



February 6, 2013

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



Re: Application for Renewable Energy Source Eligibility Manchester-Boston Regional Airport

Dear Ms. Howland,

Please find enclosed an application being submitted by Competitive Energy Services on behalf of the City of Manchester and the Manchester-Boston Regional Airport seeking to have their 500 kW Solar Photovoltaic System qualified as eligible for Class II Renewable Energy Certificates in New Hampshire.

Please direct all communications regarding this application to:

Richard Silkman, CEO Competitive Energy Services, LLC 148 Middle St., Suite 506 Portland, ME 04101 Email <u>rsilkman@competitive-energy.com</u> Phone (207) 772-6190

Thank you. With best regards, I am

Sinderely

Richard Silkman

Encl. Application

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STATE OF NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

SAMPLE APPLICATION FORM

FOR RENEWABLE ENERGY SOURCE ELIGIBILITY

Pursuant to New Hampshire Admin. Code Puc 2500 Rules

NOTE: When completing this application electronically, using the "tab" key after completing each answer will move the cursor to the next blank to be filled in. If a question is not applicable to your facility, then check the box next to N/A.

Pursuant to Puc 202, the signed application shall be filed with the Executive Director and Secretary of the New Hampshire Public Utilities Commission (Commission). To ensure that your submitted application is complete, please read RSA 362-F and N.H. Code Admin. Rules Puc 2500 before filling out this application. It is the burden of the applicant to provide timely, accurate and complete information as part of the application process. Any failure by the applicant to provide information in a timely manner may result in the Commission dismissing this application without prejudice.

1.	ELIGIBILI	ſ¥	CLASS APPLIED FOR:	I	XII]III	IV
2.	Applicant's legal na	ame:	Manchester-Boston Regional Airport					
3.	Address:	(1)	1 Airport Road			••••		<u></u>
		(2)	Suite 300					
		(3)			•••••			
			Manchester (City)	NH (S	tate)	03103	Zip cod	e)
4.	Telephone number:		(603) 628-6211 Ext 519	· · ·				
5.	Facsimile number:							
6.	Email address:		RFIXLER@flymanchester.com					
7.	Facility name:		Manchester-Boston Regional Airport					
8.	Facility location:	(1)	1 Airport Road					

	(2)	Suite 300	۱۹۰۰-۱۹۰۹ <u>مې دې دې اورو د</u>					
		Manchester		NH	03103			
		(City)		(State)	(Zip code)			
9.	Latitude: 420 55' 42.97"	N	Longitude:		71o 26'24.69" W			
10.	The name and telephone	The name and telephone number of the facility's operator, if different from the owner: Same X						
	P	(Name)		(Te	elephone number)			
11.	The ISO-New England a	sset identification numb	er, if applicable: _		or N/A: X			
12.	The GIS facility code, if	applicable: NON 3	6096 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) X 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) X 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 s (a) demonstrate that it generation capacit permitting require	ought for repowered Cla has made new capital in y or adding to the existin ments or otherwise, and	ass III or Class IV so nvestments for the pu ng capacity, in light o	urces, the appl urpose of restor of the NHDES	icant shall: ring unusable environmental			
		Pag	e 2 of 4					

- (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) X 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) X 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) X 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:	Richard Fixler
	Title:	Assistant Airport Director
	Address: (1)	1 Airport Road
	(2)	Suite 300
	(3)	
		Manchester NH 03103
30.	Preparer's signature:	Timud - File (State) (Zip code)

Manchester-Boston Regional Airport Application Form – NH Class II Solar

Supplemental Information:

Item 13

The facility is a 500 kW "grid tied" solar PV installation located on the rooftop of the main parking garage of the Manchester-Boston Regional Airport. The PV system runs in parallel with the PSNH electrical distribution system. It is physically located behind the existing meter serving the airport parking garage located at pole MH23/1363/2-T1 on Airport Road.

The facility was installed during 2012.

Item 19

The facility is located within the New England control area, so this is Not Applicable.

Item 20

The facility is located on the roof of the parking garage at the Manchester-Boston Regional Airport. No NHDES permits or approvals were required for its construction.

Item 21

A copy of the Interconnection Agreement, executed June 21, 2012 with PSNH, is attached.

Item 22

The physical interconnection of the facility to the PSNH distribution grid is shown on page 10 of the attachment to the Generator Interconnection Agreement. The Delivery Point for any generation that flows to the grid is the low voltage terminals of the Manchester-Boston Regional Airport Parking Garage 750 kVA, 34500GRDY/19920 – 480Y/277 supply transformer.

Item 23

At the time of this application, the facility has not been certified under another non-federal jurisdiction's renewable portfolio standard. The facility may seek certification under other state RSP programs at a later date.

Item 24

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

Item 25

The facility will contract for the services of a registered Independent Monitor in New Hampshire to report facility output to the GIS. No contract is currently in place.

Item 26

Please refer to attached affidavit.

Item 27

As noted in the Generator Interconnection Agreement, Manchester-Boston Regional Airport is taking service from PSNH under its Rate B tariff. This tariff necessitates a primary meter and a Rate B meter, as shown on the one-line diagram. The Rate B meter is a revenue grade meter

that reads the generation output of the solar PV system. It will be this Rate B meter that will be read by the registered Independent Monitor and reported to the GIS.

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Affidavit

Ruchard S. Fixler I, Mark P. Brewer, am the Director of the Manchester-Boston Regional Airport, which is the owner of the Solar PV System that is the subject of this Application. By my signature on this Affidavit, I attest to the accuracy of the contents of this Application.

Richard S. Fixler Assistant Airport Mark P. Brewer, Director

2-6-13 Date:

N2373

GENERATOR INTERCONNECTION AGREEMENT

This INTERCONNECTION AGREEMENT, dated June **21**, 2012 by and between Manchester-Boston Regional Airport, (hereinafter referred to as the "Interconnector"), and Public Service Company of New Hampshire, a New Hampshire corporation having its principal place of business in Manchester, New Hampshire (hereinafter referred to as "PSNH").

WHEREAS, Interconnector desires to interconnect its 500 kW photovoltaic generating facility as depicted in <u>Attachment A hereto</u> (the "Facility"), located in Manchester, New Hampshire, with the electric system of PSNH in accordance with applicable New Hampshire Public Utilities Commission ("NHPUC") Orders and applicable laws; and

WHEREAS, Interconnector desires to, and PSNH agrees to, provide for the interconnection of the Facility with the electric system of PSNH, its successors and permitted assigns; and

WHEREAS, it is necessary that certain agreements be made prior to the interconnection of the Facility to ensure the safety, reliability and integrity of PSNH's electric system and the operation of the Facility;

NOW, THEREFORE, in consideration of the mutual promises set forth herein the parties do hereby agree as follows:

Article 1. Interconnection and Voltage Characteristics.

The interconnection point shall be that point at which the Facility interconnects with the 34.5 KV electric system of PSNH, as more fully described in <u>Attachment A</u>. Under this Agreement, the Interconnector shall receive and pay for the services necessary for the purpose of connecting the Facility with the PSNH electrical distribution system. The execution of this Agreement does not constitute a request for, or the provision of, transmission or distribution service. Interconnector is responsible for (a) all arrangements to effect any deliveries of electric energy from the Facility in accordance with the appropriate retail or FERC-jurisdictional tariffs and (b) arranging for its purchase of retail power (such as back-up or stand-by power). This Agreement does not cover sales of power, capacity, energy or market products generated from the Facility.

Unless PSNH converts its interconnection circuit, all electric energy delivered to PSNH's system from the Facility shall be <u>34.5</u> KV, three phase, sixty hertz.

Article 2. Interconnection and Protection Requirements.

Interconnector shall install or provide for the installation of all interconnection, protection, and control equipment as specified in the Interconnection Report ("Report") dated April 05, 2012, attached as <u>Attachment A</u> hereto, and incorporated herein by reference thereto, to ensure the safe and reliable operation of the Facility in parallel with the PSNH system. The Report may be modified from time to time in accordance with this Article 2 as set forth below, and to account for any modifications to the Facility as set forth in Article 5 below. The Interconnector will be responsible for all study costs associated with the development of the Report, and those costs associated with the equipment and its installation, required by the Report as set forth in Article 3 below. Metering of the output from the Facility shall be conducted pursuant to the terms of the Report.

The Interconnector may not operate the Facility in parallel with the PSNH System until: (a) the conditions for initial parallel operation of the Facility set forth in the Report have been met; (b) commissioning and testing of the Facility has been completed in accordance with the Report and to the satisfaction of PSNH; (c) the Interconnector has paid PSNH all funds due pursuant to Article 3 of this Agreement; (d) Interconnector has complied with the insurance requirements of Article 7; (e) Interconnector has provided PSNH a description of the Facility that incorporates all final design changes, including all design changes made during construction; and (f) PSNH has provided formal written authorization stating that operation of the Facility in parallel with the PSNH System is authorized by PSNH.

The Interconnector shall obtain each consent, approval, authorization, order or acceptance from FERC and/or ISO-NE necessary for the Interconnector or any entity that, directly or indirectly, through one or more intermediaries, controls, or is controlled by, or is under common control with the Interconnector (each, an "*Affiliate*") to sell any power, capacity, energy or market products from the Facility into the wholesale power market prior to making any such wholesale sales. The Interconnector shall indemnify, defend and hold harmless PSNH, its trustees, directors, officers, employees, agents and affiliates from any costs, damages, fines or penalties, including reasonable attorneys' fees, directly resulting from Interconnector's or its Affiliate's non-compliance with any provision of this Article 2; <u>provided</u>, <u>however</u>, that such indemnification obligation shall be subject to the limitation of liability set forth in Article 7.

Up to the interconnection point, unless otherwise provided for in the Report, all equipment shall be the sole property of Interconnector. Interconnector shall have sole responsibility for the operation, maintenance, replacement, and repair of the Facility, including the interconnection equipment owned by the Interconnector.

The Interconnection Report is subject to, and is based upon, current PSNH standards, as may be amended from time to time, regarding protection and control equipment requirements sufficient to ensure the safe and reliable operation of the PSNH electric distribution system. Interconnector hereby acknowledges that such PSNH standards are periodically reviewed and modified pursuant to standard utility practice, and that Interconnector is responsible for compliance with such standards, at its sole cost, as these standards may be modified from time to time. Additionally, the costs of any such review of the Interconnector. Interconnector is responsible for any and all additional costs to ensure that all relevant protection and control equipment, software, hardware, and their capabilities meet then current PSNH standards for interconnector if upgrades or changes to Interconnector's protection and control equipment are necessary by issuing a new or updated Interconnection Report. Within a mutually agreeable period following the issuance of a new or updated Interconnection Report the Interconnector shall modify the Facility, at the Interconnectors sole expense, to meet the revised requirements thereof. Any disputes will be addressed in accordance with Article 9 of this Agreement.

Prior to the interconnection to PSNH's system under this agreement, Interconnector shall have tested, and every twelve months thereafter, Interconnector shall test, or cause to be tested, all protection devices including verification of calibration and tripping functions; and Interconnector shall provide PSNH with a copy of the tests and results. The Interconnector shall ensure that any such test is performed by an individual or company that PSNH has authorized to perform the testing function.

If either party reasonably determines that the operation or use of any portion of the

protection system will or may not perform its protective function, Interconnector shall immediately open the interconnection between PSNH's system and the Facility. Interconnector shall promptly notify PSNH of this action and the reason for this action. The interconnection shall remain open until Interconnector has satisfactorily cured the defect. Any repair or replacement of Interconnector's equipment shall be at no cost to PSNH, except PSNH shall be responsible for any loss or damage requiring repair or replacement of all or a portion of the Interconnector's equipment as a result of the negligence or misconduct of PSNH, its agents or employees.

Article 3. General Payment Terms.

Interconnection Costs. The Interconnector is responsible for paying all costs associated with Interconnection of the Facility incurred by PSNH, including (a) testing costs, (b) costs associated with installing, testing and maintaining the communications infrastructure necessary to provide protection and/or monitoring of the Facility, (c) construction, modification and Upgrade costs (as defined in the paragraph below) necessary to accommodate the Interconnection, and (d) any ongoing maintenance costs and other charges deemed necessary by PSNH to maintain the Interconnection (all such costs described in this sentence, the "Interconnection Costs").

Distribution Upgrades. PSNH shall design, procure, construct, install, and own the distribution system upgrades described in the Report (the "Upgrade(s)"). The actual cost of the Upgrades, including overheads, shall be the sole responsibility of the Interconnector.

Initial Cost Estimate. The Report contains a good-faith estimate of the initial Interconnection Costs (the "Initial Cost Estimate").

Billing and Payment Procedures for Interconnection Costs. The Interconnector shall pay PSNH the amount set forth in the Initial Cost Estimate (the "Initial Payment") within thirty (30) days of the Effective Date, subject to extension by mutual agreement of the Parties. PSNH will not incur Interconnection Costs prior to receipt of the Initial Payment. Actual incurred Interconnection Costs may vary from those costs included in (a) the Report, or (b) the Initial Cost Estimate. PSNH shall invoice the Interconnector for all Interconnection Costs as such costs are incurred to the extent that they exceed the Initial Payment, and the Interconnector shall pay each such invoice within thirty (30) days of receipt, or as otherwise agreed to by the Parties.

Within ninety (90) days following the date on which PSNH determines that PSNH has received all of the necessary information PSNH has requested from its employees, agents, contractors and/or subcontractors working on, or providing services in connection with, the design and construction of the Interconnection, PSNH shall provide the Interconnector with an accounting report detailing any Underpayment (as such term is defined below) or Overpayment (as such term is defined below) made by the Interconnector with respect to the Initial Payment (the "True-up Report"). To the extent that the actual Interconnection Costs accrued up to the date of the Initial Interconnector for an amount equal to the Underpayment and the Interconnector shall pay such amount to PSNH within thirty (30) days of such invoice. To the extent that the Initial Interconnection (an "Overpayment"), PSNH shall refund to the Interconnector an amount equal to the Overpayment within thirty (30) days of the provision of the True-Up Report. Any and all Interconnection Costs incurred by PSNH after the date of the True-up Report shall be billed in accordance with this provision.

Taxes. The Parties shall comply with all applicable federal and state tax laws.

Article 4. Right of Access.

<u>PSNH Right to Access</u>. The Interconnector shall allow PSNH access to PSNH equipment and PSNH facilities located on the Facility's premises (the "*PSNH Property*"). To the extent that the Interconnector does not own all or part of the real property on which PSNH is required to locate PSNH Property in order to serve the Facility, the Interconnector shall procure and provide to PSNH all necessary rights, including easements, for access to PSNH Property. Additionally, PSNH shall have the right to enter the property of Interconnector at mutually agreed upon reasonable times and shall be provided reasonable access to Interconnector's metering, protection, control, and interconnection equipment to review for compliance with this Agreement. Upon request, PSNH shall provide Interconnector with a copy of any notes, reports or other documents made relating to any such inspection or review. <u>Isolation Device</u>. PSNH shall have access to the Isolation Device (as described in the Report) of the Facility at all times. Interconnector is responsible for obtaining any and all property rights, including easements, which will permit PSNH access to such Isolation Device.

<u>Right to Review Information</u>. PSNH shall have the right to review and obtain copies of the Interconnector's operations and maintenance records, logs, or other information such as unit availability, maintenance outages, circuit breaker operation requiring manual reset, relay targets and unusual events pertaining to the Facility or its Interconnection. PSNH shall treat such information as confidential and shall use such information solely for the purposes of determining compliance with the operating requirements of PSNH.

Article 5. Modification of Facility.

A description of the Facility as studied is contained in the Report. Any changes to the design of the Facility as it is described and specified in the Report with respect to such Facility must be approved by PSNH in writing prior to the implementation of such design changes. Only design changes approved in accordance with this Article 5 shall be implemented. If Interconnector plans any modifications to its Facility as described in <u>Attachment A</u>, which modifications would reasonably be expected to affect its interconnection with the PSNH System, Interconnector shall give PSNH ninety (90) day prior written notice of its intentions. PSNH will review the modifications at the Interconnectors expense and provide a written notice of approval or notification that the modification will require revised protection and control equipment. The cost of any and all upgrades to either the Facility interconnection equipment or the PSNH electric distribution system required to permit the Facility modification shall be the responsibility of the Interconnector.

Article 6. Term of Agreement.

This Agreement shall become effective between the parties on the date of execution of this agreement. This Agreement shall remain in full force and effect subject to the suspension and termination rights contained in this Article 6.

Interconnector may terminate this Agreement by giving PSNH not less than sixty (60) days prior written notice of its intention to terminate. PSNH may terminate the interconnection under this Agreement by giving not less than sixty (60) days prior written notice should Interconnector fail to substantially perform with the interconnection, metering and other safety provisions of this Agreement, and such failure continues for more than sixty (60) days from date of notice without cure. The PSNH notice shall state with specificity the facts constituting the alleged failure to perform by Interconnector. If the parties are unable to reach agreement within 60 days on a cure for the failure to perform, either party may elect to submit the dispute to the NHPUC for resolution.

If changes in applicable federal or state statutes, regulations or orders; or changes in applicable ISO or NEPOOL requirements occur which materially affect this Agreement, the parties shall negotiate in good faith to modify this Agreement to accommodate such changes. If the parties are unable to reach agreement within 60 days, either party may elect to submit the dispute to the NHPUC for resolution.

PSNH may also terminate its obligation contained in this Agreement if applicable laws, regulations and orders mandating interconnections from qualifying facilities are repealed, or declared invalid by a Court or Regulatory Agency, and no revised law is enacted providing for such interconnection on a similar basis.

After termination of this Agreement, both parties shall be discharged from all further obligations under the terms of this Agreement, excepting any liability which may have been incurred before the date of such termination. Any reasonable costs incurred by PSNH to physically disconnect the Facility as a result of the termination of this Agreement shall be paid by the Interconnector.

Article 7. Insurance, Performance Assurance, Indemnification & Limitation of Liability.

A. Insurance Requirements.

<u>General Liability</u>. In connection with the Interconnector's performance of its duties and obligations under this Agreement, the Interconnector shall maintain, during the term of this Agreement, general liability insurance with a combined single limit of not less than:

One million dollars (\$1,000,000) per occurrence and in the aggregate for bodily injury and/or property damage claims where the gross nameplate rating of the Facility is less than or equal to an aggregate of 500 KW;

Three million dollars (\$3,000,000) per occurrence and in the aggregate for bodily injury and/or property damage claims where the gross nameplate rating of the Facility is greater than 500 KW.

Insurer Requirements and Endorsements. All insurance required pursuant to this Article 7 A. shall be carried by insurers qualified to underwrite insurance in New Hampshire with an A.M. Best rating of A- or better. In addition, all insurance shall: (a) include PSNH as an additional insured; (b) contain a severability of interest clause or cross-liability clause unless the Interconnector is a residential customer; (c) provide that PSNH shall not be liable to the insurance carrier with respect to the payment of premium for such insurance; and (d) provide for written notice to PSNH thirty (30) days prior to cancellation, termination, or material change of such insurance.

Evidence of Insurance. If insurance similar to the insurance provided by this endorsement is held by the additional insured noted above, the insurance provided by this endorsement is primary to that other insurance, and that other insurance shall not contribute to amounts payable under the insurance provided by this endorsement.

Prior to PSNH commencing any work on system modifications, the Interconnector shall have its insurer provide to PSNH certificates of insurance evidencing the insurance coverage required pursuant to this Article 7 A. Such certificates shall clearly indicate that such insurance policy is written on an "occurrence made" basis. PSNH may, at its discretion, require the Interconnector to maintain tail coverage with respect to any policy written on a "claims-made" basis for a period of three years after expiration or termination of such policy.

All insurance certificates, statements of self insurance, endorsements, cancellations, terminations, alterations, and material changes of such insurance shall be issued and submitted to PSNH.

B. Indemnification.

Indemnification of PSNH. Subject to the limitation of liability set forth in Article 7 C., the Interconnector shall indemnify, defend and hold harmless PSNH and its trustees, directors, officers, employees and agents (including affiliates, contractors and their employees) from and against any liability, damage, loss, claim, demand, complaint, suit, proceeding, action, audit, investigation, obligation, cost, judgment, adjudication, arbitration decision, penalty (including fees and fines), or expense (including court costs and attorneys' fees) relating to, arising from or connected to this Agreement. Indemnification of the Interconnector. Subject to the limitation of liability set forth in Article 7 C., PSNH agrees to indemnify, defend and hold harmless the Interconnector, its trustees, directors, officers, employees and agents (including Affiliates, contractors and their employees), from and against any and all damages for personal injury (including death) or property damage to unaffiliated third parties arising from any and all actions relating to or arising out of any material failure by PSNH to operate its system in such a manner so as to not unreasonably interfere with the operation of the Facility.

<u>Survival of Indemnification</u>. The indemnification obligations of each Party set forth in this Article 7 B. shall continue in full force and effect regardless of whether this Agreement has expired or been terminated, defaulted or cancelled and shall not be limited in any way by any limitation on insurance.

C. Limitation of Liability.

Except with respect to a Party's fraud or willful misconduct, and except with respect to damages sought by a third party in connection with a third party claim: (a) neither Party shall be liable to the other Party, for any damages other than direct damages; and (b) each Party agrees that it is not entitled to recover and agrees to waive any claim with respect to, and will not seek, consequential, punitive or any other special damages as to any matter under, relating to, arising from or connected to this Agreement.

Article 8. Force Majeure.

Neither party shall be considered to be in default hereunder and shall be excused from performance hereunder if and to the extent that it shall be prevented from doing so by storm, flood, lightning, earthquake, explosion, equipment failure, civil disturbance, labor dispute, act of God or the public enemy, action of a court or public authority, withdrawal of equipment from operation for necessary maintenance and repair, or any other cause beyond the reasonable control of either party and not due to the fault or negligence of the party claiming force majeure, provided that the party claiming excuse from performance uses its best efforts to remedy its inability to perform. Article 9. Dispute Resolution and Voluntary Arbitration.

In the event of any dispute, disagreement, or claim (except for disputes referred to the NHPUC under Article 6 of this Agreement) arising out of or concerning this Agreement, the Party that believes there is such a dispute, disagreement, or claim will give written notice to the other Party of such dispute, disagreement, or claim. The affected Parties shall negotiate in good faith to resolve such dispute, disagreement, or claim. If such negotiations have not resulted in resolution of such dispute has been given, then an affected Parties within twenty (20) working days after notice of the dispute has been given, then an affected Party may submit such dispute, disagreement, or claim arising out of or concerning this Agreement to the NH PUC for resolution in accordance with Order 14,797 in DE 80-246. Upon mutual agreement of the Parties, a dispute may be submitted to arbitration and resolved in accordance with the arbitration procedures set forth below. In the event the Parties do not agree to submit such claim or dispute to arbitration, each Party may exercise whatever rights and remedies it may have in equity or at law consistent with the terms of this Agreement.

The arbitration proceeding shall be conducted by a single arbitrator, appointed by mutual agreement of the affected Parties, in Manchester, New Hampshire, under the Commercial Arbitration Rules of the American Arbitration Association in effect at the time a demand for arbitration under such rules was made. In the event that the affected Parties fail to agree upon a single arbitrator, each shall select one arbitrator, and the arbitrators so selected shall, within twenty (20) days of being selected, mutually select a single arbitrator to govern the arbitration. A decision and award of the arbitrator made under the Rules and within the scope of his or her jurisdiction shall be exclusive, final, and binding on all Parties, their successors, and assigns. The costs and expenses of the arbitrator shall be allocated equitably amongst the affected Parties, as determined by the arbitrator(s). Judgment upon the award rendered by the arbitrator(s) may be entered in any court having jurisdiction. Each Party hereby consents and submits to the jurisdiction of the federal and state courts in the State of New Hampshire for the purpose of confirming any such award and entering judgment thereon.

Article 10. Operating Requirements.

General Operating Requirements. The Interconnector shall construct, interconnect, operate, and maintain the Facility and all accompanying and necessary facilities in accordance with (a) all applicable laws and requirements and, "Good Utility Practice" (as defined in Section I of the ISO New England Inc., Transmission, Markets and Services Tariff, FERC Electric Tariff No. 3); and (b) ISO-NE operating requirements in effect at the time of construction and other applicable national and state codes and standards. Following the initial Interconnection of the Facility, the Interconnector shall comply with all special operating requirements set forth in the Report. In the event that PSNH believes that the cause of any problem to PSNH originates from the Facility, PSNH has the right to install monitoring equipment at a mutually agreed upon location to determine the exact cause of the problem. The cost of such monitoring equipment shall be borne by PSNH. unless such problem or problems are demonstrated to be caused by the Facility or if the test was performed at the request of the Interconnector in which case the costs of the monitoring equipment shall be borne by the Interconnector. If the operation of the Facility interferes with PSNH's or its customers' operations, the Interconnector must immediately take corrective action to stop such interference and shall not operate the Facility until such time as such interference is stopped. If the Interconnector fails to take immediate corrective action pursuant to the preceding sentence, then PSNH may disconnect the Facility in accord with Good Utility Practice.

No Adverse Effects: Non-interference. PSNH shall notify the Interconnector if PSNH has evidence that the operation of the Facility could cause disruption or deterioration of service to other customers served from PSNH's system or if operation of the Facility could cause damage to the PSNH system or other affected systems. (For example, deterioration of service could be caused by, among other things, harmonic injection in excess of IEEE STD 519, as well as voltage fluctuations caused by large step changes in loading at the Facility.) The Interconnector shall cease operation of the Facility until such time as the Facility can operate without causing disruption or deterioration of service to other customers served from the PSNH system or causing damage to the PSNH system or other affected systems. Each Party shall promptly notify the other Party in writing of any condition or occurrence relating to such Party's equipment or facilities which, in such Party's reasonable judgment, could adversely affect the operation of the other Party's equipment or facilities. PSNH shall operate its system in such a manner so as to not unreasonably interfere with the operation of the Facility. The Interconnector shall protect itself from normal disturbances propagating through the PSNH system in accordance with Good Utility Practice. Examples of such normal disturbances include single-phasing events, voltage sags from remote faults on PSNH system, and outages on the PSNH system.

Safe Operations and Maintenance. The Interconnector shall operate, maintain, repair, and inspect, and shall be fully responsible for, the Facility or facilities that it now or hereafter may own unless otherwise specified in this Agreement or the Report. Each Party shall be responsible for the maintenance, repair and condition of its respective lines and appurtenances on such Party's respective side of the interconnection point. PSNH and the Interconnector shall each provide equipment on its respective side of the interconnection point that adequately protects the PSNH system, personnel, and other persons from damage and injury. If PSNH has constructed or owns equipment or facilities, other than Upgrades, that were required solely as a result of the Interconnection, then, unless otherwise documented in the Report, the costs associated with the operation, maintenance, repair and replacement of such equipment or facilities shall be the ongoing responsibility of the Interconnector and the Interconnector shall reimburse PSNH such costs.

Ongoing Maintenance: Testing of the Facility. The Parties hereby acknowledge and agree that maintenance testing of the Facility's protective relaying is imperative for safe, reliable operation of the Facility. The test cycle for such protective relaying shall not be less frequent than once every twelve (12) calendar months or the manufacturer's recommended test cycle, whichever is more frequent. The Interconnector shall provide copies of these test records to PSNH within thirty (30) days of the completion of such maintenance testing. PSNH may disconnect the Facility from the PSNH system if the Interconnector fails to adhere to these standards. The Interconnector is responsible for all ongoing maintenance costs associated with the Facility.

Article 11. Disconnection.

A. <u>Temporary Disconnection</u>.

Emergency Conditions. PSNH may immediately and temporarily disconnect the Facility from the PSNH system without prior notification in cases where, in the reasonable judgment of PSNH, the continued connection of the Facility is imminently likely to (a) endanger persons or damage property or (b) cause an adverse effect on the integrity or security of, or damage to, the PSNH system or to other electric power systems to which the PSNH system is directly connected (each, an "*Emergency Condition*"). After temporary disconnection or suspension pursuant to this paragraph, the Facility may not be reconnected or resume operation until PSNH and Interconnector are both satisfied that the cause of such Emergency Condition has been corrected. If the Interconnector fails to correct the Emergency Condition within ninety (90) days from the time that PSNH has temporarily disconnected the Facility due to such an event, PSNH may elect to terminate this Agreement and/or permanently disconnect the Facility.

Routine Maintenance, Construction and Repair. PSNH shall have the right to disconnect the Facility from the PSNH system when necessary for routine maintenance, construction and repairs to the PSNH system. PSNH shall provide the Interconnector with notice of such disconnection, consistent with PSNH's Planned and Unplanned Outage Scheduling Procedure. If the Interconnector requests disconnection by PSNH, the Interconnector will be provided with information regarding PSNH scheduling practices. Such disconnection shall be scheduled in accordance with PSNH's Planned and Unplanned Outage Scheduling Procedure. PSNH shall make reasonable efforts to work with Interconnector to schedule a mutually convenient time or times to temporarily disconnect the Facility pursuant to this paragraph.

Forced Outages. During any forced outage, PSNH shall have the right to temporarily disconnect the Facility from the PSNH system in order to affect immediate repairs to the PSNH system. PSNH shall use reasonable efforts to provide the Interconnector with prior notice of such temporarily disconnection; provided, however, PSNH may temporarily disconnect the Facility from the PSNH system without such notice pursuant to this paragraph in the event circumstances do not permit such prior notice to the Interconnector.

<u>Non-Emergency Adverse Operating Effects</u>. PSNH may temporarily disconnect the Facility if it is having a non-emergency adverse operating effect on the PSNH system or on other customers (a "*Non-Emergency Adverse Operating Effect*") if the Interconnector fails to correct such NonEmergency Adverse Operating Effect within forty-five (45) days of PSNH's written notice to the Interconnector requesting correction of such Non-Emergency Adverse Operating Effect. If the Interconnector fails to correct a Non-Emergency Adverse Operating Effect within ninety (90) days from the time that PSNH has temporarily disconnected the Facility due to such an event, PSNH may elect to terminate this Agreement and/or permanently disconnect the Facility.

<u>Modification of the Facility</u>. PSNH has the right to immediately suspend Interconnection service and temporarily disconnect the Facility in the event any material modification to the Facility or the Interconnector's Interconnection facilities has been implemented without prior written authorization from PSNH.

<u>Re-connection</u>. Any temporary disconnection pursuant this Article 11 shall continue only for so long as is reasonably necessary. The Interconnector and PSNH shall cooperate with each other to restore the Facility and the PSNH system, respectively, to their normal operating states as soon as reasonably practicable following the correction of the event that led to the temporary disconnection.

B. <u>Permanent Disconnection</u>.

The Interconnector may permanently disconnect the Facility at any time upon thirty (30) days prior written notice to PSNH. PSNH may permanently disconnect the Facility upon termination of this Agreement in accordance with Article 6. PSNH may permanently disconnect the Facility in the event the Interconnector is unable to correct an Emergency Condition or a Non-Emergency Adverse Operating Effect in accordance with this Article 11.

Article 12. Modification of Agreement.

In order for any modification to this Agreement to be binding upon the parties, said modification must be in writing and signed by both parties.

Article 13. Confidentiality.

PSNH shall maintain the confidentiality of information provided from the Interconnector to PSNH if such information is clearly marked and labeled "Confidential" (the "*Confidential Information*"). Confidential Information shall not include information that (a) is or hereafter becomes part of the public domain, (b) previously was in the possession of PSNH, or (c) PSNH is required to disclose pursuant to a valid order of a court or other governmental body or any political subdivision thereof; provided, however, that to the extent that it may lawfully do so, PSNH shall first have given notice to the Interconnector and given the Interconnector a reasonable opportunity to interpose an objection or obtain a protective order requiring that the Confidential Information and/or documents so disclosed be used only for the purpose for which the order was issued; provided further that if such Confidential Information is requested or required by the NHPUC, PSNH shall seek protective treatment of such Confidential Information.

Article 14. Permits and Approvals.

The Interconnector is responsible for obtaining all environmental and other permits required by governmental authorities for the construction and operation of the Facility (each, a "*Required Permit*"). PSNH assumes no responsibility for obtaining any Required Permit, advising the Interconnector with respect to Required Permits, or assuring that all Required Permits have been obtained by the Interconnector. Upon written request of PSNH, the Interconnector shall promptly provide to PSNH a copy of any Required Permit.

Article 15. Default and Remedies.

A. <u>Defaults</u>. Each of the following shall constitute an "Event of Default."

(i) A Party fails to pay any bill or invoice for charges incurred pursuant to this Agreement or any other amount due from such Party to the other Party as and when due, any such failure shall continue for a period of thirty (30) days after written notice of nonpayment from the affected Party to the defaulting Party; <u>provided</u>, <u>however</u>, if such Party disputes such bill, invoice or other amount due in good faith, then such failure to pay shall not constitute an Event of Default and the Parties shall resolve such dispute in accordance with Article 9;

(ii) A Party (a) fails to comply with any other provision of this Agreement or breaches any representation or warranty in any material respect and (b) fails to cure or remedy such failure or breach within sixty (60) days after notice and written demand by the other Party to cure the same or such longer period reasonably required to cure the same (not to exceed an additional ninety (90) days unless otherwise mutually agreed upon, provided that the failing or breaching Party diligently continues to cure until such failure or breach is fully cured). This provision pertains only to cure periods not specifically addressed elsewhere in this Agreement;

(iii) Interconnector modifies the Facility or any part of the Interconnection without the prior written approval of PSNH; or

(iv) A Party fails to perform any obligation hercunder in accordance with (a) applicable laws and regulations, (b) the ISO-NE operating documents, procedures, and reliability standards, and (c) Good Utility Practice.

B. <u>Remedies</u>. Upon the occurrence of an Event of Default, the non-defaulting Party may, at its option, in addition to any remedies available under any other provision herein, do any, or any combination, as appropriate, of the following: (a) continue to perform and enforce this Agreement; (b) recover damages from the defaulting Party except as limited by this Agreement; (c) by written notice to the defaulting Party terminate this Agreement; or (d) pursue any other remedies it may have under this Agreement or under applicable law or in equity.

Article 16. Prior Agreements Superseded.

Once effective, this Agreement with <u>Attachment A</u> represents the entire agreement between the parties with respect to the interconnection of the Facility with the PSNH electric system and, as between Interconnector and PSNH, all previous agreements including previous discussion, communications and correspondence related thereto are superseded by the execution of this Agreement.

Article 17. Waiver of Terms or Conditions.

The failure of either party to enforce or insist upon compliance with any of the terms or conditions of this Agreement shall not constitute a general waiver or relinquishment of any such terms or conditions, but the same shall remain at all times in full force and effect. Any waiver is only effective if given to the other party in writing.

Article 18. Binding Effect: Assignment

This Agreement shall be binding upon, and shall inure to the benefit of, the respective successors and permitted assigns of the parties hereto. PSNH shall not assign this Agreement or any of its rights or obligations hereunder without the prior written consent of Interconnector except to a successor-in-interest. PSNH shall provide written notice to Interconnector of any such assignment to a successor-in-interest within fifteen (15) days following the effective date of the assignment. Interconnector shall have the right to assign this Agreement to any person or entity that is a successor-in-interest to the Facility without the consent of PSNH. In the event of any such assignment, Interconnector shall notify PSNH in writing within fifteen (15) days following the effective date of the assignment. Interconnector may make such other assignment of this Agreement as it determines, subject to the prior written consent of PSNH, which consent shall not be unreasonably withheld or delayed. Any assignment in violation of this Article shall be void at the option of the non-assigning party.

Article 19. Applicable Law.

This Agreement is made under the laws of the State of New Hampshire and, to the extent applicable, the Federal Power Act, and the interpretation and performance hereof shall be in accordance with and controlled by such laws, excluding any conflicts of law provisions of the State of New Hampshire that could require application of the laws of any other jurisdiction.

Article 20. Changes in State Regulations or Law.

Upon thirty (30) days prior written notice, PSNH may terminate this Agreement if there are any changes in NHPUC regulations or New Hampshire law that affects PSNH's ability to perform its obligations under this Agreement.

Article 21. Headings.

Captions and headings in the Agreement are for ease of reference and shall not be used to and do not affect the meaning of this Agreement.

Article 22. Notices and Service.

All notices, including communications and statements which are required or permitted under the terms of this Agreement, shall be in writing, except as otherwise provided or as reasonable under the circumstances. Service of a notice may be accomplished and will be deemed to have been received by the recipient party on the day of delivery if delivered by personal service, on the day of confirmed receipt if delivered by telecopy, registered or certified commercial overnight courier, or registered or certified mail or on the day of transmission if sent by telecopy with evidence of receipt obtained, and in each case addressed as follows:

Interconnector:	Manchester-Boston Regional Airport 1 Airport Road, Suite 300 Manchester, NH 03103 Attention: Mr. Mark P. Brewer Airport Director			
PSNH:	Public Service Company of New Hampshire 780 North Commercial Street			

780 North Commercial Street P. O. Box 330 Manchester, NH 03105-0330 Richard C. Labrecque Manager, Supplemental Energy Sources Department

Article 23. Counterparts.

This Agreement may be executed in counterparts, each of which shall be deemed an original, and all counterparts so executed shall constitute one agreement binding on all of the Parties hereto, notwithstanding that all of the Parties are not signatories to the same counterpart. Facsimile counterparts may be delivered by any Party, with the intention that they shall have the same effect as an original counterpart hereof.

Article 24. Signatures.

Each Party hereby signifies its agreement to the all of the terms of this Agreement by its signatures hereto. Each Party represents that it has carefully reviewed this Agreement individually and with counsel and that it has knowingly and willingly executed this Agreement.

IN WITNESS WHEREOF, the parties, each by its duly authorized representative, have hereunto caused their names to be subscribed, as of the day and year first above written.

Interconnector .
Signature:SMeill
Name: J. Brian Offeril
Title: Deputy Airport Director
Duly Authorized
Public Service Company of New Hampshire
Signature: Bay a Long
Name: Gary A. Long
Title: President

Duly Authorized

PSNH Interconnection Report For Customer Generation

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Manchester-Boston Regional Airport PV

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SESD Site No. N2373

April 05, 2012

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I. <u>Introduction</u>

A study has been performed to determine the impact of this proposed non utility generation (NUG) facility on the Public Service of New Hampshire (PSNH) electric distribution system. All technical analysis was based on the equipment listed under Section II, and the facility arrangement illustrated on Partial One Line Diagram SK-MDM-N2373. Where actual site-specific data was not readily available, estimated or "typical" values were utilized in any required calculations. Any deviation from the listed equipment and/or the illustrated configuration may have significant safety and/or technical ramifications. Consequently, if changes are anticipated now or in the future, PSNH should be informed immediately so that the requirements and recommendations contained within the report may be revised where necessary. This procedure will ensure that the Developer is informed of PSNH requirements in a timely fashion and should eliminate the delays and expense which could otherwise be experienced by the Developer.

This study will serve as 'Attachment A' to a separate Interconnection Agreement between PSNH and the developer. If any language in this study document is inconsistent with the language of the Interconnection Agreement, the Interconnection Agreement shall govern.

II. Description of Major Components

A. Description of Facilities

Manchester – Boston Regional Airport (Interconnecting Customer) is installing a 500 kW "grid-tied" photovoltaic (PV) system. The PV system will run in parallel with the PSNH electrical distribution system, and will be located behind the existing meter (Net Metering) serving the airport parking garage located at pole MH2/1363/2-T1 on Airport Road.

- B. Electrical Components
 - 1. Inverter, One (1) Solectria SGI 500 (Attachment B).
 - 2. Facility supply transformer 750 KVA, 34500GRDY/19920 480Y/277.

III. PSNH Requirements - General

- A. <u>Safety Considerations</u>
- 1. The connection of the facility to the PSNH system must not compromise the safety of PSNH's customers, personnel, or the owner's personnel.

- The generating facility must not have the capability of energizing a deenergized PSNH circuit. To this end, any electrically controlled primary element(s) configured to enforce this requirement must have all mechanical close features removed and prominently placarded against reinstallation "per PSNH".
- 3. Isolation provisions:
 - a) A PSNH disconnecting device with a visible open must be located between the PSNH system and the facility's generation. The disconnecting device shall be located after the PSNH revenue meter and before the facility's generation. The disconnecting device shall be installed at a location acceptable to PSNH operating personnel. This device must be made available for unrestricted use by PSNH personnel. This device is required to meet PSNH safety rules.. If required to interrupt the generating facility output, the device must be fully rated by the manufacturer to do so.
- 4. Any protection systems included to address PSNH requirements must utilize utility grade components as approved by PSNH. This requirement includes protective relays as well as auxiliary tripping relays.
- 5. Any devices utilized to supply PSNH-required protective functions must be equipped with provisions to aid in the post-mortem analysis of their operation. In the case of single-function protective elements, these provisions will include properly configured targets. In the case of multifunction numerical devices, these provisions will include properly configured event recording facilities as well as targets.
- 6. If required, any dedicated relays must be reserved for PSNH required functions. These relays will provide no functions except for PSNH required functions. PSNH will determine, at the Developer's expense, the set points for the PSNH required protective functions. Depending on PSNH's familiarity with the relays being utilized, the Developer may be responsible for developing the balance of the settings in these relays.
- 7. Any "relay failure" contacts on PSNH-required protective devices shall be wired to (1) trip the site generation and (2) initiate an alarm when the contacts indicate relay malfunction. The trip may be delayed up to 5 seconds by an external fail safe timer to avoid nuisance trips during certain "normal" events.
- 8. A PSNH approved testing company will be required to verify the proper functioning of those protective systems required by PSNH. This work will be performed at the Developer's expense.

A generator facility which interfaces with the PSNH electric distribution by means of an inverter, shall conduct a load-break test (witness test) to demonstrate the system shuts down with 2 seconds. Additionally, the load break test shall be performed once per year after installation.

- 9. The generating facility has full responsibility for ensuring that the protective system and the associated devices are maintained in reliable operating condition. PSNH reserves the right to inspect and test all protective equipment at the generator site whenever it is considered necessary. This inspection may include tripping of the PSNH primary disconnecting device.
- 10. Any short circuit interrupting device(s) must have sufficient interrupting capacity for all faults that might exist. The PSNH system impedance at the facility will be supplied on request.
- 11. Any protection systems utilized for synchronous generator protection must utilize a battery power source. AC-powered inverters are not an acceptable DC supply. The battery must be equipped with appropriate charging and monitoring facilities. The monitoring facilities must annunciate battery high voltage, battery low voltage, and battery grounds. Interrupting devices associated with PSNH-required protection and supplied power from the DC battery must be equipped with facilities configured to trip the interrupting device with an alternate supply immediately on loss of DC system trip capability. Direct AC trip and capacitor trip devices are acceptable for this backup function
- 12. Any protection scheme utilizing AC control power must be designed in a failsafe mode. That is, all protective components must utilize contacts which are closed during normal operating conditions, but which open during abnormal conditions or when control power is lost to de-energize the generator contactor coil. These schemes may be utilized only with nonlatching contactors and may not be used with synchronous generators.
- 13. A complete set of AC and DC elementary diagrams showing the implementation of all systems required by PSNH must be supplied for PSNH review. These drawings should be supplied as soon as possible so that any non-conforming items may be corrected by the Developer without impacting the scheduled completion date of the facility.
- 14. Any voltage transformers driving PSNH-required protection systems must be formally rated by the manufacturer as to accuracy class, and must be capable of driving their connected burdens with an error not exceeding 1.2 percent. The NUG is responsible for supplying PSNH with VT manufacturer's documentation supporting VT performance and any

additional information (e.g. relay manufacturer's data) required by PSNH to verify scheme adequacy

- 15. The secondary windings of instrument transformers feeding PSNH-required protection equipment will be grounded at one point, and one point only.
- 16. Any PSNH-required protective relays and auxiliary tripping relays must be equipped with test facilities which allow secondary quantity injection and input contact and output contact isolation while the protective relays remain in their cases
- 17. Any PSNH-required tripping and associated logic must be hard wired from protective relays to the interrupting device(s). Tripping and or/logic derived from programmable logic controllers (PLCs), computers, or other similar devices is not acceptable for PSNH-required protection.
- 18. It is not the policy of PSNH to maintain a stock of protective relays for resale to facility Developers. Since many protective devices have delivery times of several months, Developers are strongly advised to order them as soon as possible after PSNH type-approval is received.
- 19. Protection of the generating facility equipment for problems and/or disturbances which might occur internal or external to the facility is the responsibility of the Developer. Any fault located within the NUG should be detected and interrupted by NUG equipment at the NUG facility. The settings for such equipment whose failure to perform properly during such a fault could result in loss of service to PSNH customers will typically be developed by the NUG and reviewed by PSNH. PSNH's involvement with such equipment is limited to ensuring that coordination exists with upstream PSNH devices, and that the critical interrupting device is capable of interrupting the PSNH fault duty which exists at the point of application.
- 20. No operation of the facility's generation is allowed until all requirements in Sections III and IV of this report have been met, and all systems required therein, are in place, calibrated, and, if applicable, proven functional. This requirement may be waived by PSNH for a given system if generation is required to demonstrate the proper functioning of that system.

B. <u>Service Quality Considerations</u>

 The connection of the facility to the PSNH system shall not reduce the quality of service currently existing on the PSNH system. Voltage fluctuations, flicker, and excessive voltage and current harmonic content are among the service quality considerations. Harmonic limitations should conform to the latest IEEE guidelines and/or ANSI standards.

- 2. In general, induction generators must be accelerated to "synchronous" speed prior to connection to the PSNH system to reduce the magnitude and duration of accelerating current and resulting voltage drop to PSNH customers to acceptable levels.
- 3. In general, synchronous generators may not use the "pull-in" method of synchronizing due to excessive voltage drops to PSNH customers.
- 4. Power factor correction capacitors may be required for some facilities either at the time of initial installation, or, at some later date. The installation will normally be done by the Developer at his expense.
- 5. Certain facilities, having installed capacity similar in magnitude to connected circuit load, may require that control modifications be made to tap changers in the electrical vicinity. Should they be necessary, the modifications will be made at the Developer's expense.
- Automatic reclosing of the PSNH circuit after a tripping operation may occur after an appropriate time delay. If additional voltage blocking of automatic reclosing is required, it will be added at the Developer's expense.
- C. Metering Considerations
 - 1. Except for protection/control and metering voltage sensing and generator and/or capacitor contactor supply voltage, no unmetered station service AC shall be taken from the station service transformers.

IV. PSNH Requirements - Specific

- A. System Configuration and Protection
 - 1. The facility must be arranged and equipped as per Partial One Line Diagram SK-MDM-N2373.
 - 2. One (1) Solectria SGI 500 (Attachment B).
- B. <u>System Metering</u>

The facility will be equipped with the metering system generally shown on Partial One Line Diagram SK-MDM-N2373. The existing meter will be relocated to a new location and shall be changed from a 2 channel (2Q Configuration) recording meter to a 4 channel (4X Configuration) recording meter. The new meter will capture Watt-hours delivered, lagging VAr-hours, Watt-hours received, and leading VAr-hours. The meter will be connected to a customer owned, dedicated phone line. The relocation of the existing meter will be done at the customers expense, the replacement of the 2 channel recorder to a 4 channel will be done at no cost to the developer.

The Customer will be entering into a service agreement with PSNH for Backup Delivery Service, therefore, we have included the requirements and cost estimates associated with Rate B metering.

All cost of metering equipment and installation in excess of standard PSNH metering for the Customer's Standard Rate (existing metering equipment) shall be borne by the Customer. PSNH shall retain ownership and maintenance responsibilities for the metering equipment.

- 1. Existing Primary Metering (Metering "M" on One-Line Diagram SK-MDM-N2373).
- 2. Rate B (Metering "B" on One-Line Diagram SK-MDM-N2373).

The Customer shall mount the meter socket and instrument transformer enclosure in a location agreed upon by the Company, install the instrument transformers, run control cable between the instrument transformers and the meter socket, and make secondary connections under the supervision of Company Field Meter representative.

The meter shall be wired such that generation causes the meter to register in the delivered (forward) direction.

The Company shall install the meter and perform a site analysis on the gross generation metering.

Included in the Rate B metering installation, the costs of which shall be borne by the customer are the following:

One (1) Multi-function meter with load profile memory, PSNH Stock Code 181807 Group 997. Note: The Rate B meter will be wired for 3 wire delta operation.

One (1) thirteen (13) terminal meter socket with a pre-wired ten (10) pole test switch, equivalent to a Milbank SC2420-RL-21 or Durham 1008432, PSNH Stock Code 166777. The connections to the bottom of the test switch shall be wired per wiring guide 9S-3WD-CTVT-Fitzall (Attachment C).

A suitable length of 7 conductor, 12 AWG control cable, PSNH Stock Code 143522, shall be used to connect the instrument transformer secondary terminals to the socket test switch. The cable length shall not exceed 100 feet, otherwise a larger wire size will be required.

Two (2) Current Transformers, bar type, 400:5 ratio, 0.6 kV insulation class, 10 kV BIL, 0.3B0.1-0.5 accuracy class, 2.0 Rating Factor at 30° C, PSNH Stock Code 166790 or equivalent.

Two (2) Voltage Transformers, 480:120 ratio, 0.6 kV insulation class, 10 kV BIL, 0.3BW-Y accuracy class, PSNH Stock Code 166808 or equivalent.

One (1) instrument transformer enclosure for both CT's and VT's, 36" X 36", PSNH Stock Code 443783 or equivalent.

C. Primary Interconnection

No specific requirements

D. Telemetering

No specific requirements.

E. System Operation

No specific requirements.

V. PSNH Price Estimates

The following non-binding estimates for labor, materials, and overheads are supplied as an aid to the Developer for financial planning purposes. Should the Developer elect to have PSNH perform any of the work described in the estimates, such work will be performed in accordance with the terms and conditions of a separate agreement executed by both parties. The project will be billed the full actual cost for any work performed, including overheads.

A. System Protection

- 1. Materials No charge.
- 2. Labor and Overheads No charge.

B. <u>Metering</u>

- 1. Materials TBD.
- 2. Labor and overheads TBD.

C. Electric System Control Center (ESCC)

No involvement

- D. Primary Interconnection
- 1. Materials TBD
- 2. Labor and Overheads TBD

VI. Interconnection Equipment Ownership, Operation and Maintenance

A. Delivery Point

For the purpose of establishing ownership, operation and maintenance responsibilities, the location of facility energy delivery to PSNH (the "Delivery Point") must be defined. At this facility, the delivery point will be at the low voltage terminals of the Manchester-Boston Regional Airport Parking Garage 750 KVA, 34500GRDY/19920 - 480Y/277 supply transformer.

B. Description of Responsibilities

PSNH will own and maintain all equipment on the PSNH side of the delivery point up to the delivery point.

- VII. Drawings
 - A. Partial One-Line Diagram SK-MDM-N2373 is attached.



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Partial One-Line Diagram SK-MDM-N2373 April 03, 2012 .

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UTILITY-SCALE INVERTERS

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Solectria Renewables' SMARTGRID 225-500 kW series of inverters boasts an industry leading 97.5% CEC weighted efficiency which translates into significantly greater energy generation per year for utility-scale PV systems. The SGI series of transformer based inverters are rugged and durable with the transformer providing galvanic isolation between the PV array and the grid. The SMARTGRID series features five power classes, 225 kW, 250 kW, 266 kW, 300 kW and 500 kW, and offers utility options such as VAR support, low voltage ride through, controlled ramp rate and remote power control. Such critical utility options, combined with unsurpassed efficiencies and the lowest nighttime tare loss in the industry, earmark the SGI Series as the premier inverter for the next generation of large commercial and utility-scale systems.



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aximum Operating Input Current 768 aximum Input Current - Low Voltage Option 800 201000 minal Output Voltage Voltage Range ntinuous Output Power 225 ptinuous Output Current 480 VAC 271	8A 853 A 8A 898 A	908 A 956 A	1026 A 1080 A	1721 A
aximum Input Current - Low Voltage Option 801 Culture Iminal Output Voltage Voltage Range Intinuous Output Power 225 Plianes Output Current 480 VAC 271	3A 898 A	956 A	1080 A	** * * * * *
Differin minal Output Voltage Voltage Range ntinuous Output Power 225 ptievers Output Courset 480 VAC 271		. In the second second second second		1812 A
minal Output Voltage Voltage Range ntinuous Output Power 225 ptinuous Output Power 271	indeni zioleinistiineesense	a set a set a set the set of the set		
Voltage Range ntinuous Output Power 225 ptinuous Output Courset 480 VAC 271		480 or 600 VAC, 3-Ph		antenne statistication
ntinuous Output Power 225 ptinuous Output Current 480 VAC 271		-12%/+10%		
A80 VAC 271	kW 250 kW	266 kW	300 kW	500 kW
	A 301 A	320 A	360 A	602 A
600 VAC 217	A 240 A	256 A	289 A	480 A
iximum Backfeed Current		0 A		
minal Output Frequency		60 Hz		
tput Frequency Range		59.3-60.5 Hz		
wer Factor		Unity. >0.99		
al Harmonic Distortion (THD)		(3%)		
(d) (red)				11
ak Efficiency 98.0)% 98.0%	98.0%	97.9%	97.9%
C Efficiency 97.5	5% 97.5%	97.5%	97.5%	97.0%
e Loss 28	W 28 W	28 W	28 W	32 W
non bin i Aminas		Martholes	2000 - 19 AV	
	6 posi	tions, 225-400 A		8 positions, 225-400 A
	12 pos	ilions, 110-200 A		16 positions, 110-200 A
-	24 po	sitions, 70-100 A		32 posițions, 70-100 A
Did na state a				
bient Temperature Range (full power)		40°F to +122°F (-40°C to +	50°C)	
rage Temperature Range		40°F to +158°F (-40°C to +	70°C)	
alive Humidity (non-condensing)	an tau an	5-95%		
illforfil 2011606 b-based Monitoring (Inverter Direct)		SolrenView		
enue Grade Monitoring (Integrated) 400	A 400 A	400 A	400 A	800 A
o-Array Monitoring (SolZone) 6 zor	nes 6 zones	6 zones	6 zones	8 zones
lular Communication		SolrenView AIR		
rd Party Compatibility		Standard via MODBUS	i	
Informer Ultrations UL 1741//E	EE 1547, IEEE 1547.1, IEEE	62.41.2, IEEE 62.45, IEEE (37.90.2, CSA C27.7	#107.1, FCC part 15 B
intenance outage power factor per IEEE 762-2006		0.1		
ting Agency		FTI		
rent v				
ndard		5 vear		
ional	10.15 20 vear	extended service agreeme	nt: untime quarante	A
h in the second	, 19, 10 jeur,	and a set the astronic	, sprine sudrafile	
stormer Sformer	A breheet?	llwintegrated (integral).	sternal optional	
Breaker/DC Disconnect	Januard, II	Fully-integrated (internet); C	server optionet	
Dimensions (H v W v D)				
Charles College (2007 mm x 2769 m Charles College (2007 mm x 2769 m			≠ rom x 1041 mm)	
0115 JCL DOLA	137	(3480 mm) at 30 solar e	levation	
ght Silv	km) (35,000,005	5650 IDS	5650 lbs	6980 lbs
ght 2170 (2350	kg) (2568 kg)	(2568 kg)	5650 lbs (2568 kg)	6980 lbs (3173 kg)

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Attachment C

Service:	3-Phase, 3-Wire, Delta
Meter Form:	9S Fitzall kV2C meter, programmed for 2-Element operation.



PSNH	Wiring	Drawing No.:	9S-3WD-CTVT-Fitzall
Public Service Company	Cuido	Version:	Revision 2
of New Hampshire	Guide	МВС	1/23/06