Project ("GMP Line Extension") and report the total impervious surface area to the Department of Environmental Conservation's ("DEC") Stormwater Management Program (the "Stormwater Program"). If the Stormwater Program determines that the total impervious surface area associated with the Project, in combination with the total impervious surface area of any other project deemed by the Stormwater Program to be part of a common plan of development as defined in DEC's stormwater rules, results in a total amount of impervious surfaces greater than 1 acre, Chelsea shall obtain an operational stormwater discharge permit and the Project shall be

retrofitted with required stormwater treatment practices pursuant to the Vermont Stormwater Management Manual, Volume I.

14. Chelsea shall obtain and comply with the terms of the DEC Construction General Permit 3-9020.

15. Chelsea shall ensure that the central equipment skid is of a dark grey color.

16. Chelsea shall ensure that the vegetation planted pursuant to the supplemental mitigation plan described at Figure 2 of exhibit CS-MK-7 shall be maintained for the life of the Project.

17. A post-construction aesthetics review shall be conducted by Chelsea's aesthetics expert and the Department's aesthetics expert to determine what areas along the Project's northern and eastern boundaries, if any, require additional vegetative screening. Chelsea shall consult with the property owners along the northern edge of the Project and the Town of Bennington for the purpose of obtaining their input on the final landscaping design.

18. In response to the presence at the Project site of Arrow-Leaved American Aster (*Symphotrichum Urophyllum*), an S1-ranked very rare species, and Nimblewill Muhly (*Muhlenbergia Schreberi*), an S2-ranked rare species, Chelsea shall comply with the protocol in ¶ 3 of the First ANR MOU to mitigate impacts to those plants.

19. Chelsea shall complete the Rare, Threatened, or Endangered ("RTE") survey for the GMP Line Extension and implement appropriate avoidance and mitigation measures, if warranted, prior to any work commencing on the GMP Line Extension.

20. No later than six months in advance of the Project's decommissioning, Chelsea shall contact ANR to determine whether any permits are needed for decommissioning activities.

21. Chelsea shall use a non-toxic, bio-based coolant – FR3 or equivalent – for the Project transformer. A secondary containment system shall be built directly into the prefabricated equipment skid. The specifications for the secondary containment system are attached as Exhibit C to exhibit CS-MOU-1. Chelsea's operations and maintenance contractor shall perform periodic inspections of the secondary oil containment system and maintain the system in good working order for the life of the Project.

22. Chelsea shall comply with the terms and conditions of its proposed decommissioning plan, identified in the evidentiary record as exhibit CS-ECOS-6.

23. Prior to the commencement of site preparation or construction, Chelsea shall file with the Board and obtain Board approval of a final executed letter of credit ("LC") from an A-rated financial institution or other financial institution approved by the Board, or shall file documentation demonstrating that a security deposit account has been established at a federally insured bank located in the United States. If Chelsea elects to establish the fund using an LC, the LC shall be an irrevocable standby LC that: (i) is bankruptcy-remote; (ii) includes an auto-extension provision (i.e., "evergreen clause"); and (iii) is issued solely for the benefit of the Board. If Chelsea elects to establish the fund using a security deposit account, that account shall be established solely for the benefit of the Board. No other entity, including Chelsea, shall have the ability to demand payment under the LC or withdraw from the security deposit without the consent of the Board. The amount of the LC shall represent the full estimated costs of decommissioning without netting out any estimated salvage value for Project infrastructure.

24. Chelsea shall file an annual decommissioning fund status report with the revised estimated cost of decommissioning and any newly issued or amended LC or documentation of deposit into the security deposit account as required by the decommissioning plan by January 31 of each year.

25. Chelsea shall perform all work on the Project in accordance with the applicable provisions of the National Electrical Safety Code.

Dated at Montpelier, Vermont, this _____ day of _____, 2015.

_____)	
)	PUBLIC SERVICE
)	
_____)	BOARD
)	
)	OF VERMONT
_____)	

OFFICE OF THE CLERK

FILED:

ATTEST: _____
Clerk of the Board

NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: psb.clerk@vermont.gov)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal would not stay the effect of this Order, absent further order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and Order.