

**STATE OF VERMONT
PUBLIC UTILITY COMMISSION**

Petition of Salisbury AD 1, LLC for a certificate	)	
of public good, pursuant to 30 V.S.A. § 231, to	)	
own and operate a renewable natural gas facility in	)	
Salisbury, Vermont, and for <i>de minimis</i> regulation,	)	
and to address motions to transfer and amend the	)	Case No. 18-3449-PET
30 V.S.A. § 248 CPG for the facility that was	)	
issued in Docket 8596	)	

AFFIDAVIT OF MARIA SOL UCCIANI

1. My name is Maria Sol Ucciani.
2. My affidavit supports Salisbury AD 1, LLC's ("SAD1") Motion to Amend the Amended CPG issued on March 14, 2019 in Case No. 18-3449-PET.
3. I am employed by Vanguard Renewables ("Vanguard") as a Project Manager. My business address is 15 Walnut St, Suite 300, Wellesley, MA 02481.
4. I previously filed affidavits and evidence in support of Salisbury AD 1, LLC's ("SAD1") motion in Case No. 18-3449-PET to amend the 30 V.S.A. § 248 Certificate of Public Good ("CPG") issued by the Vermont Public Utility Commission ("PUC" or "Commission") in Docket No. 8596 for a renewable natural gas facility to be located on the Goodrich Farm in Salisbury, Vermont (the "Project"). I submitted affidavits and evidence dated October 4, 2018, December 12, 2018, February 6, 2019, and February 8, 2019. The Commission approved the revised project and issued an amended CPG on March 14, 2019.
5. Following the issuance of the CPG amendment in March of 2019, SAD1 has been working on finalizing all design plans and obtaining necessary permits. SAD1 began construction of the Project in August of 2019 with the intended goal of commissioning the plant in July 2020. However, due to the COVID-19 crisis and resulting delays in on-site work and equipment ordering/delivery, commencement of normal facility operations has been delayed and is not likely

until the end of 2020 or early 2021. In order to meet this schedule, it is critical that SAD1 finalize orders and install equipment as soon as possible.

6. In the course of finalizing design plans, selecting final vendors and equipment, and conducting early construction work, SAD1 determined that several changes were needed to the Project's final design and equipment. In addition, within the existing Limits of Disturbance the layout has changed in minor ways with respect to several pieces of Project equipment, as reflected in the attached Revised Site Plan and Comparison Site Plan (*Exhibit SAD1-MTN-2*).

7. The Project revisions require an amendment to the Air Pollution Control Permit to Construct and Operate ("Air Permit") that was previously issued by the Vermont Department of Environmental Conservation ("VTDEC") in March 2019 (#AOP-18-051). An application to amend the Air Permit has been submitted, and VTDEC has issued a draft permit. The public comment period on the draft permit has ended and SAD1 anticipates the final permit being issued within the next week or two. See further discussion below and Amended Air Permit (*Exhibit SAD1-MTN-3*).

8. The purpose of my affidavit is therefore to describe the proposed Project changes that may be deemed material or substantial and thus require Commission approval, and the potential impacts of these changes under the Section 248 criteria. My conclusion, in consultation with SAD1's environmental consultants, is that the changes do not have the potential for significant impacts, and will not cause undue adverse impacts, under the Section 248 criteria.

9. I also briefly summarize other minor changes to the Project that SAD1 believes are neither material nor substantial and thus do not require further Commission review and approval.

10. My affidavit is accompanied by the following exhibits:

- Overview chart of all proposed Project changes (*Exhibit SAD1-MTN-1*);
- Revised Site Plan and Comparison Site Plan (*Exhibit SAD1-MTN-2*);
- Draft Amendment to Air Permit (*Exhibit SAD1-MTN-3*);

- Environmental assessment memorandum from Lydia Lee, VHB (*Exhibit SAD1-MTN-4*); and
- Updated equipment specifications (*Exhibit SAD1-MTN-5*).

I. Biogas Upgrader

11. SAD1 is proposing to change the type of biogas upgrader from a membrane system to a pressure swing absorption system (“PSA”). The PSA will not change the quality of the gas produced by the upgrader, but simply uses a different technology to process it. A membrane system uses polymeric membranes to separate CO₂ molecules under a continuous flow of high pressure, whereas a PSA system separates CO₂ in batches using several vessels running in parallel under pressure. A PSA utilizes an absorption media, similar to activated carbon, which separates the gas molecules based on their weight and size.

12. There will be no change in the physical location or height of the biogas upgrader and the PSA will occupy roughly the same area, albeit with a slightly different shape to the footprint. See *Exhibit SAD1-MTN-6*. It will be obtained from a different vendor (Quadrogen), has a slightly different capacity (650 standard cubic feet per minute (scfm) v. 520 scfm), and does not require water to operate. An equipment detail sheet showing the typical layout of a PSA is provided in *Exhibit SAD1-MTN-6*.

13. Membrane and PSA are generally comparable biogas upgraders and produce the same quality of gas. However, a PSA is more cost effective to operate for a system of this size.

14. A PSA does not require water, in contrast with the membrane system (approximately 400 gallons per day). A PSA thus will have no impacts related to water use and supply.

15. SAD1 and its consultant have evaluated the effect on air emissions due to changing the biogas upgrader to a PSA. VHB has confirmed that the use of a PSA would not alter its previous

conclusions with respect to the Project's compliance with the Section 248(b)(5) environmental criteria. See *Exhibit SAD1-MTN-4*.

16. The change to a PSA system does not alter the sound levels estimated for the Project.

17. An amendment to the Air Permit is required due in part to the PSA having a slightly higher capacity (650 scfm v. 520 scfm) than the membrane system. As noted above, the VTDEC has issued a draft permit. See *Exhibit SAD1-MTN-3*. The amendment to the Air Permit will ensure that there is no undue adverse impact to air quality.

18. The PSA will not result in new impacts under any of the other Section 248 criteria.

II. Gas Flare Equipment

19. Condition 9 of the Amended CPG for the Project provides a description of the gas flare equipment. During the earlier proceeding, SAD1 inadvertently failed to note that this description did not match up with the actual flare equipment to be utilized. As a result, SAD1 is proposing a change to CPG Condition #9 in order to be fully accurate.

20. Condition 9 refers to a fully-enclosed flare with an electric ignition system. However, SAD1 has always intended to use a type of flare commonly referred to as a "candlestick flare." A candlestick flare has a protective shield to conceal the flame and prevent any blow out. It is more appropriately sized to the Project than a fully-enclosed flare while still providing the same functionality.

21. The flare, as properly described (as previously listed in the Air Permit), will have no new or increased impacts to the Project. See *Exhibit SAD1-MTN-4*.

22. In order for the CPG to accurately reflect the Project, SAD1 thus requests that Condition #9 to the CPG be amended to read:

"The CPG Holder shall ensure that the flaring equipment will include a protective shield to conceal the flame and prevent blowout. The flare's ignition system will be gas-powered. The flaring capacity will meet the specifications of the required VTDEC air permit."

III. Combined Heat and Power Unit & Boilers

23. With respect to the combined heat and power unit (“CHP Unit”) proposed for the Project, the as-approved capacity for this unit is 600 kW. However, SAD1 and its vendors have determined that an 800 kW system capacity is needed for the CHP Unit in order to have sufficient start-up power, as there is no three-phase electrical service at the Project site that could provide the additional energy needed to commence operation. Once the facility is in normal operating mode, the Project only requires 600 kW of the CHP unit’s capacity. An equipment specification sheet is included in *Exhibit SAD1-MTN-5*.

24. Based upon final specifications and vendor selection, SAD1 is also proposing to change the capacity of one gas-fired boiler housed with the CHP unit. Instead of one boiler having a capacity of 0.99 British thermal units of heat input per hour (MMBtu/hour), it will have a slightly higher capacity of 1.80 MMBtu/hour. The second unit will have the same capacity (0.65 MMBtu/hour) as stated in SAD1’s Air Permit, but will be a different make and model than previously proposed.¹ See Spec Sheets, *Exhibit SAD1-MTN-5*.

25. The change in the CHP’s kW capacity will not affect the volume of engine oil (150 gallons) that will be contained within the CHP unit. See *Exhibit SAD1-MTN-5*.

26. The change to the capacity of this equipment is one of the bases for an amendment to the Air Permit. As noted above, the VTDEC has issued a draft permit. See *Exhibit SAD1-MTN-3*.

27. SAD1 has also revised its sound assessment for Project which confirms that during normal operations, Project-related sound levels at the closest residences will remain at an estimated 32 to 35 dBA. See *Exhibit SAD1-MTN-4, Attach. 1*.

¹ Although two 0.99 MMBtu boilers were approved by the Commission for the Project, the Air Permit issued to SAD1 was for one 0.99 MMBtu boiler and one 0.65 MMBtu boiler.

28. Given that the sound levels will be in the same range as the as-approved equipment, and that the Air Permit is being amended to address the changes in capacity and any resulting air emission issues, there will be no undue adverse impact to air quality.

29. In addition, the change in capacity of the CHP unit and boilers will not result in new impacts under any of the other Section 248 criteria.

IV. Emergency Back-Up Generator

30. Similar to the CHP Unit, a slightly larger capacity is required for the emergency back-up generator to ensure sufficient power to start up facility operations. Specifically, where the as-approved Project included a diesel-fired back-up generator with a capacity of 500 kW, SAD1 proposes to increase the capacity of this unit to 760 kW.²

31. The back-up generator will only be operated during emergency situations when the CHP unit is unavailable due to planned or unplanned outages, or to test the generator itself. The generator is expected to run a maximum of eight hours per month (outages and testing combined), based upon the experience at other similar biodigester facilities operated by SAD1's parent company. In the event the 760 kW back-up generator is used, once the facility is restarted the back-up generator would operate at the ordinary operational level of 500 kW.

32. A 760 kW back-up generator will require a larger volume of oil storage (1,791 gallons versus 900 gallons). The increase in oil volume will necessitate preparation and implementation of a Spill Prevention, Control and Countermeasure Plan ("SPCC Plan") following construction but prior to operation of the Project. The SPCC Plan will require secondary containment for the storage of all oil in containers greater than 55 gallons.

² The difference in kW capacity between the proposed 760 kW back-up generator and the proposed 800 kW CHP unit is simply a function of the equipment sizes that are available.

33. VHB has reviewed the change to a 760 kW back-up generator and concluded that, as with the previously-approved generator, it will comply with the Section 248(b)(5) criterion because:

- the increase in generator capacity does not pose a potential for adverse impacts to sensitive receptors, based upon the generator unit design, SAD1's previous commitments with regard to oil storage, and implementation of an SPCC Plan;
- the Project will meet applicable VTDEC regulations regarding the disposal of waste, and does not involve the injection of waste materials into groundwater or wells.

See *Exhibit SAD1-MTN-4*.

34. The change to the capacity of the back-up generator is one of the bases for needing an amendment to the Air Permit. As noted above, the VTDEC has issued a draft permit. See *Exhibit SAD1-MTN-3*.

35. Sound levels during use of the emergency generator would increase to 50–52 dBA at the residences, during temporary and infrequent periods. The sound from the emergency generator would be similar in intensity and type to the ongoing noise generated on the farm by its diesel equipment. See *Exhibit SAD1-MTN-4, Attach 1*.

36. Given ¶¶ 30–35 above, there will be no undue adverse impact to air or water quality due to the change in kW capacity of the back-up generator.

37. The proposed 750 kW back-up generator will also not result in new impacts under any of the other Section 248 criteria.

V. Other minor changes that are not material or substantial

38. In addition to the changes identified above for which SAD1 is seeking a CPG amendment, there are several minor changes to the final Project design that SAD1 believes are not material or substantial and thus should not require amendment of the CPG. These include the following:

- updating specifications for final equipment selected, including the nameplate capacity for the RNG output;
- updating the vendor name for the nutrient management equipment;
- minor changes to the physical layout of the Project's components, all occurring within the previously-specified Limits of Disturbance; and
- utilizing an existing farm manure tank (with an upgraded pump and addition of a mixer), in lieu of installing a new manure tank as was previously proposed and approved.

39. Each of these changes is summarized in Section II of the Overview Chart of Project Changes, *Exhibit SAD1-MTN-1*.

40. The enclosed Revised Site Plan and Comparison Plan both reflect the minor layout changes. See *Exhibit SAD1-MTN-2*.

41. All site layout changes will occur within the previously identified limits of disturbance and do not change any previously-permitted impacts to wetland or wetland buffer impacts, as authorized under SAD1's Vermont Wetlands Permit. As a result, these minor changes will not increase impacts under the Section 248 criteria (as compared with the previously approved layout). They therefore do not have the potential for significant impacts under the Section 248 criteria. See *Exhibit SAD1-MTN-4*.

VI. Summary of Impacts Under Section 248 Criteria

42. The following chart summarizes potential impacts of the proposed changes under each Section 248 criteria:

Section 248 Criterion	Impact Assessment
Section 248(b)(1) – Orderly Development	No change from the as-approved Project.
Section 248(b)(2) – Need for the Project	No change from the as-approved Project.
Section 248(b)(3) – System Stability/Reliability	No change from the as-approved Project.

Section 248 Criterion	Impact Assessment
Section 248(b)(4) – Economic Benefits	No change from the as-approved Project.
Section 248(b)(5) and (b)(8) – Environmental Considerations:	No potential for significant impacts, as follows:
Aesthetics, Headwaters, Waste Disposal, Water Conservation/Use/Supply, Floodways, Streams, Shorelines, Wetlands, Soil Erosion, Outstanding Resource Waters, Traffic, Municipal/Educational Services, Historic Sites, RINA, Necessary Wildlife Habitat, Endangered Species, Public Investments, Public Health and Safety, Natural Resources, Greenhouse Gas, Primary Agricultural Soils	No potential for significant impacts. <i>See Exhibit SAD1-MTN-4.</i>
Air Purity	SAD1 obtaining amended Air Permit; therefore no potential for significant impact. <i>See also Exhibit SAD1-MTN-4, Attachs. 1 (sound) and 2 (air).</i>
Water Purity	No potential for significant impact as a result of equipment changes, as confirmed by VHB. <i>See Exhibit SAD1-MTN-4.</i>
Section 248(b)(6) – Integrated Resource Plan	No change from as-approved Project.
Section 248(b)(9) – Waste-to-Energy Facility	No change from as-approved Project.
Section 248(b)(10) – Transmission Facilities	No change from as-approved Project.

Conclusion

43. Based on the information provided in my affidavit, VHB's supporting memo (*Exhibit SAD1-MTN-4*), and my other exhibits, the proposed changes to the Project will not cause undue adverse impacts under the Section 248 criteria, or impact the Commission's prior conclusion that the Project will serve the general good of the State.

44. SAD1 thus respectfully requests that the Commission issue an amended CPG approving the changes to the Project identified in Sections I–IV above as soon as possible.

45. SAD1 further respectfully requests a finding from the Commission that the minor changes described in Section V above are not material or substantial changes and thus do not require Commission approval; and in the alternative, should the Commission conclude they are material or substantial, that it approve such changes.

I, Maria Sol Ucciani, do hereby swear and affirm under the penalty of law that the information provided in my affidavit is accurate to the best of my knowledge and that I have personal knowledge of, and am able to testify as to the validity of the information contained in my testimony and attached exhibits.



Maria Sol Ucciani