

STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 26-____-PET

Petition of Airport RD1 VT Solar, LLC, pursuant to 30)
V.S.A. § 248, requesting a certificate of public good)
for a 4.975 MW (AC) electric generation facility in)
Fair Haven, Vermont)

PREFILED TESTIMONY AND EXHIBITS OF ADAM CRARY

Summary of testimony: Mr. Crary presents the Natural Resources Assessment prepared for the Airport RD1 VT Solar Project by VHB. His testimony addresses the Project's potential impacts on the following Section 248(b) natural environment review criteria, giving due consideration to the Act 250 criteria incorporated into Section 248(b)(5): Headwaters (10 V.S.A. § 6086(a)(1)(A)); Floodways (10 V.S.A. § 6086(a)(1)(D)); Streams (10 V.S.A. § 6086(a)(1)(E)); Shorelines (10 V.S.A. § 6086(a)(1)(F)); Wetlands (10 V.S.A. § 6086(a)(1)(G)); Rare and Irreplaceable Natural Areas (10 V.S.A. § 6086(a)(8)); Necessary Wildlife Habitat and Endangered Species (10 V.S.A. § 6086 (a)(8)(A)); and Outstanding Resource Waters (30 V.S.A. § 248(b)(8) & 10 V.S.A. § 1424a(d)).

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Introduction and Qualifications

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

A1. My name is Adam Crary, and I am the Regulatory Team Leader of Renewable Energy services in Vermont at Vanasse Hangen Brustlin, Inc. (VHB), which is a position I've held after having formerly served in Senior Ecologist and Director of Natural Sciences roles. My business address is 20 Winooski Falls Way, Suite 400B, Winooski, Vermont.

Q2. Please describe your educational background and professional experience.

A2. I am a Senior Professional Wetland Scientist and Professional Wetland Delineator with a Bachelor of Science degree in Natural Resources (Natural History and Ecology concentration) from the University of Maine. I have more than 25 years of experience working as an ecologist on large- and small-scale public and private projects throughout the eastern U.S., including Vermont. I have been a Senior Ecologist and then Director of Natural Sciences at VHB in Vermont since 2009, where I am responsible in part for managing integrated services on projects, technical staff, and technical work in conduct of various ecological assessments, typically under the requirements of federal, state, and local environmental regulatory programs. I also manage and coordinate the work of various other VHB services with a particular focus on energy-related projects. I have been a professional environmental consultant since 2001, specializing in natural resources

1 identification and assessments. In addition to assessments conducted for
2 numerous projects under 30 V.S.A. Section 248(b)(5) review, I have prepared and
3 coordinated applications for the acquisition of numerous federal and state
4 environmental impact permits, which involve application of expert ecological and
5 natural resource assessment disciplines. My resume, offered with my testimony as
6 Exhibit PET-AC-1, provides further details on my professional experience in Vermont
7 and elsewhere.

8 **Purpose of Testimony**

9 Q3. What is the purpose of your testimony?

10 A3. My testimony presents the Natural Resources Assessment prepared by VHB for the
11 Airport RD1 VT Solar Project and explains why the Project as designed will not have
12 an undue adverse impact on natural resources under 30 V.S.A § 248(b)(5), with due
13 consideration given to the following criteria specified in 10 V.S.A. §§1424a(d) and
14 6086(a)(1) through (8): headwaters, floodways, streams, shorelines, wetlands, rare
15 and irreplaceable natural areas, necessary wildlife habitat, rare, threatened, and
16 endangered species; and outstanding resources waters under 30 V.S.A. § 248(b)(8).

17 Q4. Please identify Exhibit PET-AC-2.

18 A4. Exhibit PET-AC-2 is a memorandum with eight attachments prepared by VHB under
19 my direct supervision that addresses the natural resources identified within a 48-
20 acre study area (Study Area) within the parcel hosting the Airport RD1 VT Solar

1 Project. The memorandum discusses the Project's study methods, results,
2 expected impacts on those resources, and explains the avoidance, minimization,
3 and in some cases, mitigation measures that will be taken to ensure that the Project
4 will not have an undue adverse impact on the natural environment giving due
5 consideration to the Act 250 criteria incorporated into 30 V.S.A. § 248(b)(5).

6 **Section 248(b)(5): Impact on the Natural Environment with Due Consideration**
7 **Being Given to the Criteria Specified in 10 V.S.A. §§ 1424a(d) and 6086(a)(1)**
8 **through (8).**

9 *Natural Environment*

10 Q5. Will the Project have an undue adverse impact on the natural environment?

11 A5. No, it will not. As explained in Exhibit PET-AC-2, my testimony below, and the
12 Prefiled Testimony of Geoff Martin and Seth Goddard, the Project will not have an
13 undue adverse impact on the natural environment.

14 *Headwaters*

15 Q6. What impact will the Project have on headwaters?

16 A6. The Project location meets one of the sub-criteria included in the definition of a
17 headwaters area under 10 V.S.A. § 6086(a)(1)(A) because the drainage area of the
18 on-site waters is less than 20 square miles. Although the location meets the
19 statutory headwaters definition because of this drainage area, it is positioned in the
20 lower portion of the Mud Brook watershed which confluences with the Poultney
21 River below its confluence with the Castleton River, with a drainage area of more

1 than approximately 260 square miles and meets none of the other more site-
2 specific sub-criteria. As such, the location should not be considered headwaters,
3 but regardless, the Project will meet applicable health and Department of
4 Environmental Conservation regulations related to groundwater quality and surface
5 waters, including using Erosion Prevention and Sediment Control measures to
6 protect against soil erosion and to prevent downgradient water quality impacts
7 during construction. Please refer to Exhibit PET-AC-2 as well as the pre-filed
8 testimony of Seth Goddard who describes construction and operational stormwater
9 management considerations.

10 *Floodways*

11 Q7. Will the Project unduly impact a floodway or floodway fringe by restricting or
12 diverting the flow of flood waters, or significantly increasing the peak discharge of a
13 river or stream within or downstream from the Project?

14 A7. No, it will not. The Project is not located within areas mapped by FEMA as 100-year
15 floodplain or floodway, and not by ANR as River Corridor. As explained in Exhibit
16 PET-AC-2, the Project will avoid impacts to the proposed river corridors mapped by
17 VHB from perennial streams onsite in accordance with state rules. Please refer to
18 Exhibit PET-AC-2 and Attachments 1 and 3.

19 Q8. Will the Project endanger the health, safety, or welfare of the public or of riparian
20 owners during flooding?

1 A8. No, it will not. The Project's location and avoidance of the proposed river corridor
2 mentioned above and in Exhibit PET-AC-2 will ensure that the Project will not
3 endanger the health, safety, or welfare of the public or riparian owners during
4 flooding.

5 *Streams*

6 Q9. Will the Project have an undue adverse impact on streams or their riparian zones?

7 A9. No, it will not. The Project's design avoids direct impacts to streams VHB has
8 mapped within the Study Area. See Exhibit PET-AC-2 and Attachment 1 and the site
9 plans in Exhibit PET-SDG-2. The Project will impact approximately 4,397 square feet
10 (0.10-acre) of riparian buffer that is coincident with a wetland buffer to install an
11 access road wetland crossing between the north and south solar array areas, widen
12 the existing access road off Airport Road, and construct the overhead line extension
13 from Airport Road. The Project will obtain authorization for those impacts from the
14 Vermont Wetland Program prior to site preparation and construction. Please refer
15 to Exhibit PET-AC-2 as well as my testimony below on wetlands for more details.

16 *Shorelines*

17 Q10. Will the Project have an undue adverse impact on shorelines?

18 A10. No, it will not. There are no shorelines within the Study Area. The closest shoreline is
19 associated with the Old Marsh Pond which is located over a mile north of the Study
20 Area. See Exhibit PET-AC-2.

1 *Wetlands*

2 Q11. Will the Project have an undue adverse impact on wetlands?

3 A11. No, it will not. VHB identified and delineated two wetland complexes within the
4 Study Area and those are classified as Class II wetlands under the Vermont Wetland
5 Rules. No vernal pools are identified within the Study Area. The Vermont Wetlands
6 Program has confirmed the delineations and classifications. As listed out in Exhibit
7 PET-AC-2, the Project has been designed to avoid and then minimize activity within
8 wetlands and associated 50-foot Class II wetland buffers to the extent practicable.
9 The arrays and perimeter fence entirely avoid wetlands and their buffers. However,
10 to access the southern array from the northern array, the Project proposes the
11 construction of a wetland crossing within Class II wetland 2023-1 (see Attachment
12 1 to Exhibit PET-AC-2 and the site plans in Exhibit PET-SDG-2), resulting in
13 permanent impacts to both the wetland and its buffer. The crossing will
14 permanently impact approximately 2,527 square feet (0.06 acre) of wetland and
15 2,762 square feet (0.06 acre) of wetland buffer. Anticipated Class II wetland
16 impacts will consist of tree clearing and grubbing and earthwork for the grading and
17 installation of the gravel access road and installation of underground electric line
18 within the fill prism on the eastern side of the access. The wetland crossing will
19 include the installation of a 36" high-density poly-ethylene culvert embedded to the
20 depth of 6 inches under the access road to allow for continued hydrologic

1 connectivity between the upgradient and downgradient portions of the wetland
2 complex.

3 The Project will also require approximately 1,635 square feet of impacts to
4 the same wetland buffer, in a different location near Airport Road, for widening the
5 existing farm access road necessary to be upgraded for use as the Project access
6 (for truck turning radius), as well as for the overhead line extension from Airport
7 Road that will have tree clearing. Both the widening and the tree clearing are
8 minimized by use of the existing road and co-locating the line near the road. These
9 activities and the new access road segment crossing the wetland are not Allowed
10 Uses and will require Vermont Wetland Permit coverage.

11 The unavoidable Project elements impacting wetland and buffer are
12 minimized, but the Project proposes additional mitigation measures to address the
13 proposed impacts. The Project design includes wetland buffer enhancement
14 plantings on approximately 14,000 square feet by the southern array area, which is
15 at an approximately 2:1 mitigation to impact ratio. These plantings will be riparian
16 buffer species that will improve the buffer's function proximal to the majority of the
17 Project's impacts, as the buffer in the proposed enhancement location is currently
18 used for row-crop agriculture. See Exhibit PET-AC-3 for the wetland buffer
19 enhancement plan, which is designed to create a natural buffer condition within
20 existing impacted buffer, in a location that will be compatible with the Project, not

1 require ongoing management, and will offset the impacts to wetland and buffer
2 function by the Project.

3 Finally, the Project will obtain necessary permits from the Vermont Wetlands
4 Program and U.S. Army Corps of Engineers authorizing the proposed wetland and
5 buffer impacts prior to site preparation and construction. Please refer to Exhibit
6 PET-AC-2 for additional details on the wetland identification, expected impacts,
7 and avoidance and minimization measures that will ensure the Project will not have
8 an undue adverse impact on wetlands.

9 *Rare and Irreplaceable Natural Areas*

10 Q12. How will the Project impact rare and irreplaceable natural areas (“RINA”)?

11 A12. The Project will not have an undue adverse impact on RINA. VHB identified and
12 mapped one potential RINA resource: Wet Clayplain/Mesic Clayplain Forest
13 community with occurrence ranking of B and state ranking of rare (S2). See Exhibit
14 PET-AC-2 and Attachments 1 and 2 for the location and images. The Project’s
15 design avoids direct and indirect impacts to the potential RINA, through
16 incorporation of a 100-foot protective buffer that the Project avoids.

17 *Necessary Wildlife Habitat*

18 Q13. How will the Project impact necessary wildlife habitat?

19 A13. The Project will not have an undue adverse impact on necessary wildlife habitat.

20 VHB reviewed the Study Area for deer wintering area, grassland bird habitat, vernal

1 pools, and bear feeding habitat. No such habitat exists within the Study Area. See
2 Exhibit PET-AC-2 for more detailed information.

3 *Rare, Threatened or Endangered Species*

4 Q14. How will the Project impact rare, threatened or endangered species?

5 A14. The Project will not have an undue adverse impact on rare, threatened, or
6 endangered (“RTE”) species. VHB examined the Study Area for RTE plant and animal
7 species as detailed in Exhibit PET-AC-2. Two RTE plant species were identified by
8 VHB in the northern portion of the Study Area: harsh sunflower (*Helianthus*
9 *strumosus*) and black-seeded clearweed (*Pilea fontana*). The Project has been
10 designed to include a 25-foot buffer zone at each occurrence which are avoided by
11 the Project. The areas where these RTE species occur will be demarcated before
12 site preparation and construction to prevent accidental or inadvertent impacts. By
13 avoiding the buffers around where the RTE plant species occur, the Project will not
14 have an undue adverse effect on RTE plant species.

15 VHB did not complete Project-specific presence/probable absence surveys
16 to identify RTE bat or bird species within the Study Area but based on prior
17 knowledge obtained through assessments completed for adjacent projects, VHB
18 recommends time-of-year restrictions for tree and woody vegetation clearing to
19 avoid potential impacts to RTE bats and birds whose range and habitat includes the

1 Study Area. Please refer to Exhibit PET-AC-2 for a discussion of the RTE bat and bird
2 species for which the time-of-year clearing restrictions are intended to benefit.

3 VHB is also recommending measures to protect against potential Project
4 impacts to two reptile (snake) species with documented occurrences within
5 proximity to the Study Area and are assumed likely to utilize onsite habitats. These
6 measures are detailed in Exhibit PET-AC-2.

7 Finally, through a desktop review of Vermont Natural Heritage Inventory
8 records, VHB identified one record of the state rare bridle shiner (*Notropis*
9 *bifrenatus*) fish species. VHB evaluated the potential habitat for this species within
10 the designed Project area and determined that the habitat is not suitable for this
11 species. As such, the Project is not anticipated to have any direct impact on the
12 bridle shiner. In addition, the proposed minimization and mitigation measures
13 associated with wetland and streams within the Study Area will assist in the
14 prevention of indirect impacts to the species if it still occurs. Again, please refer to
15 Exhibit PET-AC-2 for more information.

16 **Section 248(b)(8) & 10 V.S.A. § 1424a(d): Outstanding Resource Waters**

17 Q15. How will the Project impact Outstanding Resource Waters of the State?

18 A15. The Project will not have an undue adverse impact on Outstanding Resource Waters
19 because the Project site is located more than one mile from the only Outstanding

1 Resource Water (the Poultney River) identified in the vicinity of the Study Area. See
2 Exhibit PET-AC-2.

3 **Conclusion and Declaration**

4 Q16. Does this conclude your testimony?

5 A16. Yes.

6 DECLARATION OF ADAM CRARY

7 I declare that the testimony and exhibits that I have sponsored are true and
8 accurate to the best of my knowledge and belief and were prepared by me or under my
9 direct supervision. I understand that if the above statement is false, I may be subject to
10 sanctions by the Commission pursuant to 30 V.S.A. § 30.

11
12 /s/ Adam Crary
13 Adam Crary