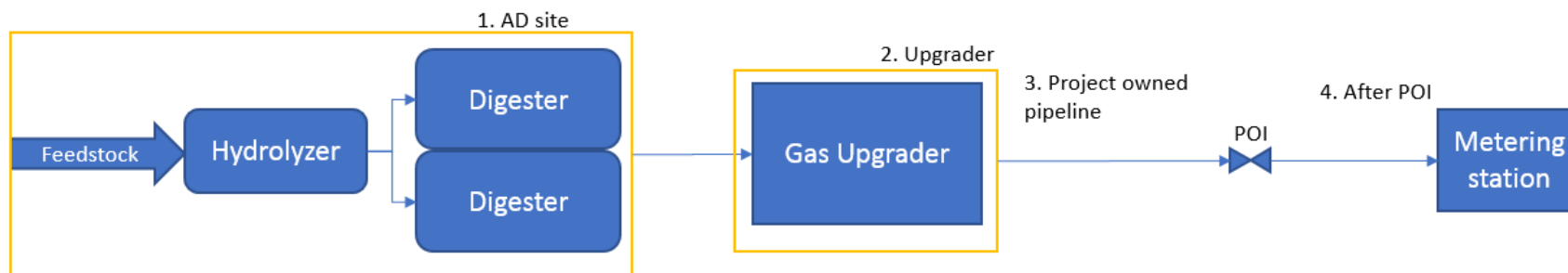

Salisbury AD 1, LLC Facility – Roles and Responsibilities

System Responsibilities chart



1. Feedstock, Manure, and Site Management: SAD1/Vanguard Renewables in conjunction with CHFour Biogas
2. Upgrader: DMT Clear Gas Solutions
3. Pipeline owned by Salisbury AD 1, LLC to POI:¹ DMT or entity with gas engineering expertise
4. After POI: Vermont Gas

¹ Point of Interconnection

1. Feedstock, Manure, and Site Management

Understanding the importance of measurement and management of feedstock tolerances to achieve output gas which adheres to gas quality and safety standards, Salisbury AD 1, LLC (SAD1) will engage its parent, Vanguard Renewables, for operation of the digester and sourcing of the feedstock. Vanguard Renewables successfully operates five digesters in Massachusetts through its operations company, Vanguard Organics, and in 2017 created FoodWaste.com, a company solely dedicated to procuring clean, reliable, and balanced feedstock.

Each type of feedstock will be handled appropriately for this facility. Manure will be cleared from the dairy barn and deposited into a manure tank equipped with a mixer to maintain the material's homogeneity. The level of the manure slurry will be monitored by a level transmitter. Manure will be transferred from the tank through a bedding recovery system to the anaerobic digester. Manure is treated as a feedstock and therefore the same testing procedure described below for feedstock is followed for manure.

SSO material will be collected by haulers and brought to the site. Before material is brought on site, the material must meet quality standards established by the testing described below. All packaging and other non-organic material (glass, cardboard, plastic, etc.) must be removed before delivery to the Facility, and the SSO cannot contain more than 1% of inert material.

Haulers must provide a manifest for each delivery, including information about the material's origin, quantity and type of material, and the date of delivery. Food waste material is subject to these same quality standards and manifest requirements.

The incoming feedstock material is sampled as follows:

- i. Prior to first delivery of each feedstock, one sample is obtained.
- ii. Subsequently, one sample is obtained each year (i.e., for each calendar year after initial testing), or for each 1,000 tons of the feedstock accepted at the site.
- iii. All analysis of feedstock samples will be reported as milligrams/kilograms (mg/kg) on a dry weight basis. If feedstock samples are analyzed as liquids, the analytical result in milligram/liter (mg/l) will be divided by the % solids of the sample (as a decimal) and reported as mg/kg on a dry weight basis.
- iv. All samples will be analyzed for the following metals and will be below the following standard for acceptance of the feedstock at the facility:

Metric	Proposed limit (mg/kg dry solids weight)
Arsenic	41
Cadmium	14
Chromium	1000
Copper	1000
Lead	300
Mercury	10
Molybdenum	40
Nickel	200
Selenium	39
Zinc	2500

The Vanguard Operations in-staff biologist and engineer will review the test results and Safety Data Sheet for the feedstock (if available) prior to accepting a feedstock at the facility. The testing of feedstocks prior to bringing them to the digester is what allows the digester to produce biogas of a certain quality for the biogas upgrader.

The Facility will only accept materials for digestion that meet the quality standards established by SAD1 and the hauler via their contract. This contract allows SAD1 to refuse any load that does not meet these quality standards and testing requirements. To minimize the likelihood of refusing subpar deliveries, feedstock testing and inspection will be done prior to accepting the first load in the digester. The high quality of the feedstock material is critical for the successful performance of the digester and production of stable and safe fertilizer.

The operation of the facility will engage the support of CHFour Biogas (CHFour).

CHFour's background and expertise in this field allow it to understand what threatens the reliable performance of a digester system. Thus, from inception, their systems are designed with a view toward long-term sustainability and operational efficiencies.

CHFour currently supports Vanguard with the following services to ensure the optimal performance of its digester systems:

- *Daily System Check.* This includes the review of essential system parameters and the investigation of potential irregularities. Suspicious parameters are communicated to the local operating staff, allowing for timely intervention and remediation.
- *Laboratory Results Analysis.* Routine digestate and biogas analyses are performed every three (3) months during system operations. The gathered information provides a solid baseline to monitor and control the correct operation and quality of outputs. CHFour will develop a quality control program to ensure the system is working consistently and guarantee that the products are within specifications at all times.

2. Upgrader Facility

The system provided by DMT Clear Gas Solutions will include: gas cleaning, a compressor, and membranes as part of the Upgrader.

DMT Clear Gas Solutions (DMT) (<https://www.dmt-cgs.com/>) describes itself as the fastest growing biogas technology company in the world, with offices located in the United States, Canada, Europe, and Asia. The company has almost 30 years of experience in the field of biogas upgrading and desulphurization, with a team composed of scientists and engineers with long-term experience in the gas upgrading industry.

One of the major product lines DMT offers is the Carborex MS, which upgrades biogas to pure methane ("biomethane"). The biomethane can be supplied to the gas grid (as will be done for this project), or be compressed to Natural Gas (Carborex CNG), to be used as vehicle fuel. DMT also provides the technology for converting biogas to liquefied natural gas. DMT's Carborex MS in Poundbury, England was the first commercial biogas upgrading system in the UK, and the first in Europe. DMT is now the largest producer of biogas upgrading facilities in the world with membrane technology.

This biogas upgrading plant will be delivered according to standard DMT design, standards and technical specifications complying with general international regulations and legislations. Piping will be delivered according to applicable standards for processing plants (ASME B31.3) and pressure vessels will be delivered including ASME U-stamp certification.

The final Piping and Instrumentation Diagram (P&ID) of the process will include specifications and brands of the main technical components. All Operation and Maintenance documents that meet the US DOT requirements will be provided by DMT as a component of the final design process.

After the design phase and before the start of Operation, a DMT employee will execute a site-HAZOP² study. Any issues arising from the HAZOP which present a high risk of injury due to the operation of the facility will be resolved.

Relevant Codes and Standards for the Upgrader Equipment

- ASME Boiler and Pressure Vessel Code (BPVC)
 - Section II: Materials
 - Section V: Non-destructive Examination
 - Section VIII: Rules for Construction of Pressure Vessels Div 1
 - Section VIII: Rules For Construction of Pressure Vessels Div 2

² A hazard and operability study (HAZOP) is a structured and systematic examination of a complex planned or existing process or operation in order to identify and evaluate problems that may represent risks to personnel or equipment.

- ASME/ANSI B31.3: Process Piping
- ASME B16.5: Pipe Flanges and Flanged Fittings
- ASME B16.11: Forged Fittings, Socket-Welding and Threaded
- ASME B16.34: Valves Flanged, Threaded and Welding End
- API RP-520: Sizing, Selection and Installation of Pressure-relieving Devices in Refineries, Part I Sizing and Selection and Part- II Installation
- ANSI/Hydraulic Institute: Pump Standards
- NFPA70: Electrical distribution and control panels
- API RP 500: Electrical Classifications for Gas Processing Plants (Div II)
- API RP 540: Recommended Practice for Electrical Installations in Petroleum processing Plants
- Zone 2 Group IIA: instrumentation minimum requirement.
- Zone 1 Group IIA: in areas requiring this level of qualification such as near pumps, compressors, relief valves
- vents and instrumentation vents as indicated in API RP 500.
- ANSI/UL/CSA B149.6-15: Code for digester gas, landfill gas, and biogas generation and utilization

DMT will serve as the Upgrader equipment vendor and once the facility is in commissioned, SAD1 intends to continue DMT involvement in the project through a maintenance contract which will include all the equipment provided by DMT. Among the O&M services provided by DMT are the following:

- Availability for operational support. In the event operational issues arise during the daily operation of the biogas upgrading plant, the operator might need support from DMT in order to detect and resolve. By being available 24/7, remote access to the facility and operational support will be provided at any hour of the day.
- Reporting. Regular written reports of the Upgrader facility will allow for consistent documentation and a smooth and continuous follow-up of the system performance throughout its lifetime. DMT will log into the Project's SCADA system at least weekly to monitor the performance and proactively suggest actions for process optimization along with a monthly report.
- Service visits. In order to ensure correct and safe operation, periodic service, and maintenance, DMT can provide two service visits per year according to the maintenance requirements of the facility. Regular maintenance will be performed by DMT, and any work by sub-contractors will be supervised. All sensors will be calibrated and wear parts and consumables will be replaced. If required, the oil of the compressor will be replaced. DMT will arrange the timely order and delivery of the wear and tear parts as well as service consumables such as compressor oil, oil separators, and filters that are required for the service visits. After every service visit, DMT will provide a detailed report on the mechanical condition of the system.

3. Gas Pipeline owned by SAD1

Through the final design process, the pipeline to be owned and maintained by SAD1 will be kept to a minimum length. The POI (point of interconnection) will be located as close to the outlet of the Upgrader as possible. Vermont Gas and SAD1 are currently defining the role for managing this portion of the pipeline.

In the event that Vermont Gas is not able to conduct the maintenance of the pipeline to be owned by SAD1 up to the POI, SAD1 will engage an expert consultant for its design, maintenance, and monitoring (including the corrosion protection system). The expert will have knowledge of supervising and maintaining pipeline (e.g., leak surveys, monitoring, maintaining cathodic protections, inspections) meeting the requirements set forth by Vermont Gas and the State of Vermont.

During the final design phase of the facility, a design review of the pipeline itself – routing and components, joining methods, coating, cathodic protection (sacrificial anode) – will be conducted. Before the start of operation, all equipment and pipeline will be tested in accordance with applicable federal rules and regulations. SAD1 will closely work with the Department of Public Service to ensure that the design of the system meets the appropriate requirements.

Operation and maintenance of this pipeline will be conducted under US DOT 49-CFR 192.

4. After the POI

Equipment after the point of interconnection will be owned and operated by Vermont Gas.

This equipment includes, but is not limited to, odorization equipment, quality assurance equipment, shutoff valves, and the metering station.