

Brennan Punderson, PLLC

ATTORNEYS AT LAW

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VHPUC 13FEB'14AM11:12

February 7, 2014

Ms. Debra A. Howland
Executive Director and Secretary
State of New Hampshire
Public Utilities Commission
21 S. Fruit St., Suite 10
Concord, NH 03301-2429

Re: Gebbie's Maplehurst Farm of Greensboro, Vermont

Dear Ms. Howland:

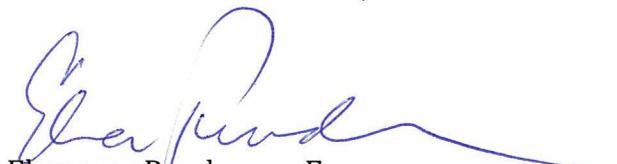
I have enclosed for filing an original and three copies of an application for Renewable Energy Source Eligibility being filed on behalf of Gebbie's Maplehurst Farm of Greensboro.

If you have any questions or comments with regard to the application you may contact either Peter or Sandra Gebbie at the contact information provided in the application, or you may contact me.

Very truly yours,

BRENNAN PUNDERSON, PLLC

By:


Ebenezer Punderson, Esq.

EP/t
Enclosures
cc: Mr. Peter Gebbie – letter only

Reply to Middlebury Office

Monkton P.O. Box 8, 1317 Davis Road, Monkton, Vermont 05469 Phone 802.453.8400 Fax 802.453.8411

Middlebury The Marbleworks, 99 Maple Street, Suite 10B, Middlebury, Vermont 05753 Phone 802.989.7342 Fax 802.989.7441

✓

(2)

Greensboro
(City)

VT
(State)

05841
(Zip code)

9. Latitude: -72 17.354' Longitude: 44° 37.803'

10. The name and telephone number of the facility's operator, if different from the owner: Same

(Name)

(Telephone number)

11. The ISO-New England asset identification number, if applicable: NON 37209 or N/A:

12. The GIS facility code, if applicable: _____ or N/A:

13. A description of the facility, including fuel type, gross nameplate generation capacity, the initial commercial operation date, and the date it began operation, if different.

14. If Class I certification is sought for a generation facility that uses biomass, the applicant shall submit:

- (a) quarterly average NOx emission rates over the past rolling year,
- (b) the most recent average particulate matter emission rates as required by the New Hampshire Department of Environmental Services (NHDES),
- (c) a description of the pollution control equipment or proposed practices for compliance with such requirements,
- (d) proof that a copy of the completed application has been filed with the NHDES, and
- (e) conduct a stack test to verify compliance with the emission standard for particulate matter no later than 12 months prior to the end of the subject calendar quarter except as provided for in RSA 362-F:12, II.
- (f) N/A: Class I certification is NOT being sought for a generation facility that uses biomass.

15. If Class I certification is sought for the incremental new production of electricity by a generation facility that uses biomass, methane or hydroelectric technologies to produce energy, the applicant shall:

- (a) demonstrate that it has made capital investments after January 1, 2006 with the successful purpose of improving the efficiency or increasing the output of renewable energy from the facility, and
- (b) supply the historical generation baseline as defined in RSA 362-F:2, X.
- (c) N/A: Class I certification is NOT being sought for the incremental new production of electricity by a generation facility that uses biomass, methane or hydroelectric technologies.

16. If Class I certification is sought for repowered Class III or Class IV sources, the applicant shall:

- (a) demonstrate that it has made new capital investments for the purpose of restoring unusable generation capacity or adding to the existing capacity, in light of the NHDES environmental

permitting requirements or otherwise, and

- (b) provide documentation that eighty percent of its tax basis in the resulting plant and equipment of the eligible generation capacity, including the NHDES permitting requirements for new plants, but exclusive of any tax basis in real property and intangible assets, is derived from the new capital investments.
- (c) N/A: Class I certification is NOT being sought for repowered Class III or Class IV sources.
17. If Class I certification is sought for formerly nonrenewable energy electric generation facilities, the applicant shall:
- (a) demonstrate that it has made new capital investments for the purpose of repowering with eligible biomass technologies or methane gas and complies with the certification requirements of Puc 2505.04, if using biomass fuels, and
- (b) provide documentation that eighty percent of its tax basis in the resulting generation unit, including NHDES permitting requirements for new plants, but exclusive of any tax basis in real property and intangible assets, is derived from the new capital investments.
- (c) N/A: Class I certification is NOT being sought for formerly nonrenewable energy electric generation facilities.
18. If Class IV certification is sought for an existing small hydroelectric facility, the applicant shall submit proof that:
- (a) it has installed upstream and downstream diadromous fish passages that have been required and approved under the terms of its license or exemption from the Federal Energy Regulatory Commission, and
- (b) when required, has documented applicable state water quality certification pursuant to section 401 of the Clean Water Act for hydroelectric projects.
- (c) N/A: Class IV certification is NOT being sought for existing small hydroelectric facilities.
19. If the source is located in a control area adjacent to the New England control area, the applicant shall submit proof that the energy is delivered within the New England control area and such delivery is verified using the documentation required in Puc 2504.01(a)(2) a. to e.
20. All other necessary regulatory approvals, including any reviews, approvals or permits required by the NHDES or the environmental protection agency in the facility's state.
21. Proof that the applicant either has an approved interconnection study on file with the commission, is a party to a currently effective interconnection agreement, or is otherwise not required to undertake an interconnection study.
22. A description of how the generation facility is connected to the regional power pool of the local electric distribution utility.
23. A statement as to whether the facility has been certified under another non-federal jurisdiction's renewable portfolio standard and proof thereof.
24. A statement as to whether the facility's output has been verified by ISO-New England.

- 25. A description of how the facility's output is reported to the GIS if not verified by ISO-New England.
- 26. An affidavit by the owner attesting to the accuracy of the contents of the application.
- 27. Such other information as the applicant wishes to provide to assist in classification of the generating facility.
- 28. This application and all future correspondence should be sent to:
Ms. Debra A. Howland
Executive Director and Secretary
State of New Hampshire
Public Utilities Commission
21 S. Fruit St, Suite 10
Concord, NH 03301-2429

29. Preparer's information:

Name: Peter Gebbie

Title: owner

Address: (1) 2183 Gebbie Rd.

(2) _____

(3) _____

Greensboro
(City)

VT
(State)

05841
(Zip code)

30. Preparer's signature: Peter Gebbie

13. A description of the facility, including fuel type, gross nameplate generation capacity, the initial commercial operation date, and the date it began operation, if different:

Applicant operates a farm-methane electrical generating facility which uses methane gas derived from processed cow manure and other off-farm feedstock to fuel a biogas generator. The manure is processed in an on-site methane digester, and the methane gas is piped directly to the generator. The gross nameplate generation capacity is 150 kilowatts. The initial commercial operation date is July 12, 2012.

20. All other necessary regulatory approvals, including any reviews, approvals or permits required by the NHDES or the environmental protection agency in the facility's state:

A State of Vermont, Public Service Board Certificate of Public Good was issued pursuant to 30 V.S.A. Section 248 on October 27, 2011, approving the facility. This CPG was amended by Order dated February 19, 2012. A copy of the CPG is attached hereto. The Air Pollution Control Division of the Vermont Agency of Natural Resources issued a letter dated April 5, 2010 determining that an air-pollution control permit is not required, and subsequent letter December 6, 2013 confirming no permit was required for the 150-kW generator. These letters are both attached.

21. Proof that the applicant either has an approved interconnection study on file with the commission, is a party to a currently effective interconnection agreement, or is otherwise not required to undertake an interconnection study.

Please see letter from Hardwick Electric Department dated August 21, 2012, attached hereto.

22. A description of how the generation facility is connected to the regional power pool of the local electrical distribution utility:

Applicant's facility is interconnected at 7.2 kV on a single phase tap of the 12.5GrdY/7.2kV Greensboro feeder that originates at the Hardwick Electric Department's Hardwick, Vermont, substation.

23. A statement as to whether the facility has been certified under another non-federal jurisdiction's renewable portfolio standard and proof thereof:

The facility has been approved by the State of Connecticut Public Utilities Regulatory Authority as a Class I renewable energy source by decision dated June 13, 2013 in Docket No. 13-02-18. Applicant has a pending application with State of Rhode Island as a Class I Renewable Energy Source as defined in Rhode Island General Statutes Section 39-26-1 et.se, in docket # 4480..

24. A statement as to whether the facility's output has been verified by ISO-New England:

The facility's output is not verified by ISO-New England.

25. A description of how the facility's output is reported to the GIS if not verified by ISA-New England:

The electrical energy output of Kane's Cow Power, LLC methane fueled generation facility is reported to the GIS by Vermont Electric Power Company (VELCO). The generation facility is not a customer-sited source because its electrical output does not displace any consumption of the end-use customer.

26. An affidavit by the owner attesting to the accuracy of the contents of the application:

See attached Affidavit of Peter Gebbie.

DECEMBER 12, 2013

PETER & SANDRA GEBBIE

2183 GEBBIE RD

GREENSBORO, VT 05841

TO: STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

I hereby certify that the information given in this application is true, accurate and complete to the best of my knowledge.

A handwritten signature in cursive script, appearing to read "Peter Gebbie".

Peter Gebbie



INTERNATIONAL

07/26/12

Peter and Sandy Gebbie
Maplehurst Farms
2183 Gebbie Rd.
Greensboro VT 05841-8101

Peter and Sandy Gebbie,

RCM designed and provided a turn-key installation of a 150 kW anaerobic digester system at Maplehurst Farms located at 2183 Gebbie Rd. in Greensboro, Vermont. The local electrical inspector has approved the project and the local utility, Hardwick Electric Department (HED), has installed the net-meter, inspected the system and accepted the interconnection with their network.

System Details:

Nameplate Capacity: 150 kW

Model: Martin Machinery MMG-200 Biogas generator set; MAN engine model E2876LE302

Estimated Annual Production: 1,180,000 kWh

The system was successfully commissioned on July 12, 2012 and the farm began net-metering with HED on that day.

Please let us know if you require any further documentation for this system.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark Moser', written over a large, light-colored scribble or mark.

Mark Moser
President
RCM International
510-834-4568 x224

Hardwick Electric Department

PO Box 516

Hardwick, Vermont 05843

(802) 472-5201 - (802) 472-3388

Fax (802) 472-6769

August 21, 2012

Peter & Sandra Gebbie
Gebbies' Maplehurst Farm
2183 Gebbie Road
Greensboro, VT 05841

Dear Peter & Sandra,

The Hardwick Electric Department (HED) has successfully commissioned the Maplehurst Farms' generator and associated interconnection equipment on July 11, 2012. HED has also executed and Interconnection Agreement and Operating Protocol Agreement with Maplehurst Farms.

HED has paralleled the generator to the power system grid on that date and by doing so granted Permission to Operate.

Respectfully submitted,



Eric C. Werner
General Manager, Hardwick Electric Department

STATE OF NEW HAMPSHIRE

PUBLIC UTILITIES COMMISSION

APPLICATION FOR RENEWABLE ENERGY SOURCE ELIGIBILITY

Application for The Gebbies' Maplehurst Farm (Peter Gebbie)

1. Description of facility attached
2. Fuel type: manure, whey by-products
3. Nameplate generation: 150 kW
4. Initial commercial operation date: July 12, 2012
5. Date began operation: July 12, 2012

MAPLEHURST FARM DESCRIPTION OF PROJECT

Background

Peter and Sandra Gebbie, owners and operators of Maplehurst Farm (the "Applicant") placed in service an anaerobic digester system (the "System") with a nameplate capacity rating of 150 kW. The System constitutes an open-loop biomass facility under Section 45 of the Internal Revenue Code, and therefore is specified energy property eligible for the Section 1603 Treasury Grant.

The System digests manure from an existing dairy herd; produces biogas; combusts the biogas to generate renewable electrical energy on a continuous basis; and utilizes digester effluent as crop fertilizer and cow bedding material. The System was designed and installed by RCM International, LLC ("RCM") of Berkeley, California.

Detailed System Description

The System collects manure from cows into a large airtight concrete tank with a flexible rubber cover *and holds it there for about three weeks. Bacteria present in the manure will "digest" the manure* much like a cow's stomach digests feed. Biogas, produced by the bacterial breakdown of the manure, will build up in the tank and a pipe will deliver it to a genset, where it will be burned to make electricity.

The feedstock for the System is the manure produced by the cows owned by Maplehurst Farm (the "Farm"). Cow manure is a renewable resource and will be available as feedstock 24 hours per day for as long as the dairy run by the Farm remains in operation. The energy contained in the manure is that which remains from the feed given to the cows after they have extracted what they need to produce milk, and for their own growth and sustenance. The energy in the feed is captured solar energy - hence the renewable nature of the electricity produced in the process.

As noted, manure will be available as feedstock for the System on a continuous basis. Unprocessed manure scraped from the dairy barns is diverted to a reception pit where it is mixed and then pumped to the digester on a regular basis throughout the day so as to avoid any potential shocks to the system.

Manure in the digester tank is mixed and heated to a temperature of 100 degrees Fahrenheit, about the same temperature as a cow's stomach, and therefore the optimum temperature for the growth of beneficial bacteria. Note that reclaimed heat from the System will provide more than enough heat necessary to raise the manure to 100 degrees so no additional energy input is required. The first stage *of the two-stage digestion process is designed to facilitate the growth of acid forming bacteria. These bacteria break down the complex organic plant wastes found in the raw manure into volatile fatty acids and acetic acid.*

During the second digestion stage, the colonization of slower growing methanogenic (or methane producing) bacteria is encouraged with continued digester heating. The optimum storage time for the methanogenic process to occur is 20 days, and the digester has been sized accordingly. Methanogenic bacteria convert the volatile fatty acids and acetic acid produced in the first stage of the digester into biogas. Digester biogas typically consists of 60% methane (CH₄) and 40% carbon dioxide (CO₂).

After the methanogenic process is complete, digester effluent gravity flows to an effluent pit, and is then pumped to a mechanical liquid/solid separator. The Farm uses separated solids from the mechanical separator as cow bedding material, thereby reducing costs for sawdust for cow bedding. Any unused solids are either land applied or sold to other farms for use as bedding. The liquid from the mechanical separator gravity flows to the existing manure storage lagoon and is land applied using current Farm practices. The methane rich biogas is collected from the digester vessel, cooled to precipitate out excess moisture, and utilized to fuel the combined heat and power genset. The System generates 150kW of renewable electrical energy on a continuous basis.

Subject: RE: Air approval letter
From: Hollingsworth, Jay (Jay.Hollingsworth@state.vt.us)
To: psgebbie@yahoo.com;
Date: Friday, December 6, 2013 8:07 AM

Hi Sandra-

Thank you for the email notifying the Air Quality and Climate Division (Agency) of the change in regard to your methane digester engine size. This is a small enough change that you can use this acknowledgement email as approval for the change. We will make note in our database that the originally sized 100 kW engine has been not been installed and a 150 kW engine has been installed instead. The Agency is in the process of potentially changing the registration requirements for projects such as yours. At this time, you can continue not to register the emissions from your engine. If the status changes, I will be sure to touch base with you in the future. If you have any additional questions, don't hesitate to contact me.

Thank you,

Jay

Jay Hollingsworth, Environmental Engineer



DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Air Quality and Climate Division

One National Life Drive | Davis (North) Building 2nd Floor | Montpelier, VT 05620-3802

Telephone: 802-272-3006 | jay.hollingsworth@state.vt.us | <http://www.anr.state.vt.us/air/>

From: Sandy Gebbie [mailto:psgebbie@yahoo.com]
Sent: Saturday, November 30, 2013 8:50 AM
To: Hollingsworth, Jay
Subject: Air approval letter

Jay: Following up on our telephone conversation of last week, I am writing to request a letter of approval for our methane digester. We originally received a letter from Richard Valentinetti dated April 2010 that stated we did not require an Air Pollution Control permit under the following conditions:

- operating a 100 kW internal combustion engine
- any gas not combusted in engine is routed to a back up boiler
- register its air emissions with Agency annually

Since this letter was written, the operation actually changed to include a 150 kW engine with a flare as backup. I am requesting a letter of approval from ANR for our current and operating methane digester. Also, could you please advise me how to register the digester's emissions on an annual basis? Is there a form I need to use for this or a specific individual to contact and what information will be required? Thanks so much for your help. Sandy Gebbie

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7797

Application of Peter Gebbie for an Amended)
Certificate of Public Good authorizing the)
installation and operation of a 150 kW)
agricultural-methane electrical generating facility)
pursuant to 30 V.S.A. § 8007(a))



Order entered: 12/19/2012

ORDER RE: AMENDED CERTIFICATE OF PUBLIC GOOD

I. INTRODUCTION

This case involves a petition filed by Peter Gebbie requesting an amendment to his Certificate of Public Good ("CPG") under 30 V.S.A. § 248 authorizing the installation and operation of a 150 kW agricultural-methane electrical generating facility pursuant to 30 V.S.A. § 8007(a). In today's Order, we grant Mr. Gebbie's request to allow the importation of up to four truckloads of off-farm feedstock per week and the utilization of that off-farm feedstock in the Project's digester, subject to approval from the Agency of Agriculture, Food and Markets ("AAFM") and the Agency of Natural Resources ("ANR"), as necessary.

II. PROCEDURAL HISTORY

On October 27, 2011, the Public Service Board ("Board") granted Peter Gebbie a CPG authorizing the installation and operation of a 150 kW agricultural-methane electrical generating facility (the "Project"), to be located at the Maplehurst Farm ("Farm"), Greensboro, Vermont, subject to certain conditions, including Condition 3, which states that the Project "shall not employ off-farm feedstock, absent further approval from the Board."

On October 23, 2012, Mr. Gebbie filed a petition to amend his CPG to allow the importation of up to four truckloads of off-farm feedstock per week and the utilization of that off-farm feedstock in the Project's digester, subject to approval from AAFM and ANR, as necessary. The petition was accompanied by the prefiled testimony of Mr. Gebbie.

On October 24, 2012, Mr. Gebbie filed corrections to his prefiled testimony.

On November 2, 2012, the Clerk of the Board issued a memorandum seeking comments regarding the requested amendment.

On November 26, 2012, the Department of Public Service ("Department") and AAFM filed comments supporting the requested amendment.

No other comments were received regarding Mr. Gebbie's petition.

III. FINDINGS AND DISCUSSION

Findings

1. Mr. Gebbie now proposes to employ off-farm feedstock to increase the electrical output and income generated by the Project. In no event, however, will the Project's output exceed 150 kW. Gebbie pf. at 2; letter of November 26, 2012, from the Department, to Susan Hudson, Clerk of the Board.

2. The Project's digester has not been performing as anticipated, while exclusively using manure produced on the Farm, and the digester is at risk of stopping during the cold weather months without the addition of more potent substrate, such as food waste. Gebbie pf. at 2-3.

3. The Project will import no more than four tractor trailer loads of off-farm feedstock per week. Gebbie pf. at 2-4.

4. The imported feedstock will be stored in the Project's existing, covered storage tank. The imported feedstock will remain in the tank for no more than seven days before it is pumped directly into the digester. After the digestion process is complete, the liquid effluent from all of the combined feedstock will be spread as fertilizer. Gebbie pf. at 3.

5. The Project has not established a source of off-farm feedstock, but expects that any imported feedstock will be pre-consumer food waste from produces within 100 miles of the Farm. Gebbie pf. at 3-4.

6. The importation of off-farm feedstock will not produce undue air pollution. The truck deliveries associated with the importation of off-farm feedstock will incrementally increase noise from the Project, but will not create undue noise within the context of the existing farmyard. In addition, the off-farm feedstock will not produce noticeable odors within the context of the

existing farmyard because the waste will be stored for less than one week in a covered storage tank. Gebbie pf. at 6.

7. The Farm operates under a Medium Farm Operation General Permit issued by AAFM and has a required nutrient management plan. The Farm is currently in good regulatory standing and the Farm's nutrient management plan has the capacity to accept the proposed off-farm feedstock. Letter of November 26, 2012, from AAFM, to Susan Hudson, Clerk of the Board.

Discussion

The Board's October 27 Order included the following discussion regarding the Project's use of feedstock from outside sources:

The Applicant did not state whether he intended to employ feedstock from outside sources for the proposed agricultural-methane electrical generating facility. Any potential use and storage of off-farm feedstock for such projects raises concerns with regard to transportation and storage and handling. Therefore, considering that the Applicant did not propose employing off-farm feedstock for the project or discuss the potential impacts of off-farm feedstock on the substantive criteria of Section 248, we are including a condition that prohibits the proposed agricultural-methane electrical generating facility from employing off-farm feedstock unless Mr. Gebbie receives specific approval from the Board in the future to do so.¹

Mr. Gebbie now proposes to import off-farm feedstock for the Project and filed a petition and testimony addressing the potential impacts of this importation on the substantive criteria of 30 V.S.A. § 248. Based on the testimony of Mr. Gebbie and the letters of support filed by the Department and AAFM, the Board concludes that, pursuant to 30 V.S.A. § 248, an amended CPG should be issued without further investigation or hearing, replacing Condition 3 of Mr. Gebbie's existing CPG with the following language:

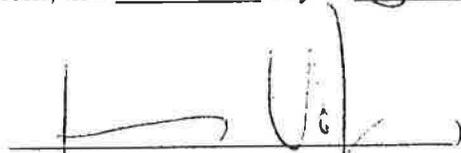
The agricultural-methane electrical generating facility is permitted to import up to four tractor trailer loads of off-farm feedstock per week to employ in the digester. Mr. Gebbie shall: (a) ensure that at all times, the amount of on-farm feedstock exceeds the off-farm feedstock used in the digester; (b) ensure that at least fifty-one percent of feedstock shall be derived from on-site agricultural operations; (c) obtain all necessary permits or approvals as required by ANR and AAFM; (d) except for testing purposes, if using off-farm food waste, obtain a Solid Waste Management Certification from ANR's Waste Management Division; and (e) except for testing purposes, if using off-farm liquid food-processing wastes,

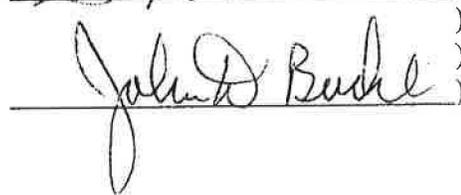
1. Docket 7797, Order of 10/27/11 at 2-3.

only accept such wastes from generators that have received an Indirect Discharge Permit from ANR's Wastewater Management Division. All off-farm feedstock shall be immediately transferred to a covered storage tank and stored in the tank for no more than seven days before being pumped directly into the digester.

SO ORDERED.

Dated at Montpelier, Vermont, this 19th day of December, 2012.


 _____)

 _____)

 _____)

PUBLIC SERVICE
BOARD
OF VERMONT

OFFICE OF THE CLERK

FILED: December 19, 2012
ATTEST: Susan M. Hupfen
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)

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7797

Application of Peter Gebbie for an Amended)
Certificate of Public Good authorizing the)
installation and operation of a 150 kW)
agricultural-methane electrical generating facility)
pursuant to 30 V.S.A. § 8007(a))

Entered: 12/19/2012

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

IT IS HEREBY CERTIFIED that the Public Service Board of the State of Vermont ("Board") this day found and adjudged that the installation and operation of the agricultural-methane electrical generating facility proposed by Peter Gebbie to be located at 2183 Gebbie Road, Greensboro, Vermont, will promote the general good of the State of Vermont, and an Amended Certificate of Public Good is hereby issued to Peter Gebbie, subject to the following conditions:

1. Construction, operation and maintenance of the project shall be in accordance with the plans and evidence submitted in this proceeding. Any substantial change from these plans must be approved by the Board. Failure to obtain advance approval from the Board for a material deviation from the approved plans may result in the assessment of a penalty pursuant to 30 V.S.A. Sections 30 and 247.

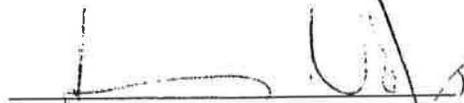
2. The agricultural-methane electrical generating facility shall comply with applicable existing and future statutory requirements and Board Rules and Orders.

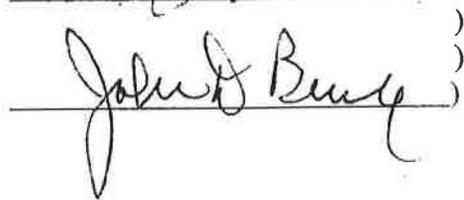
3. The agricultural-methane electrical generating facility is permitted to import up to four tractor trailer loads of off-farm feedstock per week to employ in the digester. Mr. Gebbie shall: (a) ensure that at all times, the amount of on-farm feedstock exceeds the off-farm feedstock used in the digester; (b) ensure that at least fifty-one percent of feedstock shall be derived from on-site agricultural operations; (c) obtain all necessary permits or approvals as required by the Agency of Natural Resources ("ANR") and the Agency of Agriculture, Food and Markets ("AAFMM"); (d) except for testing purposes, if using off-farm food waste, obtain a Solid Waste Management Certification from ANR's Waste Management Division; and (e) except for testing purposes, if using off-farm liquid food-processing wastes, only accept such wastes from generators that have received an Indirect Discharge Permit from ANR's Wastewater Management Division. All off-

farm feedstock shall be immediately transferred to a covered storage tank and stored in the tank for no more than seven days before being pumped directly into the digester.

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

DATED at Montpelier, Vermont, this 19th day of December, 2012.


 _____)

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PUBLIC SERVICE
BOARD
OF VERMONT

OFFICE OF THE CLERK

Filed: December 19, 2012

Attest: Juan M. Huber
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)

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7797

Application of Peter Gebbie for a certificate of public)
good authorizing the installation and operation of a)
150 kW agricultural-methane electrical generating)
facility pursuant to 30 V.S.A. § 8007(a))

Order entered: 10/27/2011

I. INTRODUCTION AND PROCEDURAL HISTORY

This case involves an application filed by Peter Gebbie ("Applicant"), on August 18, 2011, requesting a certificate of public good ("CPG"), pursuant to 30 V.S.A. §§ 219a and 8007(a) and Vermont Public Service Board ("Board") Rule 5.100, for a 150 kW agricultural-methane electrical generating facility (the "Project").

Pursuant to 30 V.S.A. § 8007(a), all small renewable energy plants of 150 kW or less in capacity may utilize the streamlined application and interconnection procedures developed for net metering systems under 30 V.S.A. § 219a and Board Rule 5.100.

Notice of the application has been sent to all parties as specified in the Board's Rule 5.100. The notice stated that any party wishing to submit comments or request a hearing in this matter needed to file comments with the Board within ten (10) working days of the date that the notice of the application was sent.

On August 31, 2011, Susan Cammer filed a letter with the Board expressing a concern about the Project's potential to produce noise that would be audible from her home. On October 4, 2011, the Board issued a memorandum asking the Applicant to respond to Ms. Cammer's concerns. The Applicant did not file a response; however, on October 14, 2011, Ms. Cammer filed a letter stating that, after discussing the details of the Project with the Applicant, she withdrew her earlier concerns and supported the Project.

No other comments have been received from any other parties or interested persons.

The Board has reviewed the application and accompanying documents and agrees that, pursuant to 30 V.S.A. §§ 219a, 248, 8007(a) and Board Rule 5.100, a CPG should be issued without further investigation or hearing.

II. FINDINGS

Based upon the application and its accompanying documents, the Board makes the following findings in this matter.

1. The proposed project will be on property owned by Applicant and located at 2183 Gebbie Road, Greensboro, Vermont. Application at Section 1.
2. The proposed generating facility is to be erected within a utility building located on the Maplehurst Farm's farmstead. Application at Section 6.
3. The proposed project consists of an agricultural-methane digester and an induction generator with a system-rated output of 150 kW AC. The facility will be interconnected with the Town of Hardwick Electric Department's electrical distribution system. Application at Section 6 and Exhibit 4.
4. The proposed project is being developed under the Sustainably Priced Energy Enterprise Development ("SPEED") standard-offer program. *See* Letter from Ebenezer Punderson, Esq., on behalf of Peter Gebbie, to Susan Hudson, Clerk of the Board, dated August 18, 2011.
5. Applicant has certified that the project is in compliance with all of the provisions of Section 3 of the application. Based on these submissions, we conclude that the project does not raise a significant issue with respect to the environmental criteria of 30 V.S.A. § 248. Application at Section 3.
6. Applicant has certified compliance with the insurance requirements as set forth in Section 3 of the application. Application at Section 3.

Discussion

The Applicant did not state whether he intended to employ feedstock from outside sources for the proposed agricultural-methane electrical generating facility. Any potential use and storage of off-farm feedstock for such projects raises concerns with regard to transportation and storage and handling. Therefore, considering that the Applicant did not propose employing

off-farm feedstock for the project or discuss the potential impacts of off-farm feedstock on the substantive criteria of Section 248, we are including a condition that prohibits the proposed agricultural-methane electrical generating facility from employing off-farm feedstock unless the Applicant receives specific approval from the Board in the future to do so.

III. CONCLUSION

Based upon the findings and evidence, the proposed small renewable energy project meets the requirements of Board Rule 5.100, the application does not raise a significant issue with respect to the substantive criteria of 30 V.S.A. § 248, and the proposed project will promote the general good of the State.

IV. ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that:

1. The proposed agricultural-methane electrical generating facility, in accordance with the evidence and plans submitted in this proceeding, will promote the general good of the State of Vermont pursuant to 30 V.S.A. §§ 219a, 248, and 8007(a), and a certificate of public good to that effect shall be issued in this matter.
2. Construction, operation, and maintenance of the proposed project shall be in accordance with the plans and representations as submitted in this proceeding. Any material deviation from these plans must be approved by the Board.
3. The agricultural-methane electrical generating facility shall comply with applicable existing and future statutory requirements and Board Rules and Orders.
4. The agricultural-methane electrical generating facility shall not employ off-farm feedstock, absent further approval from the Board.

DATED at Montpelier, Vermont, this 27th day of October, 2011.

s/ James Volz)

) PUBLIC SERVICE

s/ David C. Coen)

) BOARD

s/ John D. Burke)

) OF VERMONT

A True Copy
OFFICE OF THE CLERK

Filed: October 27, 2011

Attest: Judith C. Whiskey
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)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 7797

Application of Peter Gebbie for a certificate of public)
good authorizing the installation and operation of a)
150 kW agricultural-methane electrical generating)
facility pursuant to 30 V.S.A. § 8007(a))

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

IT IS HEREBY CERTIFIED that the Public Service Board of the State of Vermont ("Board") this day found and adjudged that the installation and operation of the agricultural-methane electrical generating facility proposed by Peter Gebbie to be located at 2183 Gebbie Road, Greensboro, Vermont, will promote the general good of the State, subject to the following conditions:

1. Construction, operation and maintenance of the project shall be in accordance with the plans and evidence submitted in this proceeding. Any material or substantial change in the project is prohibited without prior Board approval.
2. The agricultural-methane electrical generating facility shall comply with applicable existing and future statutory requirements and Board Rules and Orders.
3. The agricultural-methane electrical generating facility shall not employ off-farm feedstock, absent further approval from the Board.

DATED at Montpelier, Vermont, this 27th day of October, 2011.

s/ James Volz)
) PUBLIC SERVICE
) BOARD
s/ David C. Coen)
) OF VERMONT
) s/ John D. Burke)

A True Copy
OFFICE OF THE CLERK

Filed: October 27, 2011

Attest: 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)

Air Pollution Control Division
103 South Main Street, 3 South
Waterbury, VT 05671-0402Tel: 802-241-3851
Fax: 802-241-2590

April 5, 2010

Peter Gebbie
The Gebbies' Maplehurst Farm
2183 Gebbie Road
Greensboro, VT 05841

Subject: Biogas-to-Energy Project – Air Permit not Required

Dear Mr. Gebbie:

The Vermont Agency of Natural Resources, Air Pollution Control Division ("Agency") received a letter on February 2nd from the Gebbie's Maplehurst Farm located on Gebbie Road in the town of Greensboro, Vermont. The letter requested approval for the installation and operation of a biogas-to-energy facility consisting of an anaerobic digester, a 100 kW internal combustion engine and a 1.1 MMBtu/hr boiler to be installed and operated at Maplehurst Farm. The Agency requested documentation to ensure adequate stack heights, presence of a back-up biogas combustion device in the event the internal combustion engine is off-line and adequate emissions test data to ensure good combustion of the biogas. On March 24th the requested documentation was received from the Gebbie's Maplehurst Farm. The Agency has determined that the proposed engine, exhaust gas stack heights and back-up boiler size and configuration meet the Agency's requirements and consequently, an Air Pollution Control Permit is not required for the Facility at this time. This determination is based on the information submitted and provided the following conditions are met:

- (1) Maplehurst Farm shall only install and operate a MAN Model E 0836 LE 202 100 kW internal combustion engine. Maplehurst Farm shall not install an alternative engine without prior written approval from the Agency. The engine shall be maintained in good working order at all times and operated and maintained in accordance with the manufacturer's operation and maintenance recommendations.
- (2) Maplehurst Farm shall design and operate the biogas-to-energy Facility in such a manner that any biogas which is not combusted in the engine is routed to the back-up boiler. All elements of the boiler shall be maintained in good working order at all times and operated and maintained in accordance with the manufacturer's operation and maintenance recommendations.



- (3) Maplehurst Farm shall register its air emissions with the Agency annually in accordance with Subchapter VIII of the *Vermont Air Pollution Control Regulations*. Annual registration is required for all facilities that emit more than five (5) tons of emissions annually. Your facility is estimated to exceed five (5) tons if the engine is operated for more than 8,500 hours per year.

Should Maplehurst Farm alter the proposed biogas-to-energy project in any way from that presented to the Agency, such as by combusting an alternate fuel, altering the proposed engine or back-up boiler, or increasing the system capacity, Maplehurst Farm shall notify the Agency prior to making such changes so that a new determination for the need for an Air Permit can be made. If you have any questions, feel free to contact me at any time.

Sincerely,



Richard Valentinetti, Director
Air Pollution Control Division
(Dick.Valentinetti@state.vt.us)

Enclosure

cc: Mike Raker, Agricultural Energy Consultants, 781 Holt Road Plainfield, VT 05667

RAV/JH:jh
A1: Greensboro

Hardwick Electric Department

PO Box 516

Hardwick, Vermont 05843

(802) 472-5201 - (802) 472-3388

Fax (802) 472-6769

August 21, 2012

Peter & Sandra Gebbie
Gebbies' Maplehurst Farm
2183 Gebbie Road
Greensboro, VT 05841

Dear Peter & Sandra,

The Hardwick Electric Department (HED) has successfully commissioned the Maplehurst Farms' generator and associated interconnection equipment on July 11, 2012. HED has also executed and Interconnection Agreement and Operating Protocol Agreement with Maplehurst Farms.

HED has paralleled the generator to the power system grid on that date and by doing so granted Permission to Operate.

Respectfully submitted,



Eric C. Werner
General Manager, Hardwick Electric Department

RECEIVED
3/7/2014

REVISED GENERATION INTERCONNECTION AGREEMENT

BETWEEN

HARDWICK ELECTRIC DEPARTMENT

AND

MAPLEHURST FARM

FOR THE

MAPLEHURST FARM

RENEWABLE ELECTRIC GENERATING PROJECT

The purpose of this Agreement is to allow the operation of electric generation facilities interconnected with and operated in parallel with Hardwick Electric Department's electrical system.

Effective Date:

7/11/2012

HARDWICK ELECTRIC DEPARTMENT
GENERATION INTERCONNECTION AGREEMENT
MAPLEHURST FARM RENEWABLE ELECTRIC GENERATING PROJECT

This AGREEMENT ("Agreement") made as of 7/11/2012 ("Effective Date"), by and between HARDWICK ELECTRIC DEPARTMENT ("HARDWICK"), Hardwick, Vermont, a municipal electric utility, and MAPLEHURST FARM, ("Non-Utility Generator" or "NUG"), a Vermont corporation (individually a "Party" and together the "Parties").

WITNESSETH:

WHEREAS, the NUG proposes to own and operate an approximately 150 kW electric generating facility that utilizes the anaerobic digestion of agricultural products, byproducts or wastes to produce electricity (the "Farm-Generation Facility" or "Facility") located on MAPLEHURST FARM in the Town of Greensboro, Vermont, for the purpose of generating electric power; and

WHEREAS, under the terms contained in this Agreement the NUG desires to operate the Farm-Generation Facility interconnected with and in parallel with HARDWICK's electric system;

NOW, THEREFORE, in consideration of the mutual promises herein contained, the Parties hereto agree that the following terms and conditions shall govern the operation and maintenance of the interconnection of the NUG's Farm-Generation Facility with HARDWICK's electric system.

1. DEFINITIONS

For the purposes of this Agreement, these terms shall have the following meanings:

- a. Interconnection Point shall be the point where HARDWICK's transmission or distribution system connects with the NUG's facility, specifically the Greensboro circuit on Gebbie Road in Greensboro, Vermont, to allow the NUG's generation equipment to operate interconnected with and in parallel with HARDWICK's electric system. The interconnection point shall be on the primary (7,200 volt) bushings of the NUG 225 kVA padmount transformer.
- b. Prudent Engineering and Operating Practices shall mean the practices, methods and acts (including, but not limited to, the practices, methods and acts engaged in or approved by a significant portion of the electric utility industry) that at a particular time, in the exercise of reasonable judgment in light of the facts known or that should have been known at the time a decision was made, would have been expected to accomplish the desired result in a manner consistent with law or regulation including, but not limited to the National Electric Safety Code, the National Electric Code and other applicable codes, reliability, safety, environmental protection, economy and expedition. With respect to the Facility, Prudent Engineering and Operating Practices include but are not limited to taking reasonable steps to ensure that:
 - (1) Preventative, routine and non-routine maintenance and repairs are performed on a basis that ensures reliable long-term and safe operation, and are

performed by knowledgeable, trained and experienced personnel utilizing proper equipment and tools.

- (2) Equipment is not operated in a reckless manner, or in a manner unsafe to the public or the environment.

2. DESCRIPTION OF THE FACILITY AND THE SITE

The Facility shall have the characteristics as described in Section 5, "Generation and Interconnection Facilities," and Attachment B, "Generator Operator Protocol."

3. GOVERNMENTAL AND OR ELECTRIC ACTIONS

NUG and HARDWICK shall at all times comply with all valid and applicable laws, rules, regulations, orders and other actions of any federal, state, or local authority or the New England Power Pool, ISO New England, the North American Electric Reliability Corporation, or any successors in interest to any of those entities.

4. TERM; SCOPE AND LIMITATIONS OF AGREEMENT

- 4.1 This Agreement shall become effective upon execution and satisfaction of the conditions precedent set forth herein, and shall continue in full force and effect for as long as the generator owned by the NUG is connected to the distribution facilities of HARDWICK.
- 4.2 This Agreement governs the terms and conditions under which the Facility will interconnect to, and operate in parallel with, HARDWICK's electric system.
- 4.3 This Agreement does not constitute an agreement to purchase or transmit NUG's power.
- 4.4 Nothing in this Agreement is intended to affect any other agreement between HARDWICK and NUG. However, in the event that the provisions of this Agreement are in conflict with the provisions of any existing or future HARDWICK tariff, the HARDWICK tariff shall control.
- 4.5 Responsibilities of the Parties
 - a. The Parties shall perform all obligations of this Agreement in accordance with all applicable laws and regulations, and operating requirements.
 - b. NUG shall arrange for the construction, interconnection, operation and maintenance of the Facility in accordance with the applicable manufacturer's recommended maintenance schedule and Prudent Engineering and Operating Practices, in accordance with this Agreement.
 - c. HARDWICK shall construct, own, operate, and maintain its electric system and its facilities for interconnection ("Interconnection Facilities") in accordance with this Agreement.

- d. NUG agrees to arrange for the construction of the Facility or systems in accordance with applicable specifications that meet or exceed the National Electrical Code, the American National Standards Institute, IEEE, Underwriters Laboratories, and any operating requirements.
- e. Each Party shall operate, maintain, repair, and inspect, and shall be fully responsible for the facilities that it now or subsequently may own unless otherwise specified in the Exhibits to this Agreement and shall do so in accordance with Prudent Engineering and Operating Practices.
- f. Each Party shall be responsible for the safe installation, maintenance, repair and condition of their respective lines and appurtenances on their respective sides of the interconnection.

4.6 Termination

No termination shall become effective until the Parties have complied with all applicable laws and regulations applicable to such termination.

- a. NUG may terminate this Agreement at any time by giving the Interconnecting Utility thirty (30) calendar days' written notice.
- b. Either Party may terminate this Agreement pursuant to Article 4.7(c).
- c. Upon termination of this Agreement, the Facility will be disconnected from the electric system. The termination of this Agreement shall not relieve either Party of its liabilities and obligations, owed or continuing at the time of the termination.
- d. The provisions of this Article shall survive termination or expiration of this Agreement.

4.7 Default

- a. Default exists where a Party has materially breached any provision of this Agreement, except that no default shall exist where a failure to discharge an obligation (other than the payment of money) is the result of a Force Majeure Event as defined in this Agreement, or the result of an act or omission of the other Party.
- b. Upon a default, the non-defaulting Party shall give written notice of such default to the defaulting Party. The defaulting Party shall have sixty (60) calendar days from receipt of the default notice within which to cure such default; provided however, if such default is not capable of cure within sixty (60) calendar days, the defaulting Party shall commence efforts to cure within twenty (20) calendar days after notice and continuously and diligently pursue such cure within six months from receipt of the default notice; and, if cured within such time, the default specified in such notice

shall cease to exist.

- c. If a default is not cured as provided in this Article, or if a default is not capable of being cured within the period provided for herein, the non-defaulting Party shall have the right to terminate this Agreement by written notice at any time until cure occurs, and be relieved of any further obligation hereunder and, whether or not that Party terminates this Agreement, to recover from the defaulting Party all amounts due hereunder, plus all other damages and remedies to which it is entitled at law or in equity. The provisions of this Article will survive termination of this Agreement.

5. GENERATION AND INTERCONNECTION FACILITIES

The NUG is responsible for the design of these interconnection facilities and HARDWICK has the right to approve the design of the interconnection facilities. HARDWICK shall own and have control over all equipment on the HARDWICK side of the interconnection. Should a dispute concerning the design of the interconnection facilities arise, either Party may initiate action pursuant to Section 14, "Dispute Resolution." These requirements are solely for the protection of HARDWICK facilities. HARDWICK takes no responsibility for the adequacy of the required interconnection equipment in protecting the Facility.

- a. Generation equipment –

Generator	KVA	RPM	KW	Volts	Pf
1 Methane	150	1200	150	240	1.00

- b. The NUG shall be responsible for the cost of installing transformation and associated facilities necessary to convert the output of the Facility to the voltage, frequency, and phase of HARDWICK' electric system at the designated Interconnection Point. HARDWICK shall be responsible for maintaining the equipment in good working order, consistent with Prudent Engineering and Operating Practices while these facilities are interconnected with HARDWICK' electric system.
- c. The NUG shall be responsible for the cost of installing an approved, visible, lockable overcurrent protective device (recloser) on the 7,200 volt side of the NUG transformers. In accordance with applicable standards, the disconnect device shall have restricted access by way of a lock to which HARDWICK maintains the key. It shall be accessible to and available for control only by HARDWICK personnel at all times following notification of the NUG, except when such notification would tend to prolong a dangerous situation. When HARDWICK has operated the overcurrent device, the NUG SHALL NOT OPERATE the device. HARDWICK is solely responsible for the operation of the device and reestablishment of the connection. HARDWICK shall be responsible for maintaining the equipment in good working order, consistent with Prudent Engineering and Operating Practices while these facilities are interconnected with HARDWICK' electric system.

- d. The NUG shall install, at its' cost, relaying and protective devices that will automatically and physically disconnect the NUG's generation equipment from HARDWICK' electric system whenever required by a fault or abnormal frequency or voltage condition on the HARDWICK' electric system. Such devices shall automatically reconnect the Facility to HARDWICK' electric system by automatic synchronizing after such an occurrence upon restoration of normal status for not less than two (2) minutes.

The NUG owned and operated protective equipment shall include:

- Circuit Breaker (52)
- Over/Under Voltage Relays (27 / 59)
- Over/Under Frequency Relay (81 O/U)
- Unbalanced HARDWICK System Fault Detection Relay (59N),
instantaneous overcurrent (50), time overcurrent (51), auto-synchronism
check (25C) and reverse power (32)
- and programming for automatic synchronizing

The NUG shall be responsible for maintaining the equipment in good working order, consistent with Prudent Engineering and Operating Practices while these facilities are interconnected with HARDWICK's electric system.

- e. The NUG shall install, at its cost, such reactive power generating facilities as necessary so that the Facilities operate within the power factor requirements specified in Sections 5(b) and 6. The NUG shall be responsible for maintaining the equipment in good working order, consistent with Prudent Engineering and Operating Practices while these facilities are interconnected with HARDWICK's electric system.
- f. Consistent with PSB Rule 5.508(E), the NUG shall be responsible for the cost of having metering equipment adequate to accurately measure and record capacity and energy delivered in a manner consistent with provisions for payment. HARDWICK shall be responsible for maintaining the equipment in good working order, consistent with Prudent Engineering and Operating Practices while these facilities are interconnected with HARDWICK's electric system. At the expense of the NUG, a communication circuit shall be installed and operated to allow the remote interrogation of the meter.
- g. At some point during the term of this agreement, HARDWICK may determine it needs to install telemetry equipment. HARDWICK and NUG agree to enter into good faith negotiations for the installation of such equipment.

- h. The NUG is responsible to make any future enhancements to its facilities that may become necessary to operate the NUG's generation facility in a safe and prudent manner due to improvements and/or changes made to the HARDWICK's electric system. Failure to do so will result in disconnection of the NUG's generation facility from the HARDWICK's system.

6. ELECTRIC CHARACTERISTICS

- a. The NUG shall generate electricity at its Facility in such a manner that it is compatible with HARDWICK's electrical system at the interconnection point.
- b. The NUG shall produce power, from asynchronous (induction) generator, at power factor levels between 0.98 leading and 0.98 lagging at the interconnection point, unless otherwise requested, in writing, from HARDWICK.
- c. Should the NUG fail to meet the power factor levels required under this section of the Agreement, in addition to any other remedies that may be available, the NUG shall pay HARDWICK a charge for excess reactive power delivered by HARDWICK to the NUG. Excess reactive power shall be the positive value by which the maximum kvar shall exceed 50% of the maximum kW recorded during the same monthly billing period. The payment of such a reactive power charge shall be based on the tariff discussed in Section 11.

7. TESTING AND MAINTENANCE OF INTERCONNECTION FACILITIES

- a. Prior to the initial closing of the interconnection and at least every five years thereafter, the NUG shall have all interconnection equipment identified in Sections 5 (d) tested to verify that it meets the specifications and is functioning properly. The NUG shall notify HARDWICK in writing of the results of the testing. HARDWICK reserves the right to hire an independent consultant to confirm and verify the test results. The NUG shall reimburse HARDWICK for the costs associated with the verification of the testing.
- b. HARDWICK shall have the right, at all reasonable times and upon reasonable notice to the NUG, to inspect the NUG's generation and interconnection facilities, to conduct such operating tests as are necessary to ascertain that the generation, protection equipment, interconnection, and metering facilities function properly, to review any data collected from such facilities, and to independently monitor the energy delivered to the HARDWICK electric system.
- c. Any inspection, operational testing, or witnessing of testing by HARDWICK under the provisions of this Agreement shall not be construed as any warranty of safety, durability or reliability of the NUG's generation interconnection. HARDWICK shall not, by reason of such inspection or failure to inspect, be responsible for the strength, safety, design, adequacy, or capacity of the NUG's interconnection equipment.
- d. The NUG shall be responsible for the maintenance of the interconnection facilities owned by it and for keeping the same in good working order while interconnected with the HARDWICK system. Maintenance by the NUG shall include regularly

scheduled testing of relaying and protective devices in a manner acceptable to HARDWICK as recommended by the manufacturer of such equipment and consistent with Prudent Engineering and Operating Practice. If required, the NUG shall be responsible for the cost for HARDWICK to perform maintenance and testing on HARDWICK owned protective devices necessary for interconnection of the NUG generation facility to the HARDWICK electric system and for periodic testing of the metering equipment.

8. DISCONNECTION OF INTERCONNECTION FACILITIES

- a. **Emergency Conditions:** HARDWICK shall have the right to immediately and temporarily disconnect the NUG's Facility without prior notification in cases where, in the reasonable judgment of HARDWICK, continuance of such service to the Facility is imminently likely to: (1) endanger persons or damage property; or (2) cause a material adverse effect on the integrity or security of, or damage to, the HARDWICK electric system or to the electric system of others to which the HARDWICK electric system is directly or indirectly connected. A NUG representative shall notify HARDWICK when the NUG becomes aware of an emergency condition that affects the Facility's generators that may reasonably be expected to affect the HARDWICK electric system. To the extent information is known, the notification shall describe the emergency condition, the extent of the damage or deficiency, or the expected effect on the operation of both Parties' facilities and operations, its anticipated duration and the necessary corrective action. HARDWICK shall notify the NUG within twenty-four (24) hours after the disconnection.
- b. **Routine Maintenance, Construction and Repair:** HARDWICK shall have the right to disconnect the NUG's Facility from the HARDWICK electric system when necessary for routine maintenance, construction and repairs on the HARDWICK electric system. See the details found the **Generation Operation Protocol (Attachment B)** below regarding routine line maintenance and emergency line work disconnect procedures. If the NUG requests disconnection by HARDWICK at the Recloser, the NUG will provide a minimum of five business (5) days notice to HARDWICK. HARDWICKS shall make an effort to schedule such curtailment or temporary disconnection with the NUG.
- c. **Forced Outages:** During any forced outage, HARDWICK shall have the right to suspend interconnection service to effect immediate repairs on the HARDWICK electric system. HARDWICK shall use reasonable efforts to provide the NUG with prior notice. Where circumstances do not permit such prior notice to the NUG, HARDWICK may interrupt interconnection service and disconnect the NUG's Facility from the HARDWICK electric system without such notice.
- d. **Non-Emergency Adverse Operating Effects:** HARDWICK may disconnect the NUG's Facility if the Facility is having an adverse operating effect on the HARDWICK electric system or other of HARDWICK' customers. HARDWICK may disconnect the NUG's Facility if the generator fails to correct such adverse operating effect after written notice has been provided and a minimum of thirty (30) calendar days to correct such adverse operating effect has elapsed, unless such

corrective action cannot reasonably be completed within thirty (30) days, and then the NUG shall have a reasonable amount of time to take such corrective action. HARDWICK shall provide the disconnection no earlier than ten (10) days and no later than seven (7) days prior to the first date on which disconnection may occur.

- e. **Modification of the NUG's Generating Facility:** HARDWICK has the right to immediately suspend interconnection service in cases where material modification to the Facility or interconnection facilities have been implemented without prior written authorization from the Interconnecting Utility.
- f. **Re-connection:** Any curtailment, reduction or disconnection shall continue only for so long as reasonably necessary. The NUG and HARDWICK will cooperate with each other to restore the NUG's generators and the HARDWICK electric system, respectively, to their normal operating state as soon as reasonably practicable following the cessation or remedy of the event that led to the temporary disconnection.
- g. Consistent with Rule 5.509(E), the NUG may file a complaint with the Public Service Board at any time following disconnection to determine whether the Generation Facility should be reconnected to the HARDWICK system.
- h. The NUG retains the option to disconnect temporarily from the HARDWICK system at any time. Such temporary disconnection shall not be a termination of this Agreement unless the NUG exercises its termination rights under this Agreement.

9. INTERRUPTION OF INTERCONNECTION

HARDWICK shall endeavor to make the interconnection under this Agreement as continuous and uninterrupted as it reasonably can. Electric service is subject to variations in its characteristics or interruptions to its continuity. Therefore, the characteristics of the electric service may be varied or such service to the NUG may be interrupted, curtailed, or suspended in the following described circumstances; and the obligations of HARDWICK are subject to such variance, interruption, curtailment or suspension:

- a. When conditions in a part or parts of the interconnected transmission-generation system of which HARDWICK facilities are a part make it appear necessary for the common good; or
- b. When such variance, interruption, curtailment or suspension is caused by war, flood, storm, drought, strike or other cause beyond the control of HARDWICK, or by any cause except willful default on HARDWICK's part.

10. COST REIMBURSEMENT

HARDWICK shall make any necessary changes and improvements to its system to accommodate the interconnection of the Facility or any upgrade of the Facility. HARDWICK shall be responsible for contracting, engineering, design and construction services to complete all of the necessary expansions or upgrades to its system. The NUG shall pay HARDWICK for all reasonable costs incurred by HARDWICK as a result of

the integration of the Facility, any upgrades of the Facility, and the Facility's interconnection onto the HARDWICK system. These costs may include, but are not limited to, the direct cost to upgrade its system and the cost to obtain any necessary regulatory approvals. The NUG shall not be responsible for any of the costs associated with any other upgrades that are not a result of the Facility but are performed concurrently. HARDWICK will invoice the NUG for actual monthly expense that are result of the necessary upgrades. The NUG shall pay such invoices upon receipt. Invoices not paid within 30 days of the invoice date will accrue interest at 1% per month.

11. ELECTRIC SERVICE

Except as otherwise provided for herein, the NUG will receive and pay for electricity from the HARDWICK system in accordance with all relevant terms and conditions in the HARDWICK tariffs for electric service, as filed with the Vermont Public Service Board and as the same shall be modified from time to time.

HARDWICK reserves the right to measure reactive power delivered to the NUG and shall bill for all excess reactive power delivered. At this time, HARDWICK does not have a tariff for reactive power. It is recognized that HARDWICK has the right to establish and publish such a tariff and NUG agrees to abide by such tariff, if applicable.

12. INDEMNIFICATION AND LIMITATION OF LIABILITY

- a. Limitation of Liability. Each Party's liability to the other Party for any loss, cost, claim, injury, liability, or expense, including reasonable attorney's fees, relating to or arising from any act or omission in its performance of this Agreement, shall be limited to the amount of direct damage actually incurred. In no event shall either Party be liable to the other Party for any indirect, special, consequential, or punitive damages, except as specifically authorized by this Agreement.
- b. Indemnity. This provision protects each Party from liability incurred to third Parties as a result of carrying out the provisions of this Agreement. Liability under this provision is exempt from the general limitations on liability found in Article 12(a).
 - i. Each Party shall at all times indemnify, defend, and hold the other Party harmless from, any and all damages, losses, claims, including claims and actions relating to injury to or death of any person or damage to property, demand, suits, recoveries, costs and expenses, court costs, attorney fees, and all other obligations by or to third parties, arising out of or resulting from the indemnifying Party's action or failure to meet its obligations under this Agreement on behalf of the indemnified Party, except in cases of gross negligence or intentional wrongdoing by the indemnified Party.
 - ii. If an indemnified Party is entitled to indemnification under this Article as a result of a claim by a third party, the indemnifying Party shall, after reasonable notice from the indemnified Party, assume the defense of such claim. If the indemnifying Party fails, after notice and reasonable opportunity to proceed under this Article, to assume the defense of such

claim, the indemnified Party may at the expense of the indemnifying Party contest, settle or consent to the entry of any judgment with respect to, or pay in full, such claim.

- iii. If the indemnifying Party is obligated to indemnify and hold the indemnified Party harmless under this Article, the amount owing to the indemnified Party shall be the amount of such indemnified Party's actual loss, net of any insurance or other recovery.
- iv. Promptly after receipt of any claim or notice of the commencement of any action or administrative or legal proceeding or investigation as to which the indemnity provided for in this Article may apply, the indemnified Party shall notify the indemnifying Party of such fact. Any failure of or delay in such notification shall not affect a Party's indemnification obligation unless such failure or delay is materially prejudicial to the indemnifying Party.

13. CONSEQUENTIAL DAMAGES

Neither Party shall be liable under any provision of this Agreement for any losses, damages, costs or expenses for any special, indirect, incidental, consequential, or punitive damages, including but not limited to loss of profits.

14. FORCE MAJEURE

Any delay in or failure of performance by a Party under this Agreement (other than a failure to comply with a payment obligation) shall not be considered a breach of this Agreement if and to the extent caused by events beyond the reasonable control of the Party affected, including, but not limited to, acts of God, embargoes, governmental restrictions, strikes, riots, wars or other military action, civil disorders, rebellion, electric system disturbances, fires, floods, vandalism, or sabotage. Market conditions and or fluctuations (including a downturn of a Party's business) shall not be deemed Force Majeure events. The Party whose performance is affected by such events shall promptly notify the other Party, giving details of the Force Majeure circumstances, and the obligations of the Party giving such notice shall be suspended to the extent caused by the Force Majeure and so long as the Force Majeure continues, and the time for performance of the affected obligation hereunder shall be extended by the time of the delay caused by the Force Majeure event.

15. INSURANCE

NUG shall maintain in force, liability coverage of \$1,000,000 or such other amount that HARDWICK determines in its reasonable judgment to be sufficient to cover the risks associated with operation and maintenance of the facility. Such amount of liability coverage will be reviewed annually by HARDWICK and if the coverage amount is not adequate to cover the risks, HARDWICK shall provide notice to NUG of the amount of the increased liability coverage. NUG shall have sixty (60) days of the notice to adjust liability coverage. NUG may dispute the increased amount in accordance with Section 16 of the Agreement.

If requested by HARDWICK, the NUG shall provide a certificate(s) of insurance, which names HARDWICK as an additional insured and which shall specify the description of operations being covered as an interconnected NUG, or other appropriate language. Updated certificates shall be provided to HARDWICK as requested.

The option of insuring the electrical generating equipment and other customer owned interconnection and related equipment, for physical damage loss et al, shall remain the responsibility of the NUG.

The insurance coverage described above shall be primary to any other coverage available to HARDWICK or to affiliates and shall not be deemed to limit the NUG's liability under this Agreement.

Should NUG fail to provide the insurance required pursuant hereto, nothing herein shall release NUG of the obligation to pay any claims that arise hereunder.

16. DISPUTE RESOLUTION

The NUG and HARDWICK shall attempt in good faith to resolve between themselves any disputes that may arise hereunder. Any dispute arising from or under the terms of this Agreement shall be subject to the dispute resolution procedures contained in Rule 5.500.

17. ASSIGNMENT / SUCCESSORS

Neither the NUG nor HARDWICK may voluntarily assign its rights or delegate its duties under this Agreement or any part thereof, without the written consent of the other, except, in the case of HARDWICK, in connection with the sale, merger, or unbundling of services as a result of legislative and regulatory electric restructuring approved by the Vermont Public Service Board. NUG consents to HARDWICK assigning any of its duties, rights, and responsibilities to VERMONT PUBLIC POWER SUPPLY AUTHORITY. Written notice of any such assignment will be provided to the NUG. No assignment or delegation shall discharge any Party from obligations which shall have accrued under the terms of this Agreement prior to such assignment or delegation, whether such accrual is known or unknown. The NUG shall have the right to assign this Agreement, without the consent of HARDWICK, for collateral security purposes to aid in providing financing for the generation resource.

18. NOTICES

Except as otherwise specified in this Agreement, any notice, demand, or request required or authorized by this Agreement to be given in writing to a Party shall be either personally delivered or mailed postage prepaid to such Party at the following address:

HARDWICK:

**Hardwick Electric Department
123 North Main Street
Hardwick, VT 05450**

NUG:

Maplehurst Farm
2183 Gebbie Road
Greensboro, VT 05841

The designation of such person and/or address may be changed at any time by either Party upon written notice given pursuant to the requirements of this Section

19. APPLICABILITY

This Agreement constitutes the entire understanding between the Parties with respect to the subject matter hereof, supersedes any and all previous understandings between the Parties, and binds and inures to the benefit of the Parties, their successors and assigns

20. WAIVER

No waiver by either Party of the performance of any obligation under this Agreement or with respect to any Default or any other matter arising in connection with this Agreement shall be deemed a waiver with respect to any subsequent performance, default, or matter.

21. MODIFICATION

No modification or waiver of all or any part of this Agreement shall be valid unless it is in writing and signed by both Parties.

22. INTERPRETATION

Interpretation and performance of this Agreement shall be in accordance with, and shall be controlled by, the laws of the State of Vermont and the United States.

23. NO DUTY TO THIRD PARTIES

This Agreement is not intended to and does not create rights, remedies, or benefits of any character whatsoever in favor of any persons, corporations, associations, or entities other than the Parties, and the obligations herein assumed are solely for the use and benefit of the Parties, their successors in interest, and, where permitted, their assigns.

24. MULTIPLE COUNTERPARTS

This Agreement may be executed in two or more counterparts, each of which is deemed an original but all of which constitute one and the same Agreement.

25. NO PARTNERSHIP

This Agreement shall not be interpreted or construed to create an association, joint venture, agency relationship, or partnership between the Parties nor to impose any partnership obligation or partnership liability upon either Party. Neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

26. SEVERABILITY

If any provision or portion of this Agreement shall for any reason be held or adjudged to be invalid or illegal or unenforceable by any court of competent jurisdiction or other governmental authority, (1) such portion or provision shall be deemed separate and independent, (2) the Parties shall negotiate in good faith to restore, insofar as practicable, the benefits to each Party that were affected by such ruling, and (3) the remainder of this Agreement shall remain in full force and effect.

27. ENVIRONMENTAL RELEASES

Each Party shall be responsible for its release of any hazardous substances, any asbestos or lead abatement activities, or any type of remediation activities related to the Facility or the interconnection facilities. A Party shall notify the other Party of any release as may be required by law and where the release may reasonably be expected to affect the other Party. Upon request a Party shall furnish to the other Party copies of any publicly available reports filed with any governmental authorities addressing such events.

28. SUBCONTRACTORS

Nothing in this Agreement shall prevent a Party from utilizing the services of any subcontractor as it deems appropriate to perform its obligations under this Agreement; provided, however, that each Party shall require its subcontractors to comply with all applicable terms and conditions of this Agreement in providing such services and each Party shall remain liable for the performance of such subcontractor.

- a. The creation of any subcontract relationship shall not relieve the hiring Party of any of its obligations under this Agreement. The hiring Party shall be fully responsible to the other Party for the acts or omissions of any subcontractor the hiring Party hires as if no subcontract had been made; provided, however, that in no event shall HARDWICK be liable for the actions or inactions of the NUG or its subcontractors with respect to obligations of the NUG under this Agreement. Any applicable obligation imposed by this Agreement upon the hiring Party shall be equally binding upon, and shall be construed as having application to, any subcontractor of such Party.
- b. The obligations under this Article will not be limited in any way by any limitation of subcontractor's insurance.

29. CONDITIONS PRECEDENT

This Agreement shall not become effective until the following conditions precedent shall have been satisfied:

- a. The issuance by the Vermont Public Service Board of a Certificate of Public Good pursuant to 30 V.S.A. § 248 approving the construction, ownership and operation of the Facility or any upgrades to such Facility in form and substance acceptable to MAPLEHURST FARM; and

- b. The interconnection is consistent with Vermont Public Service Board Rule 5.500 (Interconnection Procedures for Proposed Electric Generation Resources); and
- c. The Parties shall have established appropriate relay and protection requirements for the interconnection of the Facility that are acceptable to HARDWICK, which requirements shall be reflected in Section 5(h) and illustrated in the Technical Drawings in Attachment A (**Technical Requirements**), made a part hereof; and
- d. The Parties shall have established appropriate operating protocols for the interconnected operation of the Facility in parallel with the HARDWICK electric system, which protocols shall be negotiated and agreed upon, and then reflected as Attachment B, **Operating Protocols** made a part hereof.

IN WITNESS WHEREOF, HARDWICK and the NUG have caused this Agreement to be executed by their respective duly authorized officers as of the date first above written.

MAPLEHURST FARM

By:

Its:

HARDWICK ELECTRIC DEPARTMENT

By:

Its:

DATE:

7/11/2012

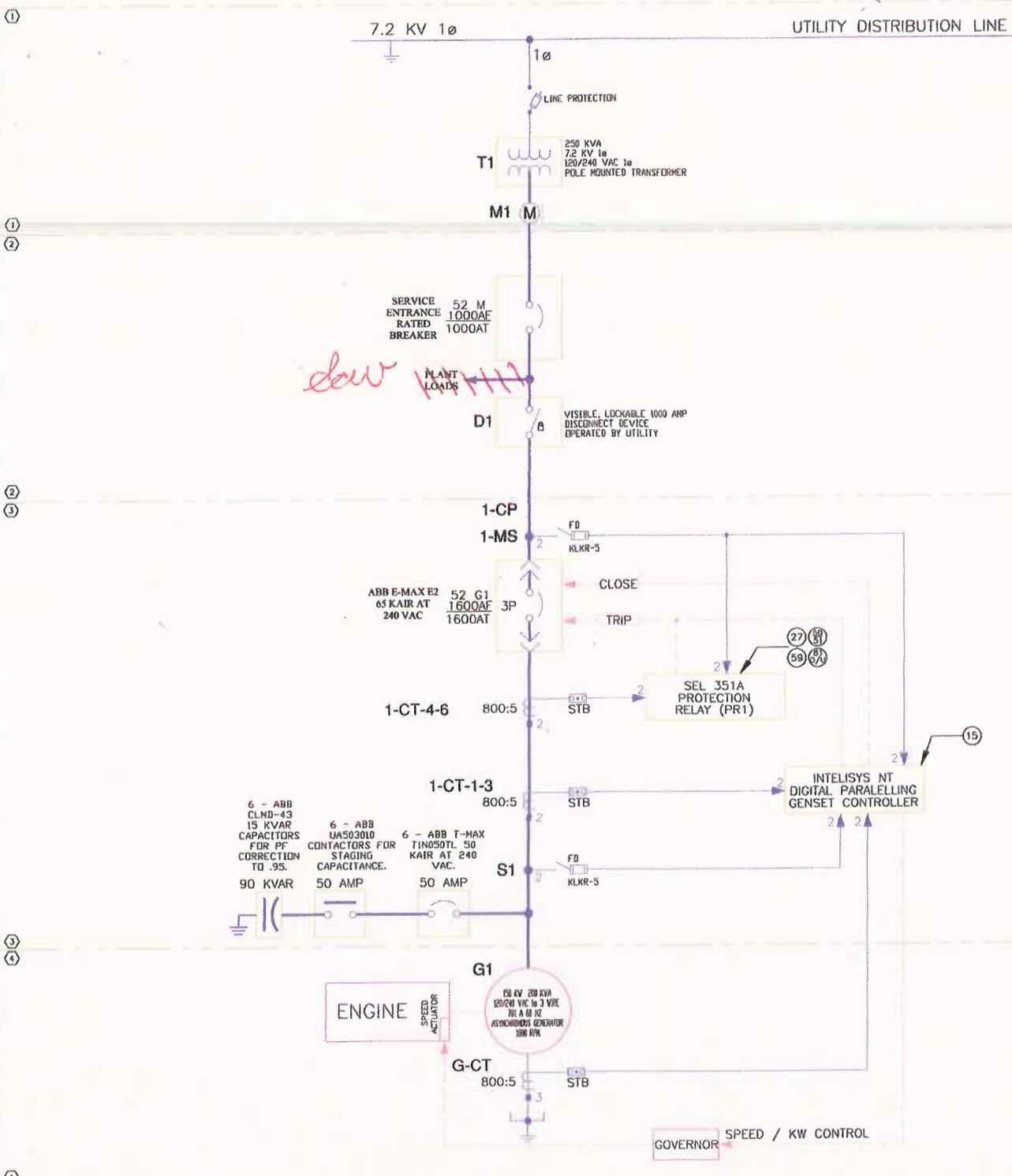
Attachment A

Technical Drawings

1CT4-6 PROTECTION CURRENT TRANSFORMERS
 1CT1-3 CONTROL CURRENT TRANSFORMERS
 FD FUSIBLE DISCONNECT
 M1 BI-DIRECTIONAL METER
 MS MAINS OR BUS SENSING POINT
 STB SHORTING TERMINAL BLOCKS
 PR-1 SCHWEITZER SEL351A PROTECTION RELAY

- ① EQUIPMENT OWNED BY UTILITY
- ② PROPOSED NEW EQUIPMENT TO BE OWNED BY CUSTOMER AND SUPPLIED BY OTHERS
- ③ PROPOSED NEW EQUIPMENT TO BE OWNED BY CUSTOMER AND SUPPLIED BY GEN-TEC LLC.
- ④ PROPOSED NEW EQUIPMENT TO BE OWNED BY CUSTOMER AND SUPPLIED BY MARTIN MACHINERY LLC.

SYSTEM FUNCTIONS	
EXPRT	
AUTOMATIC STANDBY CLOSED TRANSITION	
AUTOMATIC STANDBY OPEN TRANSITION	
MANUAL STANDBY OPEN TRANSITION	
AUTOMATIC PEAK SHAVING	
AUTOMATIC LOAD SHEDDING	



RELAY ELEMENT LEGEND		PRELIMINARY RELAY SETTINGS FOR PR-1	
①	SYNC CHECK (INTELISYS NT)	SPEED MATCH ±1%	
②	UNDER VOLTAGE	90% OF NOMINAL-TRIP TIME 120 CYCLES / 50% OF NOMINAL-TRIP TIME 10 CYCLES	
③	DIRECTIONAL ELEMENT	N/A	
④	NEGATIVE SEQUENCE OVER CURRENT ELEMENT	N/A	
⑤	INSTANTANEOUS OVERCURRENT	43.4 A SEC.	
⑥	TIME OVER CURRENT	6.51A SECONDARY / TIME DIAL 3.00 / CURVE U3	
⑦	NEUTRAL TIME OVER CURRENT	4.34A SECONDARY / TIME DIAL .85 / CURVE U3	
⑧	OVER VOLTAGE	PU = 110% OF NOMINAL / TRIP TIME 30 CYCLES / PU2 = 120% OF NOMINAL / TRIP TIME 6 CYCLES	
⑨	FREQUENCY	U = 59.5 / TRIP TIME 10 CYCLES / 0 = 80.5 / TRIP TIME 10 CYCLES	

REVISED DATE	BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	<p>39410 Excelsior Dr Lonsdale, MD 21758 444-458-7200</p>
12-17-10	JOH	OLEARNERS	
1-6-11	JOH	REVISIONS AND/OR	
2-4-11	JOH	XXX 1.00	
		DO NOT SCALE DRAWING	
		SUPERSEDES ALL PREVIOUS DRAWINGS WITH THE SAME DRAWING NUMBER	

PROJECT	Maplehurst Farms		
ADDRESS	2183 Gebble Road Greensboro VT 05844		
CLIENT	L-LINE SCHEMATIC		
NO. OF SHEETS	SER-569-1	SHEET NO.	94227-A
DATE	NONE	DATE	12-6-10
DESIGNED BY	JOH	CHECKED BY	MOH
			PIC NO. C1AC104806-11

Attachment B Operating Protocols

2. Utility Line Fault During Parallel Operation:

- A. If the voltage, frequency, or current deviate from the parameters programmed in PR1 a trip signal will be issued by PR1.
- B. The result of a trip signal by PR1 is a break in the supply voltage of the Undervoltage Trip Coil, (UV) When UV is de-energized for any reason it will trip the breaker. This is an inherent safety feature of any small generation system because the default mode is to trip the breaker and therefore isolate the generation facility from the mains. (DWG# GTAC104WF-BC)
- C. PR1 self-test contacts are also wired in series to the trip circuit for an added measure of redundant protection. If the PR1 processor fails for any reason it will cause a trip. (DWG# GTAC104806-BC)
- D. Any trip signal from PR1 or from the external trip input that operates relay K10 will result in a breaker trip and G1 shut down. (DWG# GTAC104806-BC)
- E. After Utility Status returns to normal an operator must reset the fault either by remote dial in or via the HMI screen on the CP. This will restart G1 and the system will operate according to III. 1. Normal Parallel Operation:

Table 2

Utility Status	D1	Protection Relay	52-G1	X	G1	X
Outside Nominal Limits	Closed	Trip Output active	Tripped	X	Shut down	X

Diagram 2

