

REQUEST FOR PROPOSALS
Digester Operations and Management
for
Vermont Technical College
Randolph Center, Vermont



Vermont State Colleges System
575 Stonecutters Way
Montpelier, Vermont 05601

INVITATION TO BID

Digester Operations and Management at Vermont Tech

December 12, 2019

1. The VSCS is requesting proposals for a professional entity to assume overall management and operational responsibilities for the Vermont Tech Community Anaerobic Digester located at Vermont Tech in Randolph, VT.
2. Proposals will be received by the VSCS until **4:00 PM, January 13, 2020** at:

**Vermont Technical College
Office of the Dean of Administration
124 Admin Drive
Randolph Center, VT 05061**

3. Attached with this invitation are the proposal documents and scope of services.
4. Your attention is directed to the instructions regarding the proposal submissions. Please follow the instructions to bidders carefully.
5. Questions may be directed to David Rubin, Associate Dean of Administration, who may be contacted at 802-728-1325 or by email at david.rubin@vsc.edu.

Sincerely,

Littleton Tyler
Dean of Administration
Vermont Technical College

INDEX

TITLE PAGE

INVITATION TO BIDDERS

INDEX

COLLEGE/VTCAD BACKGROUND INFORMATION

SCOPE OF SERVICES

INSTRUCTIONS TO BIDDERS

SELECTION CRITERIA & BASIS OF AWARD

COLLEGE/VTCAD BACKGROUND INFORMATION

Vermont Technical College (Vermont Tech) is a public technical college offering a variety of degrees and certifications including, but not limited to: engineering technology, diversified agriculture, renewable energy and specialized workforce training. It boasts two main campuses located in Randolph Center and Williston, Vermont, as well as nursing campuses in other locations throughout the state. Vermont Tech is part of the Vermont State Colleges System (“VSCS”), a consortium consisting of four of Vermont's public institutions of higher education. The VSCS is governed by a common Board of Trustees and a Chancellor, while each institution has its own president and deans. Total enrollment at Vermont Tech is approximately 1,600; the average class size is 15; and the student-to-faculty ratio is 15:1.

In an effort to refocus limited college resources on its core mission to educate students, Vermont Tech has established a goal of leasing and/or selling the Vermont Tech Community Anaerobic Digester (“VTCAD” or “Facility”). The Facility was conceived and funded by a partnership of educational, agricultural, waste management and environmental groups to create a working demonstration facility with the goal of demonstrating: the value of recycling nutrients; the generation of renewable energy; and the capture of agricultural co-products from organic wastes. Ultimately, VTCAD was constructed on the Randolph Center campus of Vermont Tech and commissioned in spring of 2014.

VTCAD utilizes a two-stage complete-mix technology that separates the aerobic and anaerobic steps of digestion in two tanks, and mixes feedstock at hourly intervals to increase efficiency of microbial digestion. This system is very effective, harvesting over 90% of the methane potential of feedstock materials.

At optimal 100% operation, the daily output of the VTCAD 370kW system is 8,880 kW hrs/day, utilizing between 8,000-15,800 gallons of manure and organic residuals per day. VTCAD also generates bedding material for the college dairy herds and recycled nutrients used as crop fertilizer. VTCAD uses a mixture of manure and organic residuals collected from the community. Feedstock materials include manure, brewery and distillery residuals, the glycerol by-product of biodiesel production from waste cooking oil, ice cream waste, grease trap waste, and pre- and post- consumer food scraps.

Anaerobic Digestion (“AD”) is an important component in managing the wave of organics that will be diverted from landfills by 2020 per Vermont’s Universal Recycling Law. Expansion of AD will also help Vermont meet its ambitious goal of 90% renewable energy by 2050.

SCOPE OF SERVICES

A. SCOPE OF SERVICES AND WORK

It is important to clearly understand that the Proposer (the entity/entities submitting a bid) is solely responsible for developing, implementing, and maintaining adequate staff to meet the requirements of this RFP.

The Proposer shall operate the Facility in compliance with all applicable local, state, and federal laws, rules, ordinances and regulations and consistent with best practices in the industry and the policies of Vermont Tech and the VSCS. The Proposer's work will meet all applicable professional standards, particularly (but not limited to) VOSHA and EPA's *Common Safety Practices for On-Farm Anaerobic Digestion Systems*.

The Proposer shall provide all personnel, supervision, administrative and technical support and reporting, labor, subcontractors, tools, transportation, materials, supplies and equipment, and shall plan, schedule, coordinate, perform and assure effective and safe operation of VTCAD, all while maintaining compliance with all permits on an ongoing basis.

The Proposer shall be responsible for all operations and management, including permitting, utilities, and site maintenance costs such as snowplowing, mowing, and salting. Vermont Tech will give additional consideration to proposals that discuss how the Proposer might partner with the College in addressing these practical necessities, including consideration of back-up power supply, water supply, heating for the tanks, and/or oversight of the facility by campus Public Safety at times when the Facility is unoccupied.

This Scope of Work also includes:

- responsibility for the proper, safe, efficient and effective operation of the VTCAD at all times;
- all necessary maintenance and upkeep required to keep the VTCAD and equipment operating at optimal capacity and efficiency, including (but not limited to) repair and replacement of core systems, mechanisms and infrastructure;
- close and timely coordination and communication with the Vermont Tech administration on any and all matters concerning VTCAD that may affect safe and productive operations at Vermont Tech and within the immediate Randolph Center community, and/or the VSCS (*e.g.*, suspending feedstock deliveries during important events such as commencement ceremonies or immediately responding to health and safety concerns);

- management and oversight of any capital repairs or replacement work and identifying scope, costs, potential bidders and choice of bidders and/or equipment for any repair or capital repair or replacement;
- maintaining records evidencing compliance with applicable Federal, State and local regulations, and Vermont Tech and VSCS policies and procedures, as required;
- keeping and maintaining all records and reports detailing the hours of operation and the condition on all pieces of equipment;
- developing an emergency and safety plan, consistent with Vermont Tech policies and procedures, for regular review and approval by the Vermont Tech administration;
- coordination with Vermont Tech administration to make the facility available (as schedules allow) for tours, demonstrations, etc; and
- developing a Decommissioning Plan, in the event that the Proposer is forced to cease operations, holding Vermont Tech harmless from all costs and liabilities, and comprehensively describing how VTCAD will be safely shut down. This Plan must include anticipating the disposition of all equipment, infrastructure, organic materials, waste materials and all hauling and labor considerations, and a plan for site restoration. The Plan must also include a description of the financial mechanism for ensuring the Proposer retains or maintains access to sufficient funds for fully complying with the activities described in the Plan.

ADDITIONAL CONSIDERATIONS

Proposers should also consider the following:

- A partnership with the Vermont Tech farm;
- Vermont Tech has the option to refuse effluent for use on our fields based on quality of feedstock (no plastics or adverse chemicals) and such effluent would then need to be disposed of off-site;
- Proposer has option of refusing Vermont Tech farm manure if it does not meet its specifications;
- Proposer should present a plan for the consistent and ongoing availability of feedstock;

- Feedstock must be managed on-site at VTCAD such that issues such as vermin and odor are proactively managed and controlled and under no circumstances disrupt or negatively impact College operations;
- Must maintain on-call staff to handle problems outside business hours;
- Strong preference to have at least one person on-site during business hours;
- Vermont Tech reserves the option for right of first refusal regarding purchase or use of bedding;
- Vermont Tech and the Proposer can be co-permittees to facilitate agreement;
- The Proposer must have a plan for addressing odor complaints and mitigating VTCAD-related odor throughout campus;
- The Proposer must develop and maintain a protocol for monitoring biogas at the facility, as well as specific areas across the campus, and rapidly alerting the Vermont Tech community in the event of elevated levels of biogas. Data from the monitoring must be made available to Vermont Tech regularly upon request;
- The safety of everyone on campus is of the highest priority at Vermont Tech. The Proposer must ensure safe operation at all times;
- The Proposer must present a plan for responding to any traffic complaints related to VTCAD operations. Also, proposers should include considerations for sharing in the maintenance of campus roadways leading to the Facility, as necessary;
- Upgrades to the Facility may be proposed; and
- A discussion of performance benchmarks will be considered.

B. SCHEDULE

1. Proposals are due by **4:00 PM, January 13, 2020**.
2. It is expected that a Letter of Intent will be issued to the selected Proposer no later than **January 31, 2020**.
3. Contract for services to be signed by both parties upon completion of successful negotiation, subject to VSCS review.

**INSTRUCTIONS to BIDDERS
for
DIGESTER OPERATIONS AND MANAGEMENT PROPOSALS**

RFP SUBMITTAL REQUIREMENTS: By submitting a proposal, you represent that you have thoroughly examined and become familiar with the scope of services outlined in this RFP and are capable of performing quality work to achieve the Vermont State Colleges System's objectives.

A. SUBMISSION REQUIREMENTS

1. Deadline for Submission:

Proposals must be received by **4:00 PM, January 13, 2020:**

**Vermont Technical College
Office of the Dean of Administration
124 Admin Drive
Randolph Center, VT 05061**

- a. Proposals will not be publicly opened.
- b. Electronic proposals will be considered and should be submitted to:
david.rubin@vsc.edu and jxt12280@vtc.vsc.edu.
- c. No proposals received after the submittal time will be considered. Late proposals will be returned to the sender unopened.
- d. It is the sole responsibility of the Proposer to see that their proposal is received on time.

2. Proposal Contents:

- a. **Identifying Information** – identify the entity or entities that will enter into an agreement with Vermont Tech, with a brief description of the proposed plan. Include any business alias information and any proposed sub-contracting arrangements. Include physical addresses, contact person(s), phone numbers and e-mail addresses.
- b. **Financial Proposal** – describe your plans to: (1) lease the Facility; (2) purchase the Facility (conditional upon the approval of the VSCS Chancellor and Board of Trustees); and/or (3) lease the Facility for a discrete period, then purchase it (subject to VSCS approval). Additionally:

- Financial proposals must include a consideration of how a portion of proceeds will flow to Vermont Tech.
- The proposal must include a discussion of revenue to be generated by VTCAD, including (but not necessarily limited to) the SPEED contract and/or the sale of Renewable Energy Credits (RECs).

c. **Financial Statement** – describe each entity’s financial position. Include documentation such as tax filings and/or audited financial statements. Explain how each entity is financially positioned to undertake and maintain management and operation of VTCAD.

d. **Experience** – describe each entity’s experience in the industry. Include information about similar projects and/or how this project fits into its business plan. Include an explanation as to how each entity will add value above and beyond other potential proposers, as well as a list of references from industry collaborators.

e. **Authorization** – proposals must contain the signature of at least one individual who authorizes the proposal. Said signatory must have authority within the submitting entity – typically as a chief executive officer or owner.

f. **Project Approach** - proposal must contain a description concerning how the project would be completed including timelines and specific responses to the Scope of Services. Information needed from the proposer in order to prepare a thorough analysis of why its approach and experience is best for the College.

g. **Contract** - At the Proposer’s discretion, provide a draft of a potential contract between your company and Vermont Tech for the scope of work identified in this RFP. Note, however, that this form of contract will not be legally binding and all terms and conditions are subject to review, amendment by Vermont Tech and ultimate approval by all parties.

B. INTERPRETATION OF RFP DOCUMENTS PRIOR TO PROPOSAL SUBMISSION

Proposers unsure of the meaning or intent of any portion of this Request for Proposals are encouraged to request clarification from Vermont Tech prior to submitting their proposal. Interpretation or correction of proposal documents will be made only by Addendum, and will be emailed or delivered to each entity on record (or posted on a public website). Vermont Tech and the VSCS will not be responsible for any other explanations or interpretations of the proposal documents.

C. WITHDRAWAL OF PROPOSALS

Any Proposer may withdraw their proposal, either personally or by written request, at any time prior to the scheduled time for opening proposals. After the scheduled time for proposal opening, no entity may withdraw their proposal for a period of thirty (30) days. All proposals shall be subject to acceptance by the Vermont State Colleges during this thirty (30) day period.

D. AWARD OR REJECTION OF PROPOSALS

1. The VSCS intends to review both the Financial Proposal and the Qualifications of each proposer before deciding whether to proceed with the Scope of Work. Only proposals submitted complying with all Proposal Documents, and Addenda to this RFP will be considered.
2. The basis of the award of the Contract (the agreement between the Proposer and Vermont Tech) shall be as described in the "Basis of Award" section of this RFP.
3. The VSCS may ask select entities to make a verbal presentation to the selection committee or answer questions regarding their proposal.
4. The VSCS reserves the right to accept or reject any or all proposals and to waive informality and irregularity in the proposal process.

E. INSURANCE REQUIREMENTS

For proposal purposes, proposers must submit copies of certificates of insurance for general liability and workers compensation at levels sufficient to cover reasonably anticipated liability. The successful Proposer must provide original certificates naming VSCS as additional, non-contributing insured prior to commencing services at a level reasonably acceptable to Vermont Tech and the VSCS.

F. BONDING REQUIREMENTS

Proposers must provide evidence of current ability to obtain necessary bonding throughout the term of any lease or purchase option, at a reasonable rate to protect Vermont Tech's property and operations.

END OF INSTRUCTIONS TO BIDDERS

SELECTION CRITERIA & BASIS OF AWARD

A. CONSIDERATIONS IN PREPARING PROPOSAL

1. A bidder's meeting will be held at the Facility on **December 17, 2019 at 10:00 am**. It is not mandatory to attend this meeting, especially if the Proposer has already visited the Facility. Additional visits may be possible, schedule permitting, by contacting Bill Crossman, Digester Director, at William.crossman@vtc.vsc.edu.
2. Entities submitting proposals will be considered based on information submitted in the proposal.
3. Upon publication of this RFP, questions may be submitted in writing only until **5:00 pm on January 8, 2020**. All questions will be answered by written Addendum and emailed to all proposers by 5:00 pm on January 10, 2020, as well as posted on the VSC website at: <https://www.vsc.edu/employee-resources/rfps/>.
4. The selection of award, if any, will be based on the highest total score achieved by one of the competing entities.
5. The evaluating criteria, as assessed solely by the selection committee, shall include:
 - a. Completeness of response to RFP as outlined in this solicitation.
 - b. Experience, expertise, and industry sector knowledge.
 - c. Financial stability and the merits of the Financial Proposal.
 - d. Ability of the Proposer(s) to meet or exceed the requirements defined in the RFP. Ability of the Proposer(s) to meet self-ascribed performance benchmarks.
 - e. Track record in safety. Fit and compatibility. Alignment with State of VT goals for organics diversion.

B. BASIS OF CONTRACT AWARD

1. This contract will be awarded on the cumulative point score of the evaluation criteria assigned by the selection committee at its sole discretion, subject to the approval of the Chancellor of the Vermont State Colleges System.
2. The committee will be comprised of the following voting members:

Richard Ethier, Director of Facilities, VSCS (Chair)
Littleton Tyler, Dean of Administration, VTC
Mary O'Leary, Professor, VTC
David Rubin, Associate Dean of Administration, VTC
Ted Manazir, Director of Physical Plant, VTC
Steve Wisloski, Chief Financial Officer, VSCS

C. **SCORING**

The following scoring system will be used:

CRITERIA	WEIGHT	MAXIMUM Points	WEIGHTED Total
1. Responsiveness	1	10	10
2. Experience	2	10	20
3. Financial Proposal	3	10	30
4. Approach	3	10	30
5. Fit/Safety/Intangibles	<u>1</u>	<u>10</u>	<u>10</u>
Total			100

END

Vermont Tech Digester FAQ

December 12, 2019

Q: The 4-year financials include 2019. Is this a projection based on YTD spending?

A: *No. Our FY runs from July-June, so 2019 is a full year – we're in FY '20 now.*

Q: How is the digester currently staffed?

A: *The digester is currently operated by 1 full-time Digester Director and 3 part-time digester technicians.*

Q: What is included in the figures representing revenue?

A: *Proceeds from the SPEED contract and from the sale of RECs only.*

Q: What is the current admixture of feedstock?

A: *Ben and Jerry's ice cream waste
Peterson Energy biodiesel waste
Alchemist beer waste
Long Trail beer waste
Lawson's Finest beer waste
Harpoon beer waste
Stone Corral beer waste
Caledonia Spirits distillate
Old Route 2 distillate
Booth Brothers/Hood out-of-date milk
Manure from the VTC farm*

Q: Are there any limitations or noteworthy considerations regarding the potential sale of the digester?

A: *Yes. The VSCS Board of Trustees must approve the sale of all capital assets. Also, portions of the facility were purchased with a federal grant, so a resolution of any remaining federal interest would be required.*

Q: What were the original construction/commissioning costs and sources of funding?

A: *The overall budget was approximately \$4,230,000; college resources, mostly in the form of a bond, totaled another \$2,790,000; a federal Department of Energy grant in the amount of \$1,442,000 rounded out the funding.*

Q: Do you maintain a service agreement with an independent contractor?

A: *Yes, with an entity called 2G, at a cost of \$3.29 per run hour.*

Q: In what ways will it be possible to collaborate with the farm operation at VTC?

A: *We are open to discussing a relationship to include (but not necessarily limited to): access to manure, spreading of effluent, and access to the farm pond.*

Q: How do you account for the fluctuations over time in the SPEED revenue?

A: *Reasons include down-time and/or reduced capacity due to equipment maintenance, low feedstock, and adverse running conditions like organic overload.*

Q: In a prospective scenario that includes a sale of the facility, would the land where the digester sits be included?

A: *No. In such a scenario, a land lease will be required.*

Q: Is there room to expand the facility?

A: *Yes, VTC will consider plans to expand the facility. There is a small area just north of the effluent tank and additional space along the hillside behind the facility. There is also a substantially larger plot to the immediate south of the facility that could potentially accommodate an expansion of the facility.*

Q: Can the facility be converted to a commercial digester?

A: *While VTC has never explored this possibility, we would consider a proposal that entertains this notion. Potential limitations would include re-permitting and new/different feedstock relationships.*

Q: Why is VTC getting out of the business of operating the digester?

A: *As an enrollment-driven public institution, VTC is averse to short-term risk and lacks adequate capital to re-invest based on changes in the marketplace and to take advantage of strategic opportunities. Rather, the administration is currently focused on re-investing in activities and infrastructure that are core to VTC's educational mission.*

Financial Results, by FY:

051_54102 : Digester	2016	2017	2018	2019
48 : Sales & Services				
48631 : Contract Revenue	\$ 249,245	\$ 305,618	\$ 303,800	\$ 166,306
51 : Salaries & Wages				
51190 : F/T Fac Other Pay	\$ (3,461)	\$ (25,820)	\$ (31,704)	\$ (29,225)
51410 : Instructor Reg Teach	\$ (1,015)	\$ (2,191)		
51511 : VSEA Stf F/T Perm	\$ (3,035)	\$ (16,652)	\$ (17,208)	\$ (18,126)
51517 : PAT Stf F/T Perm			\$ (48,461)	\$ (61,950)
51521 : VSEA Stf P/T Perm	\$ (3,764)	\$ (23,984)	\$ (27,555)	\$ (23,026)
51622 : Adm Stf P/T Temp	\$ (3,515)	\$ (33,502)	\$ (1,284)	\$ (13,564)
51711 : Admin F/T Perm	\$ (62,875)	\$ (45,111)	\$ (9,231)	
51721 : Admin P/T Perm	\$ (2,130)			
51722 : Admin P/T Temp	\$ (3,385)	\$ (1,621)		
51820 : Stu Non Work-Study		\$ (3,134)	\$ (9,706)	\$ (4,137)
51900 : Other Wages				\$ (574)
52 : Employee Benefits				
52110 : FICA-Employees	\$ (6,483)	\$ (11,501)	\$ (10,401)	\$ (11,002)
52210 : TIAA-CREF	\$ (8,045)	\$ (6,320)	\$ (4,509)	\$ (7,721)
52300 : Group Insurance	\$ (2,324)	\$ (15,273)	\$ (25,067)	\$ (23,761)
52301 : Opt-out Payment	\$ (1,800)	\$ (1,950)		
52490 : Tuition Rem/Other	\$ (3,635)	\$ (3,962)	\$ (4,838)	\$ (5,214)
53 : Operations				
53110 : Supplies	\$ (55,365)	\$ (59,047)	\$ (49,116)	\$ (56,639)
53250 : Insurances				
53261 : General Advertising				
53310 : Telephone	\$ (2,180)	\$ (493)		\$ (98)
53342 : Brochures				\$ (56)
53420 : Electricity	\$ (1,027)	\$ (305)	\$ (604)	\$ (956)
53550 : Repairs-Building	\$ (1,354)	\$ (2,974)		
53560 : Repairs-Equipment	\$ (56,506)	\$ (42,644)	\$ (14,119)	\$ (8,526)
53570 : Repairs-Maint Agreement	\$ (6,083)	\$ (20,557)	\$ (24,350)	\$ (18,782)
53650 : Leases/Rents-Equipment				
53890 : Miscellaneous		\$ (255)		
53945 : General Profession Services	\$ (3,011)	\$ (65,811)	\$ (20,815)	\$ (12,200)
54 : Travel				
54100 : General/Mileage Reimburse	\$ (207)		\$ (438)	
55 : Equipment : Non-Capitalized				
55190 : Other	\$ (5,530)	\$ (5,918)		
Grand Total	\$ 12,517	\$ (83,406)	\$ 4,395	\$ (129,250)

Bill Date	Period End Date	FY	Prod (kWh)	Gross
Saturday, January 31, 2015	Saturday, January 31, 2015	2015	76,548.64	\$ 10,403
Saturday, February 28, 2015	Saturday, February 28, 2015	2015	77,340.59	\$ 10,511
Tuesday, March 31, 2015	Tuesday, March 31, 2015	2015	188,384.81	\$ 25,602
Sunday, May 31, 2015	Sunday, May 31, 2015	2015	143,639.28	\$ 19,621
Tuesday, June 30, 2015	Tuesday, June 30, 2015	2015	85,229.39	\$ 11,642
Friday, July 31, 2015	Friday, July 31, 2015	2016	66,128.49	\$ 9,033
Monday, August 31, 2015	Monday, August 31, 2015	2016	83,887.37	\$ 11,459
Wednesday, September 30, 2015	Wednesday, September 30, 2015	2016	109,311.45	\$ 14,932
Saturday, October 31, 2015	Saturday, October 31, 2015	2016	119,326.97	\$ 16,300
Monday, November 30, 2015	Monday, November 30, 2015	2016	135,357.70	\$ 18,490
Thursday, December 31, 2015	Thursday, December 31, 2015	2016	183,806.92	\$ 25,108
Sunday, January 31, 2016	Sunday, January 31, 2016	2016	156,661.54	\$ 21,400
Monday, February 29, 2016	Monday, February 29, 2016	2016	165,907.08	\$ 22,663
Thursday, March 31, 2016	Thursday, March 31, 2016	2016	168,585.23	\$ 23,029
Saturday, April 30, 2016	Saturday, April 30, 2016	2016	237,498.43	\$ 32,609
Tuesday, May 31, 2016	Tuesday, May 31, 2016	2016	216,292.75	\$ 29,697
Thursday, June 30, 2016	Thursday, June 30, 2016	2016	191,329.85	\$ 26,270
Sunday, July 31, 2016	Sunday, July 31, 2016	2017	199,904.45	\$ 27,447
Wednesday, August 31, 2016	Wednesday, August 31, 2016	2017	226,077.42	\$ 31,040
Friday, September 30, 2016	Friday, September 30, 2016	2017	171,892.32	\$ 23,601
Monday, October 31, 2016	Monday, October 31, 2016	2017	145,907.91	\$ 20,033
Wednesday, November 30, 2016	Wednesday, November 30, 2016	2017	113,824.82	\$ 15,628
Saturday, December 31, 2016	Saturday, December 31, 2016	2017	237,595.20	\$ 32,622
Tuesday, January 31, 2017	Tuesday, January 31, 2017	2017	213,587.91	\$ 29,326
Tuesday, February 28, 2017	Tuesday, February 28, 2017	2017	92,610.55	\$ 12,715
Friday, March 31, 2017	Friday, March 31, 2017	2017	94,528.65	\$ 12,979
Sunday, April 30, 2017	Sunday, April 30, 2017	2017	170,399.43	\$ 23,498
Wednesday, May 31, 2017	Wednesday, May 31, 2017	2017	255,399.81	\$ 35,220
Friday, June 30, 2017	Friday, June 30, 2017	2017	239,139.14	\$ 32,977
Monday, July 31, 2017	Monday, July 31, 2017	2018	181,893.58	\$ 25,083
Thursday, August 31, 2017	Thursday, August 31, 2017	2018	207,524.24	\$ 28,618
Saturday, September 30, 2017	Saturday, September 30, 2017	2018	229,733.20	\$ 31,680
Tuesday, October 31, 2017	Tuesday, October 31, 2017	2018	199,410.82	\$ 27,499
Thursday, November 30, 2017	Thursday, November 30, 2017	2018	181,262.15	\$ 24,996
Sunday, December 31, 2017	Sunday, December 31, 2017	2018	181,093.27	\$ 24,973
Wednesday, January 31, 2018	Wednesday, January 31, 2018	2018	106,083.36	\$ 14,629
Wednesday, February 28, 2018	Wednesday, February 28, 2018	2018	103,898.25	\$ 14,328
Saturday, March 31, 2018	Saturday, March 31, 2018	2018	130,991.91	\$ 18,064
Monday, April 30, 2018	Monday, April 30, 2018	2018	116,596.97	\$ 16,160
Thursday, May 31, 2018	Thursday, May 31, 2018	2018	223,537.17	\$ 30,982
Saturday, June 30, 2018	Saturday, June 30, 2018	2018	208,041.46	\$ 28,835
Tuesday, July 31, 2018	Tuesday, July 31, 2018	2019	0.00	\$ -
Friday, August 31, 2018	Friday, August 31, 2018	2019	161,388.78	\$ 22,368
Sunday, September 30, 2018	Sunday, September 30, 2018	2019	124,683.31	\$ 17,281
Wednesday, October 31, 2018	Wednesday, October 31, 2018	2019	0.00	\$ -
Friday, November 30, 2018	Friday, November 30, 2018	2019	0.00	\$ -

Tuesday, December 31, 2019	Tuesday, December 31, 2019	2019	45,841.24	\$ 6,354
Thursday, January 31, 2019	Thursday, January 31, 2019	2019	35,946.30	\$ 4,982
Thursday, February 28, 2019	Thursday, February 28, 2019	2019	120,034.98	\$ 16,637
Sunday, March 31, 2019	Sunday, March 31, 2019	2019	199,302.04	\$ 27,623
Tuesday, April 30, 2019	Tuesday, April 30, 2019	2019	210,924.37	\$ 29,382
Friday, May 31, 2019	Friday, May 31, 2019	2019	188,159.05	\$ 26,211
Sunday, June 30, 2019	Sunday, June 30, 2019	2019	116,747.46	\$ 16,263

Paid	\$\$/kWh	\$\$/Day	Avg kW	Avg Runtime
\$ 10,234	\$ 0.134	\$ 341	102.9	28%
\$ 10,342	\$ 0.134	\$ 383	115.1	31%
\$ 25,433	\$ 0.135	\$ 848	253.2	68%
\$ 19,456	\$ 0.135	\$ 649	193.1	52%
\$ 11,477	\$ 0.135	\$ 396	118.4	32%
\$ 8,879	\$ 0.134	\$ 296	88.9	24%
\$ 11,305	\$ 0.135	\$ 377	112.8	30%
\$ 14,778	\$ 0.135	\$ 510	151.8	41%
\$ 16,176	\$ 0.136	\$ 539	160.4	43%
\$ 18,366	\$ 0.136	\$ 633	188.0	51%
\$ 24,984	\$ 0.136	\$ 833	247.1	67%
\$ 21,276	\$ 0.136	\$ 709	210.6	57%
\$ 22,505	\$ 0.136	\$ 804	238.4	64%
\$ 22,871	\$ 0.136	\$ 762	226.6	61%
\$ 32,451	\$ 0.137	\$ 1,119	329.9	89%
\$ 29,539	\$ 0.137	\$ 985	290.7	79%
\$ 26,112	\$ 0.136	\$ 900	265.7	72%
\$ 27,269	\$ 0.136	\$ 909	268.7	73%
\$ 30,856	\$ 0.136	\$ 1,029	303.9	82%
\$ 23,417	\$ 0.136	\$ 807	238.7	65%
\$ 19,849	\$ 0.136	\$ 662	196.1	53%
\$ 15,444	\$ 0.136	\$ 533	158.1	43%
\$ 32,438	\$ 0.137	\$ 1,081	319.3	86%
\$ 29,142	\$ 0.136	\$ 971	287.1	78%
\$ 12,532	\$ 0.135	\$ 464	137.8	37%
\$ 12,795	\$ 0.135	\$ 427	127.1	34%
\$ 23,314	\$ 0.137	\$ 804	236.7	64%
\$ 35,036	\$ 0.137	\$ 1,168	343.3	93%
\$ 32,794	\$ 0.137	\$ 1,131	332.1	90%
\$ 24,911	\$ 0.137	\$ 830	244.5	66%
\$ 28,445	\$ 0.137	\$ 948	278.9	75%
\$ 31,508	\$ 0.137	\$ 1,086	319.1	86%
\$ 27,326	\$ 0.137	\$ 911	268.0	72%
\$ 24,824	\$ 0.137	\$ 856	251.8	68%
\$ 24,800	\$ 0.137	\$ 827	243.4	66%
\$ 14,558	\$ 0.137	\$ 485	142.6	39%
\$ 14,257	\$ 0.137	\$ 528	154.6	42%
\$ 17,888	\$ 0.137	\$ 596	176.1	48%
\$ 16,065	\$ 0.138	\$ 554	161.9	44%
\$ 30,806	\$ 0.138	\$ 1,027	300.5	81%
\$ 31,894	\$ 0.153	\$ 1,100	288.9	78%
\$ (165)	#DIV/0!	\$ (6)	0.0	0%
\$ 22,057	\$ 0.137	\$ 735	216.9	59%
\$ 17,116	\$ 0.137	\$ 590	173.2	47%
\$ (165)	#DIV/0!	\$ (6)	0.0	0%
\$ (165)	#DIV/0!	\$ (6)	0.0	0%

Average Per Day, MWh
Annualized

FY19 YTD
FY19 Projection
FY19 Avg RunTime

Year
2015
2016
2017
2018
2019

\$ 6,189	\$ 0.135	\$ 206	61.6	17%
\$ 4,855	\$ 0.135	\$ 162	48.3	13%
\$ 16,468	\$ 0.137	\$ 610	178.6	48%
\$ 27,455	\$ 0.138	\$ 915	267.9	72%
\$ 29,295	\$ 0.139	\$ 1,010	293.0	79%
\$ 26,042	\$ 0.138	\$ 868	252.9	68%
\$ 16,094	\$ 0.138	\$ 555	162.1	44%

Cost Recent 6 Months

\$ -

\$ 165,075

\$ 165,075 \$ 165,075

37.1%

Monthly Avg

Annual

\$ 15,388 \$ 184,661

\$ 20,770 \$ 249,245

\$ 24,574 \$ 294,886

\$ 23,940 \$ 287,281

\$ 13,756 \$ 165,075

Vermont Agency of Natural Resources
Department of Environmental Conservation
Solid Waste Management Program

SOLID WASTE MANAGEMENT FACILITY CERTIFICATION

FACILITY NAME: Vermont Tech Community
Anaerobic Digester

FACILITY OWNER (PERMITTEE): Vermont State Colleges
PO Box 7
Montpelier, VT 05601

FACILITY OPERATOR (PERMITTEE): Vermont Technical College
PO Box 500
Randolph Center, VT 05061

LANDOWNER (PERMITTEE): Vermont State Colleges

PROJECT IDENTIFICATION NUMBER: BR96-0049

SOLID WASTE FACILITY ID NUMBER: OG990

FACILITY LOCATION: 165 Administrative Drive
Randolph Center, VT

FACILITY PURPOSE/DESCRIPTION:

For certification and operation of an anaerobic digester located on the Vermont Technical College campus in Randolph, VT. The Facility will accept food residuals, food processing residuals and other solid wastes to be mixed with manure substrate as feedstock for an anaerobic digester.

APPLICATION REVIEW:

The application for Certification was received by Solid Waste Management Program (“Program”) on **December 8, 2014**. It was reviewed in accordance with the Waste Management Act, 10 V.S.A. §§6601 et seq., and the Solid Waste Management Rules, (eff. 3/15/12) (“Rules”). The Application is on file in the offices of the Program in Montpelier, Vermont.

CERTIFICATION PERIOD: Date of Issuance to October 1, 2025.

FINDINGS

- a) On **December 8, 2014**, the Permittee(s) submitted an application to the Program for Certification pursuant to 10 V.S.A. §6605, and the Rules for the operation of the Vermont Tech Community Anaerobic Digester.
- b) The Facility is located at 165 Administrative Drive in Randolph Center, VT at 43°56'26.9" North Latitude and 72°36'07.3" West Longitude.
- c) The operational units at the Facility include:

Anaerobic Digestion of Organics
Residential Food Residual Drop-off

- d) The Facility accepts a variety of solid wastes, including food residuals, food processing residuals and other organic materials upon prior approval from the Program.
- e) The Facility will accept materials from commercial haulers and will host a public food residual drop-off on-site (see Conditions #19 and #20 below). The facility is open Monday through Friday 7am to 5pm and on Saturday from 7am to noon.
- f) Access control is provided by large overhead bay doors that prevent trucks from entering the delivery area. The doors shall remain closed and locked when the Facility is not in operation to prevent unauthorized access.
- g) The Closure Plan for the Facility is based on the removal of all solid wastes and the recyclable materials. The maximum estimated closure cost for this facility under the worst case scenario is \$32,000. The Secretary approved the closure plan on **April 6, 2015**.
- h) The Permittee(s) provided an independent auditor's report that outlines current financial statements for the Vermont State Colleges and certifies that the Permittee(s) will be financially capable to meet the closure cost estimates in the approved closure plan.
- i) Pursuant to 10 V.S.A. §6605(c), the Secretary finds that the Facility is included in the Tri Town Alliance Solid Waste Implementation Plan, which was approved by the Secretary of the Agency of Natural Resources on December 1, 2014.
- j) A copy of the Application has been provided to the Randolph town offices, in accordance with the requirements of 10 V.S.A. §6605(f).
- k) On December 22, 2014, the Program determined the Application to be administratively complete.

- l) On **October 27, 2015**, the Program determined the Application to be technically complete and that it conforms with the Rules and other applicable statutory and regulatory requirements.
- m) On **October 27, 2015**, the Program provided notice of the draft certification and fact sheet pursuant to the requirement of Section 6-305(a)(7) and (8) of the Rules.
- n) A public informational meeting was held on November 18, 2015 at 6pm at Randolph Town Hall, Conference Room B. The public comment period ended on **December 3, 2015**. Numerous comments were received, and are addressed in a Responsiveness Summary document.

CONDITIONS & REQUIREMENTS FOR CONSTRUCTION & OPERATION

1. The Permittee(s) shall construct, develop and operate the Facility in accordance with the terms of this Certification and with the applicable provisions of State law, including the Solid Waste Management Rules. Compliance with this Certification does not relieve the Permittee(s) from complying with all applicable Local, State or Federal laws.
2. The following documents, submitted as part of the Application, are hereby incorporated by reference in this Certification:
 - *December 8, 2014 Application for Certification of Solid Waste Anaerobic Digester*
 - *Response comments to the Program's technical review submitted by Mary O'Leary on March 27, 2015.*
 - *Amended Facility Management Plan submitted June 29, 2015.*

Additions or alternation to the documents referenced above must be approved by the Agency prior to implementation. Material or substantial additions or alterations which justify the application of conditions different or absent from the Certification will be cause for modification or amendment of this Certification.

Compliance Schedule

3. On or before **January 20th** of each year, the Permittee(s) shall submit a report concerning its financial condition pursuant §6-902(b)(1) of the Rules.
4. On or before **April 1, 2017** and every two years thereafter, the Permittee(s) shall review the approved closure plan and closure cost estimates and shall submit documentation that provides the information required by §6-1006(a) – (c) of the Rules, consisting of either:
 - a. a report that certifies that the closure plan is consistent with current operations and regulations and either provides revised closure cost estimates; or

- b. an application for modification or amendment to this Certification due to substantive changes to the Closure Plan.

Re-Certification

- 5. On or before **January 1, 2025** the Permittee(s) shall either apply for re-certification of the Facility or submit a schedule for implementation of the closure plan.

Facility Operations

- 6. The Permittee(s) shall ensure that the amounts of materials accepted and stored at the facility do not exceed the amounts listed in the Material Acceptance and Storage Limitations in Appendix A. The yearly tonnage acceptance calculation shall begin on January 1st and end on December 31st.
- 7. The Permittee(s) may feed into the digester a combined total of 15,840 gallons of the following types and amounts of materials per day subject to the restrictions below:

<u>Material Type</u>	<u>Amount</u>
1. <u>Agricultural Organics</u>	up to 15,840 gallons per day
2. <u>Non-Agricultural Organics</u> Food Residuals & Food Processing Residuals Glycerin and other organics*	} combined limit of up to 7,760 gallons per day, of which no more than 776 gallons shall be glycerin and other organics.

*Other feedstocks may be accepted at the facility upon written pre-approval by the Solid Waste Management Program.

- 8. The Permittee(s) shall comply with all the facility operations standards, requirements and conditions specified in Subchapter 7 of the Solid Waste Rules, including but not limited to:
 - a. The owner and operator shall take all steps necessary to prevent and/or control spills, nuisance dust, vectors, wind-blown debris, and odors.
 - b. Should the Secretary determine that the permittee is non-compliant with operational requirements, including odor control, the Secretary may require the Permittee(s) to perform response actions such as, installation of engineered controls, adoption of operational controls, hiring a third party expert to evaluate and submit a report to demonstrate compliance with the requirements.
 - c. Should the conditions be determined to be chronic, and the Permittee(s) be unable to achieve compliance, the Secretary may limit the amount of solid wastes accepted by the Facility and may revoke the solid waste certification.

9. The Permittee(s) shall maintain an up-to-date copy of the Facility Management Plan and this certification, including all revisions, at the Facility in a location readily accessible to Facility personnel.
10. The Permittee(s) shall implement any or all of the approved contingency plan to ensure proper management of wastes or recyclable materials during planned and unplanned events when the facility is and is not in operation.
11. To assist in operational decision making, the Permittee(s) shall, at a minimum, conduct performance monitoring in accordance with the Application, including but not limited to;
 - a. Daily biogas production (m^3/day) and quality (% methane, ppm methane and H_2S)
 - b. Daily pH and temperature of the hydrolysis and digester tanks
 - c. Daily volume of digestate produced (liquid and solid)
 - d. Weekly alkalinity and Ripley ratio of hydrolyzer slurry and digester slurry
 - e. Monthly total volatile fatty acid levels of hydrolyzer slurry and digester slurry
 - f. Total solids and volatile solids of feedstock, hydrolyzer slurry, and digester slurry as necessary.

The results of performance monitoring shall be maintained on-site for a minimum of 5 years and be made available upon request by the Program.

12. The Permittee(s) shall require incoming feedstocks be tested by the generator (or hauler) for the parameters on the *Food Processing Waste (Substrate)/Ag Waste Import Form* (published by the Agency of Agriculture, Food & Markets) at a frequency sufficient for the Permittee(s) to obtain the information necessary to maintain compliance with the Comprehensive Nutrient Management Plan.
13. The Permittee(s) shall maintain a properly functioning automatic flare system. Any biogas that is not used or otherwise destroyed in the Genset for the production of electricity must be destroyed using a flare or equivalent. The Permittee(s) is ultimately responsible for managing the collection and the proper destruction of biogas.
14. The Permittee(s) shall assure that overhead bay doors are closed except during feedstock deliveries and as necessary for facility maintenance.

Materials Management

Solid Waste

15. All solid waste not suitable for anaerobic digestion generated by the facility, and incidental contaminants removed from incoming feedstocks, shall be transported to a certified treatment or disposal facility on a schedule adjusted to minimize odors from the waste.

Feedstocks

16. The Permittee(s) shall follow operational procedures outlined in the Facility Management Plan to minimize odors generated from liquid manure truck deliveries. The Permittee may be required to follow additional odor control procedures if the Secretary determines that alternative and/or additional operational procedures are necessary to prevent odors from liquid manure or other feedstock deliveries.

Tipping Floor

17. All food residuals shall be removed from the tipping floor following a delivery except when equipment failure necessitates. In the event that food residuals must remain on the tipping floor for an extended period of time, the Permittee(s) shall notify the Program immediately.
18. All tipping floor activities shall occur within the building and the tipping floor shall be maintained to collect any and all liquids associated with the tipped feedstocks.

Food Residuals Drop-off

19. All food residuals including organics from the public food residual drop-off area shall be transported to the receiving tanks on a schedule adjusted to minimize decomposition, odors and vectors from the waste.
20. The Permittee(s) shall store all food residuals in watertight, lidded containers. An adequate supply of wood shavings or saw dust (or a suitable alternative) shall be on hand to cover the food residuals to control vectors and odors.

Digestate Management

21. Liquid digestate shall be stored in the effluent pond and land applied in accordance with the Comprehensive Nutrient Management Plan prepared pursuant to the Vermont Agency of Agriculture and Food Markets (AAFM) requirements. The Permittee(s) shall copy the Program on any updates to its Nutrient Management Plan that are requested by the AAFM or that are otherwise required under the General Permit for Medium Farm Operations.

22. The solid digestate, once dewatered, may be used as animal bedding for the VTC farm. Solid digestate must meet the treatment standards of the Solid Waste Management Rules §6-1110(d) prior to distribution offsite for non-farm use.
23. Solid digestate that meets standards for pathogen treatment and contaminant content and concentration established by the Secretary or Secretary of Agriculture, Food, and Markets may be exempted from solid waste disposal siting and certification requirements where collection and land application occurs under a nutrient management plan prepared in accordance with Natural Resource Conservation Service Practice Standard 590 – Nutrient Management, but is not authorized for use on crops for direct human consumption.

Record Keeping and Reporting

24. The Permittee(s) shall maintain all records pursuant to the requirements of §6-1113(b)(3) of the Rules.
25. The Permittee(s) shall submit annual reports to the Program on or before January 20th of each year electronically on forms provided for this purpose by the Program.

Closure Requirements

26. The Permittee(s) shall notify the Program within thirty (30) days after the date the final volume of waste is received at the Facility, pursuant to §6-1002(g) of the Rules.
27. The Permittee(s) shall close the Facility in accordance with the approved Facility Closure Plan.
28. The Permittee(s) shall provide certification of closure as part of the final closure of the Facility, pursuant to §6-1002(i)(1) and (2) of the Rules.

General Conditions

29. This Certification does not convey any property rights of any sort or any exclusive privilege, nor does it authorize any injury to private property or any invasion of personal rights.
30. This Certification is not alienable, transferable or assignable
31. The Permittee(s) agree to allow Agency personnel access to the Facility during normal Facility operating hours and during standard Agency business hours (Monday-Friday 8am to 5pm) when the Facility may not be open to the public. The Permittee(s) shall cooperate with Agency personnel or their designees to perform such inspections, waste sorts or other activities pursuant to 10 V.S.A. §6609 as may be required to ensure compliance with this Certification, with all applicable statutes

and the Rules. With respect to waste sorts, the Agency shall provide notice and consult with the Permittee(s) prior to conducting the sort. The Agency shall consider reasonable steps proposed by the Permittee(s) to minimize any disruption that a waste sort may cause.

32. If at any time during the term of this Certification the Secretary finds there is no approved Solid Waste Implementation Plan (SWIP) for the area in which this Facility is located, or that the SWIP for the area in which this Facility is located no longer includes this Facility, this Certification will be subject to revocation or suspension under §6-307 of the rules.

Appeals

Any person aggrieved by this certification or permit may appeal to the Superior Court – Environmental Division within 30 days of the issuance of this permit in accordance with 10 V.S.A. Chapter 220 and the Vermont Rules Environmental Court Proceedings. If this certification or permit relates to a renewable energy plant for which a certificate of public good is required under 30 V.S.A. §248, any appeal must be filed within 30 days of the issuance with the Vermont Public Service Board in accordance with Board rules.

The Secretary's issuance of this Certification for the operation of this facility relies upon the data, judgment and other information supplied by the Permittee(s), the hired professional consultants and other experts who have participated in the preparation of the Application.

The Secretary makes no assurances that the facility certified herein will meet the performance objectives of the Permittee(s) and no warranties or guarantees are given or implied.

The Program staff have reviewed the Application and have found it conforms with current technical standards. It is recommended that the foregoing findings be made and this Certification be issued for the operation of the facility described herein.

I do affirmatively make the findings as recommended by the staff of the Program and approve the issuance of this Certification.

Dated this 21st day of December, 2015 at Montpelier, Vermont.

AGENCY OF NATURAL RESOURCES

Alyssa Schuren, Commissioner
Department of Environmental Conservation



By:

Catherine Jamieson, Program Manager
Solid Waste Management Program
Department of Environmental Conservation

Appendix A - Material Acceptance and Storage Limitations

Material Type	Amount Stored On-site (tons)	Amount Accepted per Day	Annual Amounts Accepted (tons)
Organic Materials Accepted			
Animal Bedding and Manure	---	Up to 15,840 gallons*	---
Food Residuals and Food Processing Residuals	---	Up to 7,760 gallons*	---
Other Organic Solid Wastes As Approved by the Program	---	Up to 776 gallons*	---

* The maximum daily *combined* capacity of the Facility is 15,840 gallons subject to the material type limitations outlined above.

VEPP Inc.

4.100 Purchasing Agent
4.300 Speed Facilitator

April 20, 2011

Jack Daniels – Dean of Administration
Vermont Technical College
PO Box 500, Main St
Randolph Center, VT 05061

Re: SPEED Standard Offer Purchase Power Contract
Central Vermont Recovered Biomass Facility (CVRBF) – 375 KW

Dear Jack:

I am pleased to return to you a fully executed copy of the SPEED Standard Offer Purchase Power Contract for your project. I will keep an executed copy of the contract in my office and I will send an executed copy of the contract to the Vermont Public Service Board for their records.

The effective date of your contract is April 20, 2011. The effective date of the contract also establishes certain milestones which your project must meet. Those milestones are as follows:

1. “Within six months of the date of this Agreement, Producer shall file with the Interconnecting Utility, and shall provide Facilitator a copy of, a complete application for interconnection under Board Rule 5.500.”milestone date: October 20, 2011
2. “Within three years of the date of this Agreement, the Project shall achieve Commissioning”..... milestone date: April 20, 2014

I will also remind you that you must obtain a Certificate of Public Good from the Vermont Public Service Board prior to the start of construction.

Please don't hesitate to contact me in the future if you have a question or need advice on the SPEED program.

Very truly yours,
VEPP Inc.



John R. Spencer, P.E.
Executive Director – SPEED Facilitator
Cc: Vermont Public Service Board

VEPP Inc.

P.O. BOX 1938 • MANCHESTER CENTER, VT 05255 • 802-362-0748 • FAX 802-362-5496

WWW.VEPPI.ORG • WWW.VERMONTSPPEED.COM

VERMONT SPEED STANDARD OFFER
PURCHASE POWER AGREEMENT

This Vermont SPEED Standard Offer Purchase Power Agreement is made between Vermont Technical College ("Producer") and VEPP Inc. ("Facilitator"), a Vermont nonprofit corporation.

RECITALS

WHEREAS, Producer desires to produce and sell Electricity and Other Products Related to Electric Generation in accordance with the Vermont Energy Act of 2009¹ ("Act"), and

WHEREAS, Facilitator is the duly appointed SPEED Facilitator under 30 V.S.A. § 8005(b)(1); and

WHEREAS, Producer and Facilitator (collectively "the Parties") desire to enter into this Agreement to provide for the purchase and sale of Electricity and Other Products Related to Electric Generation provided by Producer's electric generating facility described in Attachment A hereto ("the Project") pursuant to and subject to the Act.

NOW, THEREFORE, the Parties agree as follows:

1. DEFINED TERMS

Capitalized terms used in this Agreement shall have the following meanings.

- a. Board means the Vermont Public Service Board.
- b. Commercially Reasonable Efforts means efforts that are designed to enable a Party, directly or indirectly, to satisfy a condition to, or otherwise assist in the consummation of, a transaction, activity or undertaking contemplated by this Agreement and that do not require the performing Party to expend any funds or assume liabilities other than expenditures and liabilities that are reasonable in nature and amount in the context of the transaction, activity or undertaking contemplated by this Agreement.
- c. Interconnecting Utility means the electric utility with which Producer enters into the Interconnection Agreement.

¹ . Public Act No. 45 (2009 Vt., Bien. Sess.).

- d. Interconnection Agreement means the agreement or agreements entered into between the Interconnecting Utility and Producer with respect to the connection of the Project to the Distribution System.
- e. Interconnection Costs mean all costs which are payable by Producer with respect to the interconnection of the Facility to the Distribution System.
- f. Delivered, in the context of Electricity, means delivered to the interconnection point and successfully injected into the Distribution System, and Deliver has the corresponding meaning.
- g. Distribution System means the system connected to the ISO-NE-Controlled Grid for distributing Electricity at voltages of 50 kV or less, which is owned and operated by the Interconnecting Utility, and includes any structures, equipment or other things used for that purpose.
- h. Electricity means electric energy, measured in kWh.
- i. Force Majeure means any act, event, cause or condition that (i) prevents a Party from performing its obligations, and (ii) is beyond the affected Party's reasonable control, except that no act, event, cause or condition shall be considered to be an event of Force Majeure:
 - (1) if and to the extent the Party seeking to invoke Force Majeure has caused or contributed to the applicable act, event, cause or condition by its act, fault or negligence or has failed to use Commercially Reasonable Efforts to prevent or remedy such act, event, cause, or condition and, so far as possible and within a reasonable time period, remove it (except in the case of strikes, lockouts and other labor disturbances, the settlement of which shall be wholly within the discretion of the party involved);
 - (2) if the act, event, cause or condition involves a failure or delay on the party of the Interconnecting Utility or its agents to complete network or system upgrades or otherwise perform responsibilities under an Interconnection Agreement, and such failure or delay is attributable to a change in specifications of the interconnection point or the Project by the Producer;
 - (3) if the act, event, cause or condition is the result of a violation of law or the terms of any regulatory approval by the Party seeking to invoke Force Majeure; or
 - (4) if the act, event, cause or condition was caused by a lack of funds or other financial cause.

- j. Good Engineering and Operating Practices means any of the practices, methods and activities adopted by a significant portion of the North America electric utility industry as good practices applicable to the design, building, and operation of generating facilities of similar type, size and capacity or any of the practices, methods or activities that, in the exercise of skill, diligence, prudence, foresight and reasonable judgment by a prudent generator of Electricity in light of the facts known at the time the decision was made, reasonably could have been expected to accomplish the desired result at a reasonable cost consistent with good business practices, reliability, safety, expedition and laws and regulations.
- k. ISO-NE means the Independent System Operator-New England, or its successor.
- l. ISO-NE Administered Markets has the meaning given to it by the ISO-NE Market Rules.
- m. ISO-NE Controlled Grid has the meaning given to it by the ISO-NE Market Rules.
- n. Meter means a meter owned by or under the control of the Interconnecting Utility that measures and records the quantity of Electricity which passes through it.
- o. Other Products Related to Electric Generation means any transferable commodity, in addition to Electricity, that is directly attributable to the generation of electricity from the plant. For purposes of this definition, Other Products Related to Electric Generation does not include (1) tradeable renewable energy credits, as defined in 30 V.S.A. § 8002(8), directly attributable to plants using methane from agricultural operations; and (2) ancillary heat associated with engine exhaust, combined heat and power systems, or biomass systems.
- p. Queue means the mechanism for determining which projects are eligible for the standard offer, as outlined in the Board's September 30, 2009, Order in Docket 7533.
- q. Regulatory Approval means the receipt of any federal, state or local permit, license or other assent of any governmental body, where such assent is required for lawful construction and/or operation of the Project.
- r. Secured Lender means the lender(s) under a Security Agreement.

- s. Security Agreement means an agreement or instrument, including a deed or trust or similar instrument securing bonds or debentures, or other evidences of indebtedness, containing a charge, mortgage, pledge, security interest, assignment, sublease, deed of trust or similar instrument with respect to all or any part of the Producer's interest granted by the Producer that is security for any indebtedness, liability or obligation of the Producer, together with any amendment, change, supplement, restatement, extension, renewal or modification thereof.
- t. Site Control means proof of dominion over real property to the extent necessary to construct the Project in accordance with the description set forth on Attachment A. Site control may be established by: (1) fee simple title to the property; (2) a valid written leasehold interest in the property for at least the duration of the contract term; (3) a valid written option, unconditionally exercisable by Producer, to purchase or lease such real property; or (4) a duly executed contract for the purchase or lease of such property.
- u. Station Service means the Electricity used at the Project for excitation, on-site maintenance, and operation of auxiliary and other facilities that are essential to the operation of the Project.

2. EFFECTIVE DATE

This Agreement shall become effective upon its execution by Facilitator, and is of no force and effect whatsoever until that time.

3. DELIVERY OF ELECTRICITY AND TRANSFER OF OTHER PRODUCTS RELATED TO ELECTRIC GENERATION

Producer hereby unconditionally sells, transfers and assigns to Facilitator all of its right, title and interest in the Electricity and Other Products Related to Electric Generation. If requested by Facilitator, Producer shall use Commercially Reasonable Efforts to obtain, register, certify or deliver the Other Products Related to Electric Generation or any evidence of the Facilitator's right, title and interest thereto to Facilitator, to the ISO-NE Administered Markets or other markets, or as Facilitator reasonably may direct otherwise. Facilitator shall retain all right, title, and interest in all Other Products Related to Electric Generation in trust for all Vermont Distribution Utilities that are subject to prorated allocations under the Act. Facilitator shall be entitled, unilaterally and without the consent of Producer, to deal with Other Products Related to Electric Generation in any manner it determines and consistent with the Act, regardless of whether any consideration is separately stated as being received or paid for by Facilitator.

4. SITE CONTROL

Producer warrants that it has the Site Control required for the Project, pursuant to the documentation set forth in attachment B hereto.

5. MILESTONES

- a. Within six months of the date of this Agreement, Producer shall file with the Interconnecting Utility, and shall provide Facilitator a copy of, a complete application for interconnection under Board Rule 5.500.
- b. Within three years of the date of this Agreement, the Project shall achieve Commissioning.

6. FAILURE TO ACHIEVE MILESTONES

Should Producer fail to meet either of the milestones set forth in paragraph 4 above, this Agreement shall be null and void and of no further force and effect, absent an order of the Board to the contrary. The pursuit of such an order shall be Producer's sole remedy in this regard. Facilitator shall notify Producer and the Board of such failure and of the termination of this Agreement. Facilitator shall have no authority to grant extensions relative to any provisions of this Agreement, including the milestones herein.

7. ADMINISTRATIVE FEE AND DEPOSIT

At the time of initial submission of this Agreement signed by Producer to Facilitator, Producer shall tender to Facilitator a \$200, non-refundable administrative fee and a refundable deposit of \$10 per kW of installed capacity. If the project is commissioned within three years of the date of this contract, 100% of the deposit will be refunded; if Producer voluntarily withdraws from the Queue within the first year, the entire deposit is returned; if Producer withdraws from the Queue after the first year, but before the end of the second year, 75% of the deposit is returned; and if Producer withdraws from the Queue after the second year, but before the end of the third year, 50% of the deposit is returned. Any interest earned on the refundable deposits shall be retained by Facilitator and utilized to defray Facilitator's costs of operation.

8. RATES AND TERM

Beginning with Commissioning, Facilitator shall pay Producer in accordance with the rate schedule and for the term set forth in Attachment C hereto.

9. PROJECT LOCATION, DESIGN, CONSTRUCTION AND OPERATION

Producer shall construct the Project at the location and in a manner substantially consistent with the description set forth in Attachment A. Producer shall utilize Commercially Reasonable Efforts in the design, construction and operation of the Project in accordance with Good Engineering and Operating Practices, the terms and conditions of any certificate of public good and any other Regulatory Approvals issued relative to the Project, and shall be solely responsible for all costs, expenses, liabilities and other obligations associated with the Project. All operations and deliveries shall be subject to the rules and regulations of the ISO-NE bulk power system in effect during the term of this Agreement, and Producer shall be responsible for payment of any costs, sanctions or charges assessed by ISO-NE arising from actions or inactions of Producer.

10. PROVISION OF PROJECT COSTS

Producer shall provide the costs of developing the Project to Facilitator shall be provided in a form as prescribed by the Facilitator. Project costs, with sufficient protections to shield identifying characteristics, will be made publicly available to assist in future price determinations by the Board pursuant to 30 V.S.A. § 8005(b)(2). Facilitator shall seek to treat as exempt from disclosure information related to the development of the Project to the extent that such information constitutes trade secrets under 30 V.S.A. § 317(9), unless otherwise directed by the Board.

11. INTERCONNECTION

Producer shall be solely responsible for the negotiation, delivery and execution of the Interconnection Agreement, along with the payment of all costs and the execution of all responsibilities arising under that Agreement. Producer shall deliver to Facilitator a copy of the executed Interconnection Agreement within five business days of its execution. At such time as the Interconnection Agreement is executed, it shall be deemed part of this Agreement and a copy shall be appended as Attachment D to this Agreement. Facilitator shall be named as a named insured under any policies of insurance required under the Interconnection Agreement.

12. EXCLUSIVITY

During the Term of this Agreement, Producer shall not enter into any other agreement for the sale or other conveyance of any portion of the Electricity or any Other Product that is the subject of sale under this Agreement. Producer acknowledges that, by entering into this Agreement, Producer is waiving any and all rights to seek an alternative power sales arrangement, including but not limited to an arrangement through Board Rules 4.100, 4.300 and 5.100, at any time throughout the term set forth in this Agreement. Absent an order of the Board to the contrary, this waiver shall extend throughout the full term contemplated under this Agreement, even if this Agreement is terminated early for any reason by default, for cause or otherwise.

13. STATION SERVICE

Station service, if any is provided by the Interconnecting Utility, shall be priced only in accordance with any applicable tariff, special contract, order or other means approved by the Board.

14. PAYMENT TO PRODUCER

Facilitator shall pay or cause to be paid to Producer amounts calculated in accordance with Attachment C within 45 days of the end of each billing period during which Electricity and Other Products Related to Electric Generation were provided by Producer. Facilitator shall have no authority whatsoever to make payments to producer for Electricity or Other Products Related to Electric Generation that are not Delivered. As a matter of administrative convenience, Facilitator may wait to send payments to Producer until the total amount due to Producer, net of any set offs, exceeds \$100.00.

15. METERING REQUIREMENTS

Producer shall be responsible for meeting such metering requirements as may be established by Facilitator or by regulatory requirement, all at Producer's expense. The testing of metering equipment shall be at the discretion of Facilitator; provided, however, that Facilitator shall cause such testing to be performed not less than once every five years during the Term of this Agreement if the Project exceeds 100 kw in size. Any Vermont distribution utility may request additional verification at any time, but all costs shall be borne by the requesting utility should the metering prove to be accurate within 2%.

16. SETTLEMENT REQUIREMENTS

Producer shall cooperate with Facilitator as necessary to meet rules related to settlement of Project generation. This may include, among other actions, registering generation assets with ISO-NE.

17. EVENTS OF DEFAULT

Any breach of this Agreement by Producer or Facilitator will constitute an event of default, as will one or more of the following:

- a. Producer fails to deliver any Electricity from the Project for a period of twelve consecutive months at any time after Commissioning.
- b. Producer ceases to hold any Regulatory Approval after commissioning, the failure or cessation of which results in a lack of legal right on the part of Producer to continue to operate the Project.
- c. Any information provided by Producer relative to this Agreement or any information, representations or warranties set out in this Agreement is not true or correct in any material respect when given, or Producer commits any act of fraud in relation to this Agreement or any regulatory proceeding relating to the Project.
- d. By agreement, decree, judgment or order of a court, Producer agrees to be treated as and/or is adjudicated bankrupt or insolvent, or real or personal property of the Project is sequestered or subject to the appointment of any third party and such agreement, decree, judgment, order of appointment continues in effect unrevoked, undischarged and unstayed for a period of thirty (30) days after the entry or implementation thereof.
- e. Producer utilizes electricity, or any source of fuel other than the fuel type specified in attachment A, for the generation of electricity.
- f. Producer fails or ceases to comply with Good Engineering and Operating Practices.

18. CURE PERIOD

- a. Remedies of Facilitator. Within five business days of learning of an event of default, Facilitator shall send a written notice to Producer and the Board specifying the default and allowing, in Facilitator's reasonable discretion, a cure period of up to 30 days, unless a shorter period is ordered by the Board. If the default is not cured within the cure period allowed by Facilitator, Facilitator shall send a notice of termination to Producer and the Board effective in ten business days, which notice shall be of full force and effect absent an order of the Board to the contrary.

- b. Remedies of Producer. Within five business days of learning of an event of default, Producer shall send a written notice to Facilitator and the Board specifying the default and allowing a cure period of 30 days, unless a shorter period is ordered by the Board. If the default is not cured within the cure period, Producer shall send a notice of termination to Facilitator and the Board effective in ten business days, which notice shall be of full force and effect absent an order of the Board to the contrary.

19. EFFECT OF TERMINATION OR EXPIRATION

Termination of this Agreement, whether by expiration or otherwise, shall not affect or prejudice any rights or obligations of either Party, including those relating to amounts payable under this Agreement up to and including the time of any termination.

20. FORCE MAJEURE

In the event of Force Majeure, Facilitator may suspend the obligations of Producer under this Agreement for a period of up to sixty days. Any further suspension or remedy for a Force Majeure event shall only be in accordance with an order of the Board.

21. SECURED LENDER RIGHTS

- a. Producer shall have the right from time to time, at its cost, to enter into one or more Security Agreements upon such terms as it desires, provided that:
 - (i) in the case of a deed of trust, syndication agreement or similar instrument by which the trustee or syndication agent holds security on behalf of, or for the benefit of, other lenders, only the trustee or agent shall be entitled to exercise the rights and remedies under the Security Agreement as the Secured Lender on behalf of the lenders;
 - (ii) Facilitator shall have no liability whatsoever under any Security Agreement for the payment of the principal sum secured or any interest accrued thereon or any other sum secured thereby or accruing thereunder, and the Secured Lender shall not be entitled to seek any damages against the Facilitator for any or all of the same; and
 - (iii) all rights acquired by a Secured Lender under any Security Agreement shall be subject to all of the provisions of this Agreement, including the restrictions on assignment contained herein.

- b. While a Security Agreement remains outstanding, and provided that Facilitator has received from Producer prior written notice of the name and address of the Secured Lender, Facilitator shall provide a copy of any written notice of default or termination to the Secured Lender at such time that such notice is sent to Producer. Subject to the provisions of this Agreement, a Secured Lender may enforce any Security Agreement and acquire Producer's interest in the Project in any lawful way, subject to (1) receipt of any required Regulatory Approvals, (2) the honoring of all obligations of Producer under this Agreement, and (3) payment of all of Facilitator's costs and expenses (including attorney fees) incurred with respect to the acquisition and any related events.
- c. Facilitator, upon request of Producer, may enter into an acknowledgement and agreement, in such standard form as Facilitator may determine from time to time and subject to any Regulatory Approvals that may be required, with Producer and any Secured Lender for the purpose of implementing the Security Agreement protection provisions contained in this Agreement.

22. INDEMNIFICATION OF FACILITATOR

Facilitator shall not be liable under this Agreement or under any cause of action relating to the subject matter of this Agreement for any special, indirect, incidental, punitive, exemplary or consequential damages, including loss of profits, loss of use or any property or claims of customers or contractors of the Producer for any such damages. Producer shall indemnify, defend and hold Facilitator, the State of Vermont, the Vermont Distribution Utilities, any transmission service providers and their respective directors, officers, employees, shareholders, advisors, and agents (including contractors and their employees) (collectively, the "Indemnitees") harmless from and against any and all claims, demands, suits, losses, damages, liabilities, penalties, obligations, payments, costs and expenses, interest accrued thereon (including the costs and expense of, and interest accrued on, any and all actions, suits, proceedings for personal injury (including death) or property damage, assessments, judgments, settlements and compromises relating thereto and reasonable attorney fees and reasonable disbursements in connection therewith), asserted against or suffered by the Indemnitees relating to, in connection with, resulting from, or arising out of the design, construction or operation of the Project or the generation and delivery of Electricity and Other Products Related to Electric Generation therefrom or any occurrence or event relating thereto, or any occurrence or event on Producer's side of the interconnection point, or a breach by Producer of any of its representations, warranties, obligations or covenants contained in this Agreement.

23. JOINT AND SEVERAL LIABILITY

If Producer is not a single legal entity, then all such entities comprising Producer shall be jointly and severally liable to Facilitator for all representations, warranties, obligations, covenants, and liabilities of Producer under this Agreement.

24. RECORD RETENTION

Producer and Facilitator each shall keep complete and accurate records and all other data required by either of them for the purpose of proper administration of this Agreement. Without limiting the generality of the foregoing, Producer shall keep all records and other documentary evidence that may be necessary to establish, substantiate or maintain any claim or title of Facilitator to any Other Products Related to Electric Generation. All such records shall be maintained as required by law, but for no less than seven (7) years after the creation of the record or data. Producer shall provide or cause to be provided reasonable access to the relevant and appropriate financial and operating records and data kept by it or on its behalf relating to this Agreement reasonably required for Facilitator to comply with its obligations, or to verify billings, or to verify information provided in accordance with this Agreement or relating to compliance by Producer with this Agreement.

25. PROJECT INSPECTION

Facilitator shall have the right to inspect the Project during normal business hours during the term of this Agreement, upon at least five business days' notice to Producer.

26. NOTICES

- a. Unless otherwise stated, all notices pertaining to this Agreement shall be in writing and shall be transmitted, by the Party giving notice, via electronic mail, or if such method is unavailable, via facsimile, courier or hand delivery, and addressed to the other Party as follows:

If to Producer:

Vermont Technical College
Vermont Tech's Randolph Center
Randolph Center, Vermont 05061

If to Facilitator:

VEPP Inc.
P.O. Box 1938
1965 Depot Street
Manchester Center, VT 05255

- b. Notice transmitted or delivered as provided above shall be deemed to have been given and received on the day it is transmitted (if by electronic mail or facsimile) or delivered (if by courier or hand delivery), provided such notice is transmitted or delivered on a business day prior to 5:00 p.m. local time in the place of delivery or receipt. If a notice is transmitted or delivered after 5:00 p.m. local time or such day is not a business day, then such notice shall be deemed to have been given and received on the next business day. Either Party, by written notice to the other, may change its contact person, electronic mail address, facsimile number or postal address to which notices are to be sent.

27. PUBLIC RECORD ISSUES

Producer acknowledges its understanding that Facilitator's records are subject to Vermont's Access to Public Records law, 1 V.S.A. § 315 et seq. (Public Records Law). To the extent that Facilitator may receive requests under the Public Records Law for information provided by Producer to Facilitator, Facilitator shall notify Producer of the request not later than the next business day after the request is received.

28. AMENDMENT TO THE CONTRACT IN THE PUBLIC INTEREST

This contract may be amended, without the consent of the parties, by order of the Board, provided: (1) such amendment does not result in any reduction in the project's economic value to Producer; (2) such amendment will not adversely affect Producer's ability to meet the project's financial obligations; (3) such amendment will not impose additional operational or other economic costs on Producer without full compensation; and (4) the amendment results in a benefit to ratepayers.

29. BUSINESS RELATIONSHIP

The relationship between the Facilitator and Producer is that between independent contractors, and nothing in this Agreement shall create or be deemed to create a relationship of partnership, joint venture, fiduciary, principal and agent or any other relationship between the Parties.

30. BINDING AGREEMENT

Except as set out otherwise in this Agreement, this Agreement shall not confer upon any person or entity, except the Parties and permitted assigns, any rights, interests, obligations or remedies under this Agreement.

31. ASSIGNMENT

Producer may assign its rights and duties under this Agreement to the fullest extent allowed by the Act, and any assignee of Producer shall give Facilitator written notice of the assignment within thirty days of the date of the assignment. Nothing in this provision shall be deemed to alter Producer's responsibility or obligations to obtain any and all Regulatory Approvals that may be required in conjunction with a transfer of all or part of any legal interest in the Project. Facilitator may not assign its rights and duties under this Agreement absent consent of the Board.

32. FACILITATOR SETOFF RIGHTS

In addition to its other rights of setoff under this Agreement or otherwise arising in law or equity, Facilitator may set off any amounts owed to it by Producer against any monies owed by Facilitator to Producer.

33. TIME OF ESSENCE

Time is of the essence in the performance of the Parties' respective obligations under this Agreement.

34. FURTHER ASSURANCES

Each Party, from time to time on written request of the other Party, shall perform further acts, including execution of documents, as may reasonably be required in order to fully perform and to more effectively implement and carry out the terms of this Agreement, provided that such acts shall not be inconsistent with this Agreement or any law or Regulatory Approvals pertaining to the Project.

35. MISCELLANEOUS

a. Headings

The inclusion of headings in this Agreement is for convenience of reference only and shall not affect the construction or interpretation of this Agreement.

b. Entire Agreement

This Agreement constitutes the entire agreement between the Parties pertaining to the subject matter of this Agreement.

c. Waiver, Amendment

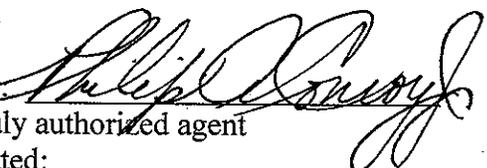
Except as expressly provided in this Agreement, no amendment or waiver of any provision of this Agreement shall be binding unless executed in writing by the Party to be bound thereby and approved in writing by the Board. No waiver or any provision of this Agreement shall constitute a waiver of any other provision nor shall it constitute a continuing waiver or operate as a waiver of, or estoppel with respect to, any subsequent failure to comply, unless otherwise expressly provided.

d. Board jurisdiction

The Board shall have jurisdiction to resolve disputes arising under or in connection with this Agreement, to the fullest extent allowed by law.

IN WITNESS WHEREOF, Producer and Facilitator have executed this instrument on the respective dates set forth below.

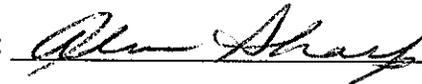
Vermont Technical College (PRODUCER)

By: 
Duly authorized agent
Dated:

Witness: 

VEPP Inc., acting as SPEED Facilitator

By: 
John R. Spencer, Executive Director
Dated: 4-20-2011

Witness: 

Attachment A Description of Facility

The Central Vermont Recovered Biomass Facility (CVRBF) project is a collaborative effort of Vermont Technical College and the Vermont Sustainable Jobs Fund. The project's anaerobic digester (AD) facility will be constructed at Vermont Tech's Randolph Center campus on a site adjoining the central heating plant / facilities building. This location will allow connection to existing 3-phase power and distribution of captured heat to campus buildings. The interconnecting utility is Central Vermont Public Service. The facility will have a 375 kW capacity and will be fueled by a combination of manure, clean and separated food scraps (source separated organics) and rough haylage used as cattle bedding; roughly 24-25 tons of feedstock per day. While most farm digesters in Vermont are plug-flow and designed for digesting mainly manure, our proposed AD plant will use a stirred tank design. This design is capable of digesting a variety of substrates or feedstocks with a high degree of efficiency.

Attachment B
Documentation of Site Control

A Warranty Deed dated June 6, 1917 for the Vermont Tech farmstead property. The deed is recorded in Book 37 at pages 545-546 of the Town of Randolph Land Records.

A title Opinion from Robert E. Fletcher, Esq. dated December 16, 2009 stating that "Based on our review of the records available to us and the representation in your letter of December 16, 2009 that VSC has not sold, transferred, or conveyed title to the VTC Main Campus, or any portion thereof, we are of the opinion that VSC controls the project site."

The Fletcher Title Opinion also states that "The project Site, as described to us, is within the "main campus" portion of VTC Randolph campus on lands and premises transferred to VSC by the State of Vermont through legislative act. Specifically, Act 247 of the Acts and Resolves of 1961 (eff. July 1, 1962), created VSC as a public corporation and transferred to it and vested in it all the real property of several educational institutions including Vermont Agricultural and Technical Institute in Randolph."

Attachment C Rate Schedule and Term

VEPP Inc. and Vermont Technical College

Governing Orders:

Electricity and Other Products Related to Electric Generation delivered pursuant to this Agreement shall be priced at the rate listed below in accordance with the provisions of this Agreement paragraph 8, "Rates and Terms", paragraph 3, "Delivery of Electricity and Transfer of Other Products related to Electric Generation" and the provisions of the Vermont Public Service Board's orders in Docket No. 7533, "Order Establishing a Standard Offer Program for Qualifying SPEED Resources" dated September 30, 2009, as revised and, "Establishment of Price for Standard Offer under the Sustainably Priced Energy Enterprise Development ("SPEED") program" dated January 15, 2009, as clarified on March 19, 2010. Terms defined in the Agreement are used herein with their defined meanings.

Rate Schedule:

VEPP Inc., the SPEED Facilitator, will purchase the Producer's Electricity and Other Products Related to Electric Generation excluding tradeable renewable energy credits, as defined in 30 V.S.A. § 8002(8) from the Facilities described in Attachment A at the following rate:

Farm Methane - Annual Pricing \$/MWh

Year*	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
	135.9	136.6	137.3	137.9	138.6	139.3	140.0	140.7	141.5	142.2
Year	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>17</u>	<u>18</u>	<u>19</u>	<u>20</u>
	143.0	143.7	144.5	145.3	146.1	146.9	147.7	148.6	149.4	150.3

* The annual price adjustment will occur on the anniversary of the effective date of this contract.

Term of Agreement:

This Agreement shall become effective upon execution by the Producer and the SPEED Facilitator. The SPEED Facilitator shall file an executed original of this Agreement with the Vermont Public Service Board. This Agreement shall remain in effect for a period ending twenty (20) years after the effective of this Agreement.

Attachment D
Interconnection Agreement

(The Interconnection Agreement with the Interconnecting Utility must be filed within five business days of its execution.)

VERMONT TECH

COMMUNITY ANAEROBIC DIGESTER



The Vermont Tech Community Anaerobic Digester (VTCAD) was conceived and funded by a partnership of educational, agricultural, waste management and environmental groups to create a working demonstration facility demonstrating the value of recycling nutrients, renewable energy and agricultural co-products from organic wastes. VTCAD was constructed on the Randolph Center, Vermont campus of Vermont Tech, a public college offering engineering technology, agricultural, renewable energy education and workforce training. The system was commissioned in Spring of 2014.

VTCAD utilizes a two-stage complete-mix technology that separates the aerobic and anaerobic steps of digestion in two tanks, and mixes feedstock at hourly intervals to increase efficiency of microbial digestion. This system is very effective harvesting over 90% of the methane potential of feedstock materials.

At optimal 100% operation the daily output of the VTCAD 370kW system is 8,880 kWhrs/day, utilizing between 8,000-15,800 gallons of manure and organic residuals per day. VTCAD generates 'waste' heat that can be captured for use, bedding material for the college dairy herds, and recycled nutrients used as crop fertilizer. VTCAD uses a mixture of manure and organic residuals collected from the community. Feedstock materials include manure, brewery and distillery residuals, the glycerol by-product of biodiesel production from waste cooking oil, ice cream waste, grease trap waste, and pre- and post- consumer food scraps.

**AD facilities
are integral to
Vermont's
meeting:**

**90%
Renewable
Energy by
2050**

&

**Organics
Diversion by
2020**

Anaerobic Digestion is an important component in managing the wave of organics that will be diverted from landfills by 2020 per Vermont's Universal Recycling Law. Expansion of AD will also help Vermont meet its ambitious goal of 90% renewable energy by 2050.

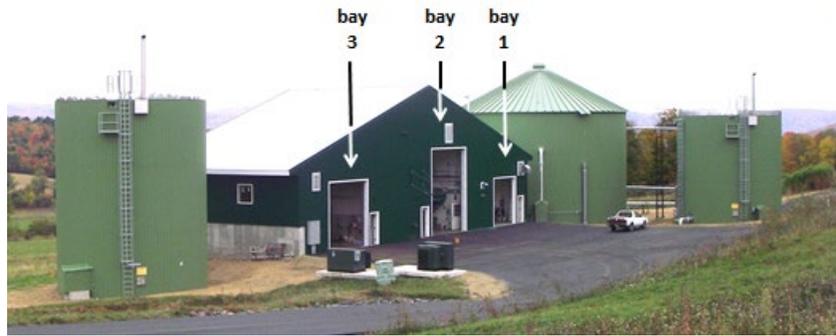
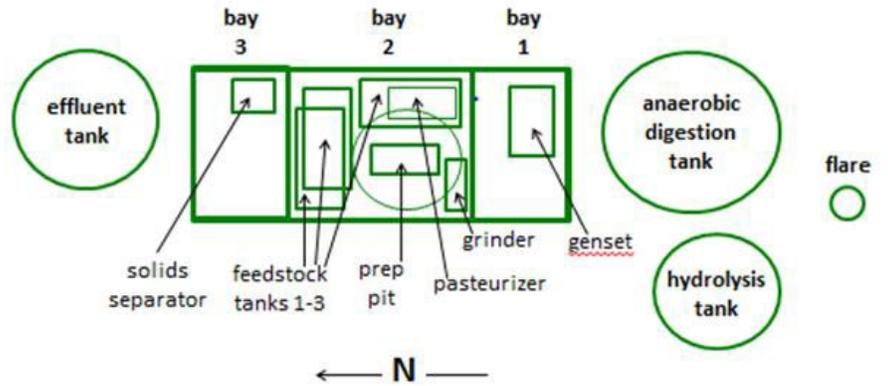
TECHNOLOGY

VTCAD is a complete mix technology and design developed by Lipp of Germany. Over 700 Lipp systems have been installed in Europe, and the oldest working facility is now over 30 years old. Lipp systems use Verinox, a duplex steel material: stainless on the inside and galvanized on the outside. The development of Verinox and the Lipp Dual-Seam System have been recognized by award of the prestigious Rudolph Diesel medal in 1982, the Dr. Rudolf Eberle Award in 2005, and the Steel Innovation Award for Germany in 2006.

VTCAD completed its first recommended 25,000 hour engine rebuild in January 2019.

The major VTCAD components:

1. 15,000 gallon Reception pit
2. 105,000 gallon Hydrolysis tank
3. 300,000 AD tank
4. Flare
5. 370 kW Generating Engine
6. Grinder & Pasteurizer
7. 3 9,000 gal Feedstock tanks
8. Solids separator
9. 115,000 Effluent tank



Feedstock

The system is permitted for 15,800 gallons per day. Current key feedstock relationships include:

- Manure from VTC Farm
 - Ben & Jerry's
- Breweries including Long Trail, Alchemist, Von Trapps, Stone Corral, Lawson's
 - Distilleries including Caledonia Spirits, Mad River Distillers, Old Rte 2
 - Black Bear Biodiesel
 - Earth Girl Compost
- Peterson Energy Biodiesel

Renewable Energy

VTCAD has a 20-year contract through 2031 for electricity via Vermont's Sustainably Priced Energy Enterprise Development program (SPEED). The SPEED program defines on-farm AD as facilities using at least 51% on-farm feedstock. On-farm AD is paid \$0.01368 - \$.0.1503



As an on-farm facility, Vermont Tech retains the Renewable Energy Credits (RECs). RECs from VTCAD are currently sold as a Class I Renewable Source authorized through the State of Connecticut Public Utilities Regulatory Authority (PURA). Market rates have fluctuated from \$10-\$32/REC in the last three years.

Current Permits/Agreements

VTCAD is currently permitted as an Agricultural Digester, requiring a minimum of 51% (dry basis) agricultural feedstock.

- Certification of Public Good (CPG) from the Vermont Public Service Board (PSB)
- Included in Vermont tech's Air Pollution Control Permit from the Vermont Agency of Natural Resources, Air Quality & Climate Division (AQCD)
- Solid Waste Certification through the Vermont Agency of Natural Recourses Waste Management Division
- Green Mountain Power Interconnection Agreement, including connection approvals
- Vermont's Sustainably Priced Energy Development (SPEED) Program Contract
- NRCS VT Standard 590 Nutrient Management for the Comprehensive Nutrient Management Plan



VTCAD location on the Randolph Campus, Randolph Center, Vermont.

General Permit for Medium Farm Operations (MFO GP)

Notice of Intent to Comply (NOIC)

Timeframe Covered Under MFO GP: Start (date signed) 2019

*For farms seeking coverage under the Vermont General Permit for Medium Farm Operations:
This is an operational permit accompanied by an annual operating fee.*

I. General Information:

Farm Owner/Operator: Vermont Technical College Primary Phone: (802) 728 - 1505
 Business Name: VTC Farm Email: LTyler@vtc.edu
 Mailing Address: 124 Admin Dr. PO Box 500 Randolph Ctr, VT 05061
 Main Facility: Name & E911 Location: Water St, Randolph Center
 Additional Facility: Name & E911 Location: N/A
 Additional Facility: Name & E911 Location: _____

Note- Attach addition sheets as necessary

II. Animal Information

(List the **current** animal numbers for each type for all facilities associated with the MFO at date of signature)

[MFO Threshold] & Animal Type	Current Number of Animals at Date of Signature
[200-699] Mature Dairy Cows (Milkers / Dry Cows)	80
[300-999] Youngstock or Heifers	75
[300-999] Cattle and Cow/Calf pairs	
[750-2,499] Swine (55 lb. or more)	
[3,000-9,999] Swine (under 55 lb.)	
[150-499] Horses	1
[3,000-9,999] Sheep or Lambs	
[16,500– 54,999] Turkeys	
[9,000-29,999] Chickens (w/liquid system)	
[25,000-81,999] Chickens (w/out liquid system)	
[1,500-4,999] Ducks (w/liquid system)	
[10,000-29,999] Ducks (w/out liquid system)	

III. Nutrient Management Plan Information:

- a. Does the farm land apply nutrients (manure, compost, fertilizer or other wastes) Yes No
 1. If no, please skip to **Section IV**.
- b. Does the farm (including all associated facilities) have a current nutrient management plan? Yes No
 1. If yes, please indicate date of NMP: Aug. 2018 update
 2. If yes, please indicate NMP planner: Heather Darby
- c. Is the farm utilizing the current NMP to implement crop rotations, manure spreading applications rates, and manure spreading setbacks? partial Yes No
- d. Did the farm keep manure, fertilizer, and crop yield records? Yes No

IV. Land Base Information:

	Corn	Hay	Pasture	Other: woodland	Total
Owned Acreage	35	108	47	282	472
Rented Acreage	30	220	-	-	250

V. Waste Generation & Storage Information:

Total estimated amount of wastes generated for the next 12 months:	Liquid (gallons): 4,400,000 gal Solid (tons / ft ³): N/A All sent to VTCAD
Total estimated amount of wastes imported for the next 12 months:	Liquid (gallons): 0 All from VTCAD Solid (tons / ft ³): 0
Total estimated amount of wastes exported/transferred for the next 12 months:	Liquid (gallons): 150,000 gal Solid (tons / ft ³): 0
Total liquid storage available (gallons):	4,600,000 gal
Liquid waste generated/imported in 180 days (gallons):	(-) 2,844,000 gal
Balance:	1,756,000 gal
Total semi-solid storage available (tons / ft ³):	4000 ft ³
Semi-solid waste generated/imported in 180 days (tons / ft ³):	(-) N/A goes to VTCAD
Balance:	

Name of Waste Storage Structure (s)	Total Usable Volume (gallons/tons/ft ³)
VTCAD Effluent tank	100,000 gal
Storage 'Big' Pond	3,500,000 gal
Osha Pit	1,000,000 gal
Small VTC Pond (Short term/emergency use only)	% of 400,000 gal * not included in total
Total Current Liquid Storage Available (gallons):	4,600,000 gal
Total Current Semi-Solid Storage Available (tons or ft³):	4000 cu. ft.

Note- Attach additional sheets as necessary

VI. Water Quality Information:

a. Have you identified any water quality concerns that you want to improve on your farm? Yes No

1. If yes, please identify your concerns: _____

b. Do you have any water quality improvements planned or in development? Yes No

1. If yes, circle the following partners you are working with: NRCS, VAAFM, UVM Extension, Conservation District, Farmer Group

VII. Applicant Certification

I understand that by signing this form I am certifying that (1) I have a copy of and have read the General Permit for Medium Farm Operations for the State of Vermont issued by the Vermont Agency of Agriculture, Food and Markets (the MFO GP) and that (2) I will comply with the MFO GP. I certify that I have examined the information submitted in this Notice of Intent to Comply Form (NOIC Form) and attachments, and that the information contained in this NOIC Form and attachments is true, accurate, and complete. I understand that I may be subject to the criminal sanctions of 13 V.S.A. § 3016 for false, misleading, or untrue representations on this NOIC form and the attachments.


SIGNATURE OF FARM OWNER/OPERATOR

Mary O'Leary
PRINTED NAME

01/11/18
DATE OF SIGNATURE

For coverage, a complete and accurate Notice of Intent to Comply must be submitted to:

Vermont Agency of Agriculture, Food and Markets
Medium Farm Operation Program
94 Harvest Lane, Suite 203
Williston, VT 05495

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7965

Petition of Vermont Technical College ("VTC"))
for a certificate of public good, pursuant to)
30 V.S.A. Section 248(j), authorizing the)
construction and operation of a 375 kW)
agricultural-methane electric generation facility)
at VTC's campus in Randolph Center, Vermont)

Entered: 4/17/2013

CERTIFICATE OF PUBLIC GOOD ISSUED
PURSUANT TO 30 V.S.A. SECTION 248

IT IS HEREBY CERTIFIED that the Public Service Board ("Board") of the State of Vermont this day found and adjudged that the proposed construction of a 375 kW agricultural-methane electric generation facility by Vermont Technical College ("VTC") on the VTC campus, One Main Street, Randolph Center, Vermont (the "Project"), in accordance with the evidence and plans submitted in this proceeding, will promote the general good of the State, subject to the following conditions:

1. Construction, operation, and maintenance of the proposed 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.

2. VTC shall comply with the recommendations contained in the December 15, 2011 System Impact Study ("SIS"). VTC shall pay for all costs associated with the recommendations in the SIS and all interconnection costs.

3. Prior to constructing the effluent storage pond, VTC shall submit to the Board and the Agency of Agriculture, Food and Markets ("AAFM") final plans for the pond, which shall be certified by the Natural Resources Conservation Service ("NRCS") as compliant with its NRCS-VT Conservation Practice Standard 313.

4. Prior to constructing its effluent storage pond, VTC shall apply for and obtain from the Agency of Natural Resources ("ANR") all necessary and appropriate permits and approvals related thereto, including but not limited to authorization to discharge stormwater under Vermont's Construction General Permit.

5. At least 51 percent of the feedstock used by the Project shall be derived from agricultural operations, produced for some other purpose than solely that of providing a fuel source for generation. For purposes of assuring compliance with this requirement, VTC shall calculate, on a quarterly basis, the amount of feedstock derived from agricultural operations that is utilized in its biodigester facility by utilizing volume as the measurement basis, and shall report the same to the Board and the AAFM.

6. For determining compliance with its Certificate of Public Good ("CPG") and in connection with all future filings and submissions to the Board, ANR, and AAFM, VTC shall use terminology that is consistent with the terminology used in the Vermont Solid Waste Management Rules when referring to feedstock that is not derived from agricultural operations.

7. VTC shall not use more than one percent food residual in its feedstock without the prior approval of ANR. If VTC proposes to use more than a *de minimis* amount of food residual (i.e., more than one percent under current Solid Waste Management Rules) in its feedstock, prior to commencing such use VTC shall apply for and obtain from ANR all necessary and appropriate permits and approvals, including without limitation a solid waste certification or "insignificant waste management event" approval, as applicable. If VTC proposes to use more than one percent of food residual in its feedstock, it may do so without seeking an amendment to its CPG provided that (a) the total amount of feedstock derived from non-agricultural operations shall not exceed 49 percent of total feedstock; (b) VTC has obtained all necessary approvals from ANR; and (c) any increased use of food residual will not result in a "substantial change" to the approved Project, as defined in PSB Rule 5.408.

8. VTC shall not apply any liquid digestate to forest land without obtaining the prior approval of ANR's Department of Forest, Parks and Recreation.

9. Prior to operation of the Project, VTC shall submit to the Board and ANR a list of its sources of non-agricultural feedstock, which the Board will review for the purpose of determining whether the transportation-related greenhouse gas impacts outweigh the greenhouse gas benefits otherwise provided by the Project.

10. VTC shall be limited to 12 truckload deliveries of non-agricultural feedstock per week and shall not increase the number of one-way truck-miles associated with the transportation of non-agricultural feedstock to the Project without the prior approval of the Board.

11. VTC shall assure that the generator is fitted with a silencer that is rated at 65 dB at 10 meters or better, that external loader operations are restricted to daytime hours (7:00 a.m. to 7:00 p.m.) and that the loader used at the facility is retrofitted with a low-impact backup alarm to the extent allowed by law.

12. Prior to operation of the Project, VTC shall enter into an interconnection agreement with Green Mountain Power Corporation ("GMP") and file the agreement with the Board and the Department of Public Service "(DPS)".

13. Prior to interconnection of the generator with the GMP system, VTC shall provide the Board and the DPS with written documentation that the Project meets the applicable codes and standards listed in PSB Rule 5.510.

14. Prior to operation of the Project, VTC shall prepare a revised nutrient management plan that meets the applicable standard of the NRCS as determined by AAFM and shall provide the Board, the DPS and AAFM with documentation that VTC has met this requirement.

15. VTC shall copy ANR on any updates to its nutrient management plan that are either reasonably requested by AAFM or otherwise required under the General Permit for Medium Farm Operations.

16. Prior to operation of the Project, VTC shall demonstrate to the satisfaction of AAFM that its waste management structures meet the applicable standard under 6 V.S.A. § 4815 as determined by AAFM and shall provide the Board and the DPS with documentation that VTC has met this requirement.

17. Prior to proceeding with construction, VTC shall obtain all necessary permits and approvals under ANR's Solid Waste Management Rules and shall provide the Board and the DPS with documentation that VTC has met this requirement.

18. Prior to proceeding with construction, VTC shall obtain all other necessary permits and approvals. Construction, operation, and maintenance of the Project shall be in accordance with such permits and approvals, and with all other applicable regulations.

19. Prior to commencing construction, VTC shall file with the Board, the parties in this docket, and the adjoining landowners, a letter stating that it has fulfilled all requisite CPG conditions and that VTC intends to commence construction of the Project.

This Certificate of Public Good shall not be transferred without prior approval of the Board.

Dated at Montpelier, Vermont, this 17th day of April, 2013.

<u>s/James Volz</u>)	
)	
)	
<u>s/David C. Coen</u>)	
)	
)	
<u>s/John D. Burke</u>)	

PUBLIC SERVICE
BOARD
OF VERMONT

OFFICE OF THE CLERK

FILED: April 17, 2013

ATTEST: s/Judith C. Whitney
Deputy 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@state.vt.us)