

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Petition of DG Vermont Solar, LLC for a)
certificate of public good, pursuant to 30)
V.S.A. § 248, authorizing the installation)
and operation of a 2.2 MW solar electric) Case No. 21-____-PET
generation facility in St. Albans, Vermont,)
to be known as the “Ethan Allen Solar)
Project”)

**PREFILED TESTIMONY OF
ANDREW MILLS
ON BEHALF OF
DG VERMONT SOLAR, LLC**

March 10, 2021

Mr. Mills’ testimony sponsors the Project site civil engineering plans and addresses compliance with the following criteria: Water (in-part) and Air Pollution (10 V.S.A. § 6086(a)(1)); Waste Disposal (10 V.S.A. § 6086(a)(1)(B)); Soil Erosion (10 V.S.A. § 6086(a)(4)); Aesthetics-Sound (10 V.S.A. § 6086(a)(8)); and Primary Agricultural Soils (30 V.S.A. § 248(b)(5)).

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EXHIBITS

Exhibit EASP-AM-1	Resume of Andrew Mills
Exhibit EASP-AM-2	Site Plans
Exhibit EASP-AM-3	Section 248 Waste Disposal/Soil Erosion Technical Memo
Exhibit EASP-AM-4	Section 248 Sound Assessment Memorandum
Exhibit EASP-AM-5	Section 248 Primary Agricultural Soils Assessment Memo

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1 **1. Introduction**

2 **Q1. Please state your name, occupation, and address.**

3 A1. My name is Andrew G. Mills. I am a Project Manager and Site/Civil Engineer with
4 Vanasse Hangen Brustlin, Inc. (“VHB”), State of Vermont Professional Engineer
5 #79708. My business address is 40 IDX Drive, Building 100, Suite 200, South
6 Burlington, Vermont.

7 **Q2. Please describe your educational background, qualifications, and work experience.**

8 A2. I hold a B.S. degree in Civil Engineering (2007) from the Worcester Polytechnic
9 Institute. My education and professional experience includes civil/environmental
10 engineering, including stormwater management design and permitting; erosion
11 prevention and sediment control planning, permitting, monitoring, and reporting; and all
12 aspects of commercial and residential project design. A copy of my resume is included
13 as Exhibit EASP-AM-1.

1 **Q3. Have you previously testified before the Vermont Public Utility Commission**
2 **(“PUC”)?**

3 A3. Yes. I provided testimony for the E. BarreCo Corp LLC ESS Project (Case No. 18-1658-
4 PET) and for the VESIVEC LLC ESS Project (Case No. 18-3088-PET). I have also
5 provided technical support and expertise on a number of projects that were reviewed and
6 approved or are under review by the PUC, including the St. Albans Solar Project (Case
7 No. 17-3539-PET).

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

9 A4. The purpose of my testimony is to support the Petition of DG Vermont Solar, LLC
10 (“Petitioner”) for a certificate of public good, pursuant to 30 V.S.A. § 248, authorizing
11 the installation and operation of a 2.2 megawatt (“MW”) alternating-current (“AC”) solar
12 electric generation facility to be located at 1125 Sheldon Road in St. Albans, Vermont, to
13 be known as the Ethan Allen Solar Project (the “Project”). Specifically, I present the
14 Project’s site civil engineering plans and examine whether the construction and operation
15 of the Project complies with the following criteria:

- 16 • Water and Air Pollution (10 V.S.A. § 6086(a)(1));
- 17 • Waste Disposal (10 V.S.A. § 6086(a)(1)(B));
- 18 • Soil erosion (10 V.S.A. § 6086(a)(4));
- 19 • Aesthetics - Sound (10 V.S.A. § 6086(a)(8)); and
- 20 • Primary Agricultural Soils (30 V.S.A. § 248(b)(5)).

1 Under my direction in whole or part, VHB has prepared the following exhibits, which I
2 rely on when making my assessments per the below criteria:

- 3 • Site Plans (Exhibit EASP-AM-2)
- 4 • Section 248 Waste Disposal/Soil Erosion Memorandum (Exhibit EASP-AM-3)
- 5 • Section 248 Sound Assessment Memorandum (Exhibit EASP-AM-4)
- 6 • Section 248 Primary Agricultural Soils Assessment Memorandum (Exhibit EASP-
7 AM-5).

8 **Q5. Please explain your work on the site plan and provide an overview of the Project.**

9 A5. Yes. In collaboration with Petitioner's design and consultant team, I prepared a site plan
10 for the Project, which is provided as Exhibit EASP-AM-2. The Project is located on the
11 north side of Interstate 89 in an existing agricultural field. The Project consists of a
12 fenced, ground-mounted solar array with rows oriented north-south and mounted on a
13 tracking racking system. Access to the Project is from Village Drive and follows an
14 existing farm road under Interstate 89 before diverging to the Project site. The existing
15 farm road will be widened and improved as necessary, and a new extension from the
16 existing access will be constructed to extend approximately 240 feet into the Project site.
17 The Project's electrical interconnect route follows the access to Village Drive
18 underground and then transitions to overhead on the north side of the Missisquoi Valley
19 Rail Trail, continuing overhead to the point of interconnection on the west side of Village
20 Drive. The Project will result in approximately 19.83 acres of earth disturbance and 0.16
21 acres of new impervious surface.

1 **2. Section 248 Criteria Analysis**

2 **a. Water and Air Pollution – 10 V.S.A. § 6086(a)(1)**

3 **Q6. Will the Project result in undue water and air pollution?**

4 A6. No. With respect to potential water pollution, for the reasons enumerated under the
5 specific water-related sub-criteria discussed below, and as also discussed in the prefiled
6 testimony of Project witness Adam Crary. With respect to potential air pollution, the
7 Project is a solar electric generating facility that will not produce any emissions during
8 operations. During the Project construction, temporary emissions of minimal levels of air
9 pollutants will occur. These emissions would primarily be generated by typical
10 construction equipment and would not result in any permanent increase in hydrocarbon
11 emissions from those generated during a typical construction project or be out of
12 character with the surrounding area. The proposed operation of the Project would only
13 result in infrequent and minimal emissions associated with maintenance operations (*e.g.*,
14 periodic field mowing of grass). These temporary and infrequent emissions will not
15 cause undue air pollution.

16 **b. Waste Disposal – 10 V.S.A. § 6086 (a)(1)(B)**

17 **Q7. Please describe your consideration of waste disposal for the Project.**

18 A7. VHB has reviewed pertinent aspects of the Project and plans under this criterion, in
19 particular sanitary wastewater, stormwater runoff, and general construction waste
20 including tree and brush debris. VHB's consideration of the injection of waste materials
21 into groundwater or wells also involves the Project's storage of transformer oil and the

1 potential for a leak or spill. As described in detail in Exhibit EASP-AM-3, the Project
2 will not create sanitary wastewater. It will create new impervious surfaces that, when
3 combined with the existing impervious surface on the site, will not result in a total of one
4 acre or more of impervious surface and will not require operational stormwater
5 permitting. Project construction waste will be properly disposed of. The Project will not
6 require adherence to a Spill Prevention Control and Countermeasure plan during
7 operation (on account of the relatively small amount of oil in the Project transformer);
8 however, the Project will include secondary transformer oil containment and will not
9 pose a potential for adverse impacts to sensitive receptors. As noted, Exhibit EASP-AM-
10 3 provides further details behind VHB’s conclusions that the Project, based on VHB’s
11 understanding of the Project design and plans, will meet applicable regulations regarding
12 the disposal of waste and will not involve the injection of waste materials or toxic
13 substances into ground or surface waters.

14 **c. Soil Erosion – (10 V.S.A. 6068(a)(4))**

15 **Q8. Will the Project cause unreasonable soil erosion, or reduction in the capacity of the**
16 **land to hold water so that a dangerous or unhealthy condition may result?**

17 A8. No. As presented in Exhibit EASP-AM-3, while the Project will disturb more than one
18 acre of surface soil during construction, the Project will not require extensive site
19 grading. The Project will be required to obtain coverage under the Department of
20 Environmental Conservation (“DEC”) construction-phase stormwater discharge permit.
21 An initial assessment indicates that the Project will be considered Moderate Risk and

1 therefore will be eligible for coverage under the General Permit 3-9020 (“GP 3-9020”).
2 Petitioner intends to apply for the construction stormwater permit after the filing of this
3 petition. The application materials will include an Erosion Prevention and Sediment
4 Control (“EPSC”) Plan to be developed in accordance with the *Vermont Standards and*
5 *Specifications for Erosion Prevention & Sediment Control (2020)* to manage stormwater
6 runoff from areas of exposed soil. The Project’s implementation of an approved EPSC
7 Plan will minimize the potential for soil erosion and runoff. Typical details for EPSC
8 measures that will be implemented by the Project are depicted on Sheet C5.02 of the
9 Project plans. Following construction, hayfield-type vegetation will be maintained in the
10 Project site, which is currently actively farmed for row crops (corn was cultivated in
11 2020). Exhibit EASP-AM-3 provides further details to support VHB’s conclusion.

12 **d. Aesthetics - Sound (10 V.S.A. § 6086(a)(8))**

13 **Q9. Will the Project have an undue adverse impact due to noise?**

14 A9. No. The noise generated by the Project construction will be of limited duration and will
15 be comparable to the noise generated by light construction equipment. Construction
16 activities for the Project will be limited to the hours between 7:00 A.M. and 7:00 P.M.,
17 Monday through Friday, and between 8:00 A.M. and 5:00 P.M. on Saturdays, as needed.
18 Construction will not occur on state and federal holidays or Sundays unless authorized by
19 the PUC.

20 An operational sound study was conducted for the Project by VHB, which took into
21 account the estimated sound levels during both daytime and nighttime periods and upon

1 the conservative assumption that all sound-emitting components were operating at
2 maximum levels simultaneously. The principal sources of Project-related noise are the
3 inverters and the transformer. The study, which is included as Exhibit EASP-AM-4,
4 concluded that the Project would result in the following estimated sound levels: The
5 estimated sound level at the nearest residential property due exclusively to operation of
6 the Project would be 22.6 dBA during the daytime and less than 1.0 dBA during
7 nighttime. At the property boundaries, the sound levels range from 18.4 to 36.0 dBA
8 during the daytime and less than 1.0 dBA during the nighttime. The Project's estimated
9 noise levels during both daytime and nighttime are likely to be at or below general
10 background noise levels. These projections are conservative in that they assume that all
11 equipment is operating continuously at full load during the day. Accordingly, the Project
12 will not cause undue adverse noise impacts. More details on the sound level analysis and
13 the methodology used by VHB are found in Exhibit EASP-AM-4.

14 **3. Primary Agricultural Soils (30 V.S.A. § 248(b)(5))**

15 **Q10. Are there any Primary Agricultural Soils, as defined by 10 V.S.A. § 6001(15), that**
16 **will be impacted by the Project?**

17 A10. Yes. The Project site contains approximately 19.83 of mapped primary agricultural soils
18 ("PAS"). As presented in more detail in Exhibit EASP-AM-5, the Project will involve
19 direct impacts to approximately 1.32-acres of PAS, of which approximately 1.15 acres
20 would be restored following construction. Direct impacts for the Project life will occur
21 from burial of PAS by the access road, and excavation for the equipment pads.

1 Temporary impacts during construction will occur within a staging area as well as for
2 underground electric trenching within the array. Temporary impacts will be mitigated by
3 stockpiling and restoring existing soil conditions post-construction and again after the
4 Project is decommissioned in accordance with the Project's decommissioning plan,
5 which is filed as Exhibit EASP-MK-3, and in accordance with the Vermont Agency of
6 Agriculture, Food, and Markets Act 250 Procedure: Reclamation of Vermont Agricultural
7 Soils.

8 **Q11. Will the Project have an undue adverse impact on Primary Agricultural Soils?**

9 A11. No. Overall the Project will not result in a permanent change in land cover or soil
10 characteristics. The impacts noted above and in Exhibit EASP-AM-5 will be limited in
11 terms of total acreage and restored either following construction or in accordance with
12 the Project's decommissioning plan. Exhibit EASP-AM-5 provides further details
13 regarding PAS impacts and measures proposed to mitigate against undue adverse impact
14 both from direct and indirect impacts, including restoration of impacted soils in
15 accordance with the Vermont Agency of Agriculture, Food, and Markets Act 250
16 Procedure: Reclamation of Vermont Agricultural Soils.

17 **Q12. Are there any collateral permits or approvals needed for the Project relative to the**
18 **criteria you considered?**

19 A12. Yes. The Project will be required to obtain the following approvals:

- 20 • DEC Construction Stormwater Discharge Authorization
- 21 • VTrans Highway Access Permit

1 **4. Conclusion**

2 **Q13. Does this conclude your testimony?**

3 A13. Yes.

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