

220 Newmarket Rd.
Durham, NH 03824

603-659-7575 ph
603-659-2548 fax

Durham Boat Company, Inc.

January 20, 2012

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: Application For Renewable Energy Source Eligibility – Cover Letter

Dear Ms. Howland:

The Durham Boat Company, Inc. is hereby requesting to be approved as eligible as a renewable source.

On December 29, 2011 our 29.375 KW Grid-Tied Photovoltaic System (Class II - Renewable Energy Generating Facility) was completed and since that day we have been generating electricity for our use or when and when there is a surplus, to the grid, when weather permits. Our net-metering meter was installed by PSNH on January 16, 2012.

We have registered with NEPOOL and have received a GIS Number: NON33828.

We have conditionally hired an independent Monitor to help us comply with PUC 505.09 that requires that gross output from customer-sited source be verified and reported by an independent monitor.

According to ReVision we have a revenue grade meter.

Please review and approve our request.

Sincerely,

A handwritten signature in blue ink, appearing to read "Coleen M. Fuerst".

Coleen M. Fuerst, President
Durham Boat Company, Inc.
220 Newmarket Rd.
Durham, NH 03824

cfuerst@durhamboat.com

<http://www.durhamboat.com>

(2) 7A Commercial Drive

(3) _____

Exeter NH 03833
(City) (State) (Zip Code)

9. Telephone number: 603-501-1822

10. Facsimile number: 603-782-0993

11. Email address: Blevay@revisionenergy.com

12. Equipment
vendor's Name: ReVision Energy

13. Business Address: (1) 142 Presumpscot St.

(2) _____

(3) _____

Portland ME 04103
(City) (State) (Zip Code)

14. Telephone number: 207-221-6341

15. Facsimile number: NA

16. Email address: jen@revisionenergy.com

17. Independent Monitor's
Name: Thomas Kelly

18. Business Address: (1) 2 Suncook Terrace #36

(2) _____

(3) _____

Merrimack NH 03054
(City) (State) (Zip Code)

19. Telephone number: 603-546-5816

20. Facsimile number: NA

-
21. Email address: tom@naturalcapital-llc.com
22. The ISO-New England asset identification number, if applicable: _____ or N/A:
23. The GIS facility code, if applicable: NON33828 or N/A:
24. If Class I, please identify type of source below: NA - This is Class II 29.375KW Grid Tied PV System
 solar hot water heating, wind generation and/or other generation _____
If other type of generation, provide a description. (Attach as "Exhibit A")
25. A list and description of the equipment used at the facility, including the meter and, if applicable, the inverter (Attach as "Exhibit B") See Exhibit B
26. A copy of the interconnection agreement pursuant to Puc 307.06, if applicable, between the applicant and the distribution utility. (Attach as "Exhibit C" or N/A) See Exhibit C
27. A signed attestation by the owner/applicant that the project is installed and operating in conformance with any applicable building codes. (Attach as "Exhibit D" or N/A) See Exhibit D
28. For an installation with electric output, documentation of the applicable distribution utility's approval of the installation. (Attach as "Exhibit E" or N/A) See Exhibit E
29. 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

30. Preparer's Information:

Name: Coleen M. Fuerst

Title: President

Address: (1) Durham Boat Company, Inc.

(2) 220 Newmarket Rd.

(3) _____

Durham (City) NH (State) 03824 (Zip Code)

Preparer's Signature: *Coleen M. Fuerst* Date: 01-24-2012

I attest that this project has been installed and is operating in conformance with any applicable building and electrical codes:

Owner's Signature: *Coleen M. Fuerst* Date: 01-24-2012
for Durham Boat Company, Inc.

Notary's Signature: *Donna L. Hamel* Date: 1/24/12

DONNA L. HAMEL, Notary Public
Justice of the Peace
My Commission Expires July 13, 2016

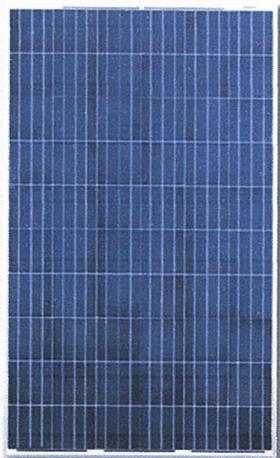
Exhibit B – List of Components

- (125) 235-watt Canadian Solar Inc photovoltaic panels – model # CS6P 235 (See B1)
- (4) SMA 7000 US grid-tied inverters – model # SB 7000US (See B2)
- SMA Webbox for Data Monitoring (See B3)
- SMA Sunny Beam Digital Display (See B4)
- Ironride anodized aluminum flush roof mounting system (See B5)
- Sangamo 200 class revenue grade meter installed 12/29/ (See B6) (See Photo B7)
- PSNH provided revenue grade meter (GE kV2cs Class 200 installed 01/16/2012) (See Photo B8)



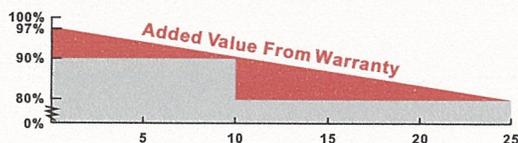
CS6P

220/225/230/235/240P



Key Features

- Top ranked PVUSA (PTC) rating in California for higher energy production
- Industry first comprehensive warranty insurance by AM Best rated leading insurance companies in the world
- Industry leading plus only power tolerance: 0 ~ +5W
- Strong framed module, passing mechanical load test of 5400Pa to withstand heavier snow load
- The 1st manufacturer in the PV industry certified for ISO:TS16949 (The automotive quality management system) in module production since 2003
- ISO17025 qualified manufacturer owned testing lab, fully complying to IEC, TUV, UL testing standards
- **Backed By Our New 10/25 Linear Power Warranty Plus our added 25 year insurance coverage**



- 10 year product warranty on materials and workmanship
- 25 year linear power output warranty

On-grid Module

CS6P is a robust solar module with 60 solar cells. These modules can be used for on-grid solar applications. Our meticulous design and production techniques ensure a high-yield, long-term performance for every module produced. Our rigorous quality control and in-house testing facilities guarantee Canadian Solar's modules meet the highest quality standards possible.

Applications

- On-grid residential roof-tops
- On-grid commercial/industrial roof-tops
- Solar power stations
- Other on-grid applications

Quality Certificates

- IEC 61215, IEC 61730, UL 1703, CEC Listed, CE, KEMCO and MCS
- ISO9001: 2008: Standards for quality management systems
- ISO/TS16949:2009: The automotive quality management system

Environmental Certificates

- ISO14001:2004: Standards for Environmental management systems
- QC080000 HSPM: The Certification for Hazardous Substances Regulations
- Reach Compliance



www.canadiansolar.com

CS6P-220/225/230/235/240P

Electrical Data

STC	CS6P-220P	CS6P-225P	CS6P-230P	CS6P-235P	CS6P-240P
Nominal Maximum Power (Pmax)	220W	225W	230W	235W	240W
Optimum Operating Voltage (Vmp)	29.2V	29.4V	29.6V	29.8V	29.9V
Optimum Operating Current (Imp)	7.53A	7.65A	7.78A	7.90A	8.03A
Open Circuit Voltage (Voc)	36.6V	36.7V	36.8V	36.9V	37.0V
Short Circuit Current (Isc)	8.09A	8.19A	8.34A	8.46A	8.59A
Module Efficiency	13.68%	13.99%	14.30%	14.61%	14.92%
Operating Temperature	-40°C~+85°C				
Maximum System Voltage	1000V (IEC) /600V (UL)				
Maximum Series Fuse Rating	15A				
Application Classification	Class A				
Power Tolerance	0 ~ +5W				

Under Standard Test Conditions (STC) of irradiance of 1000W/m², spectrum AM 1.5 and cell temperature of 25°C

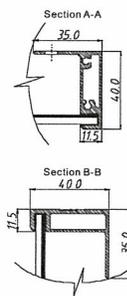
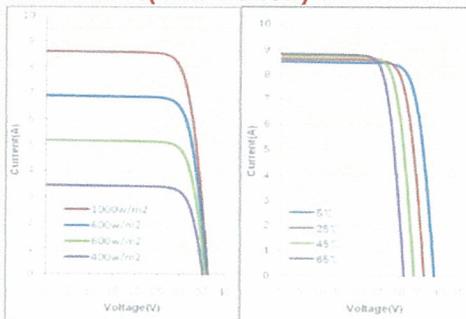
NOCT	CS6P-220P	CS6P-225P	CS6P-230P	CS6P-235P	CS6P-240P
Nominal Maximum Power (Pmax)	160W	163W	167W	170W	174W
Optimum Operating Voltage (Vmp)	26.6V	26.8V	27.0V	27.2V	27.3V
Optimum Operating Current (Imp)	5.99A	6.08A	6.18A	6.27A	6.38A
Open Circuit Voltage (Voc)	33.6V	33.7V	33.8V	33.9V	34.0V
Short Circuit Current (Isc)	6.56A	6.64A	6.76A	6.86A	6.96A

Under Normal Operating Cell Temperature, Irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s

Mechanical Data

Cell Type	Poly-crystalline 156 x 156mm, 2 or 3 Busbars
Cell Arrangement	60 (6 x 10)
Dimensions	1638 x 982 x 40mm (64.5 x 38.7 x 1.57in)
Weight	20kg (44.1 lbs)
Front Cover	3.2mm Tempered glass
Frame Material	Anodized aluminium alloy
J-BOX	IP65, 3 diodes
Cable	4mm ² (IEC)/12AWG(UL), 1100mm
Connectors	MC4 or MC4 Comparable
Standard Packaging (Modules per Pallet)	24pcs
Module Pieces per container (40 ft. Container)	672pcs (40'HQ)

I-V Curves (CS6P-240P)



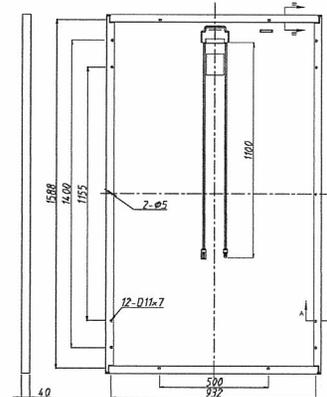
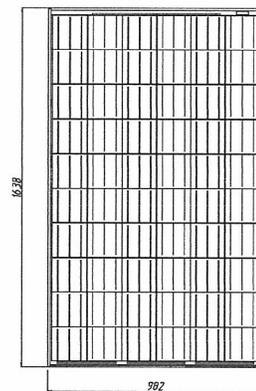
Temperature Characteristics

Temperature Coefficient	Pmax	-0.43%/°C
	Voc	-0.34%/°C
	Isc	0.065%/°C
Normal Operating Cell Temperature	45±2°C	

Performance at Low Irradiance

Industry leading performance at low irradiation environment, +95.5% module efficiency from an irradiance of 1000w/m² to 200w/m² (AM 1.5, 25 °C)

Engineering Drawings



*Specifications included in this datasheet are subject to change without prior notice.

About Canadian Solar

Canadian Solar Inc. is one of the world's largest solar companies. As a leading vertically-integrated manufacturer of ingots, wafers, cells, solar modules and solar systems. Canadian Solar delivers solar power products of uncompromising quality to worldwide customers. Canadian Solar's world class team of professionals works closely with our customers to provide them with solutions for all their solar needs.

Canadian Solar was founded in Canada in 2001 and was successfully listed on NASDAQ Exchange (symbol: CSIQ) in November 2006. Canadian Solar will expand its module manufacturing capacity to 2.05GW and cell manufacturing capacity to 1.3GW in 2011.

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 inquire.ca@canadiansolar.com
 www.canadiansolar.com

SUNNY BOY 5000-US / 6000-US / 7000-US / 8000-US



ASSEMBLED IN THE USA



UL Certified

- For countries that require UL certification (UL 1741/IEEE 1547)

Efficient

- 97% peak efficiency
- OptiCool™ active temperature management system

Safe

- Galvanic isolation

Simple

- Patented automatic grid voltage detection*
- Integrated DC disconnect switch

SUNNY BOY 5000-US / 6000-US / 7000-US / 8000-US

Versatile performer with UL Certification

The Sunny Boy 5000-US, 6000-US, 7000-US and 8000-US inverters are UL Certified and feature excellent efficiency. Graduated power classes provide flexibility in system design. Automatic grid voltage detection* and an integrated DC disconnect switch simplify installation, ensuring safety as well as saving time. These models feature galvanic isolation and can be used with all types of modules—crystalline as well as thin-film.

Technical data

Input (DC)

	Sunny Boy 5000-US			Sunny Boy 6000-US			Sunny Boy 7000-US			Sunny Boy 8000-US	
	208 V AC	240 V AC	277 V AC	208 V AC	240 V AC	277 V AC	208 V AC	240 V AC	277 V AC	240 V AC	277 V AC
Max. recommended PV power (@ module STC)	6250 W			7500 W			8750 W			10000 W	
Max. DC power (@ cos φ = 1)	5300 W			6350 W			7400 W			8600 W	
Max. DC voltage	600 V			600 V			600 V			600 V	
DC nominal voltage	310 V			310 V			310 V			345 V	
MPP voltage range	250 V - 480 V			250 V - 480 V			250 V - 480 V			300 V - 480 V	
Min. DC voltage / start voltage	250 V / 300 V			250 V / 300 V			250 V / 300 V			300 V / 365 V	
Max. input current / per string (at DC disconnect)	21 A / 20 A			25 A / 20 A			30 A / 20 A			30 A / 20 A	
	36 A @ combined terminal			36 A @ combined terminal			36 A @ combined terminal			36 A @ combined terminal	

Number of MPP trackers / fused strings per MPP tracker

1 / 4 (DC disconnect)

Output (AC)

	Sunny Boy 5000-US			Sunny Boy 6000-US			Sunny Boy 7000-US			Sunny Boy 8000-US	
	208 V / ●	240 V / ●	277 V / ●	208 V / ●	240 V / ●	277 V / ●	208 V / ●	240 V / ●	277 V / ●	240 V / ●	277 V / ●
AC nominal power	5000 W			6000 W			7000 W			7680 W 8000 W	
Max. AC apparent power	5000 VA			6000 VA			7000 VA			8000 VA	
Nominal AC voltage / adjustable	208 V / ● 240 V / ● 277 V / ●			208 V / ● 240 V / ● 277 V / ●			208 V / ● 240 V / ● 277 V / ●			240 V / ● 277 V / ●	
AC voltage range	183 - 229 V 211 - 264 V 244 - 305 V			183 - 229 V 211 - 264 V 244 - 305 V			183 - 229 V 211 - 264 V 244 - 305 V			211 - 264 V 244 - 305 V	
AC grid frequency; range	60 Hz; 59.3 - 60.5 Hz			60 Hz; 59.3 - 60.5 Hz			60 Hz; 59.3 - 60.5 Hz			60 Hz; 59.3 - 60.5 Hz	
Max. output current	24 A	21 A	18 A	29 A	25 A	22 A	34 A	29 A	25 A	29 A	32 A
Power factor (cos φ)	1			1			1			1	
Phase conductors / connection phases	1/2	1/2	1/1	1/2	1/2	1/1	1/2	1/2	1/1	1/2	1/1
Harmonics	< 4%			< 4%			< 4%			< 4%	
Efficiency											
Max. efficiency	96.7%	96.8%	96.8%	96.9%	96.8%	97.0%	97.1%	96.9%	97.0%	96.3%	96.5%
CEC efficiency	95.5%	95.5%	95.5%	95.5%	95.5%	96.0%	95.5%	96.0%	96.0%	96.0%	96.0%

Protection devices

DC reverse-polarity protection	●			●			●			●	
AC short circuit protection	●			●			●			●	
Galvanically isolated / all-pole sensitive monitoring unit	●/-			●/-			●/-			●/-	
Protection class / overvoltage category	I / III			I / III			I / III			I / III	

General data

Dimensions (W / H / D) in mm (in)	470 / 615 / 240 (18.5 / 24 / 9)										
DC Disconnect dimensions (W / H / D) in mm (in)	187 / 297 / 190 (7 / 12 / 7.5)										
Packing dimensions (W / H / D) in mm (in)	390 / 580 / 800 (16 / 23 / 31.5)										
DC Disconnect packing dimensions (W / H / D) in mm (in)	370 / 240 / 280 (15 / 9 / 11)										
Weight / DC Disconnect weight	64 kg (141 lb) / 3.5 kg (8 lb)						66 kg (145 lb) / 3.5 kg (8 lb)				
Packing weight / DC Disconnect packing weight	67 kg (147 lb) / 4 kg (9 lb)						69 kg (152 lb) / 4 kg (9 lb)				
Operating temperature range (full power)**	-25 °C ... +45 °C (-13 °F ... +113 °F)										
Noise emission (typical)	44 dB(A)			45 dB(A)			46 dB(A)			49 dB(A)	
Internal consumption at night	0.1 W			0.1 W			0.1 W			0.1 W	
Topology	LF transformer			LF transformer			LF transformer			LF transformer	
Cooling concept	OptiCool			OptiCool			OptiCool			OptiCool	
Electronics protection rating / connection area	NEMA 3R / NEMA 3R			NEMA 3R / NEMA 3R			NEMA 3R / NEMA 3R			NEMA 3R / NEMA 3R	

Features

Display: text line / graphic	●/-			●/-			●/-			●/-	
Interfaces: RS485 / Bluetooth®	○/○			○/○			○/○			○/○	
Warranty: 10 / 15 / 20 years	●/○/○			●/○/○			●/○/○			●/○/○	

Certificates and permits (more available on request)

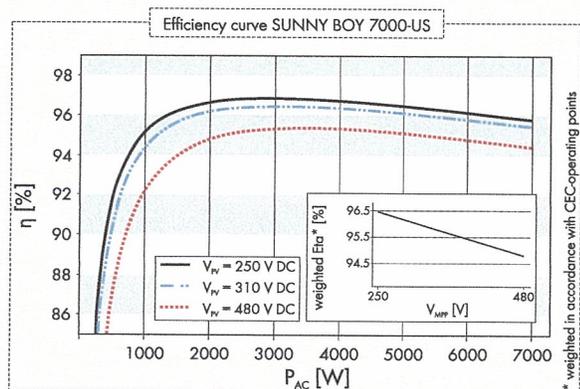
UL1741, UL1998, IEEE 1547, FCC Part 15 (Class A & B), CSA C22.2 No. 107.1-2001

** Extended operating temperature range to -40 °C available. Specify when ordering.

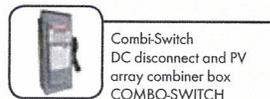
NOTE: US inverters ship with gray lids. Data at nominal conditions

● Standard features ○ Optional features - Not available

Type designation SB 5000US SB 6000US SB 7000US SB 8000US



Accessories



Toll Free +1 888 4 SMA USA

SUNNY WEBBOX



Reliable

- Remote monitoring, diagnosis and configuration of the solar power system from anywhere in the world
- Data logger for all key plant data

Responsive

- Rapid detection of operation failures
- Error notification via e-mail or text message

User-friendly

- Easy remote access via a web browser
- Includes free standard access to the Sunny Portal for the entire service life of the system

Informative

- Flexible display, evaluation, yield and event reports via the Sunny Portal

SUNNY WEBBOX

Remote monitoring and maintenance of large solar power plants

The Sunny WebBox is the ideal monitoring solution for large solar plants. It receives and stores current measurement values and transmits data via *Bluetooth®* or RS485, keeping you informed of system performance 24 hours per day. In the event of a problem, the Sunny WebBox allows you can react quickly. Parameters can be changed remotely and a variety of measured values can be depicted, analyzed and downloaded via a Web browser from anywhere in the world with an Internet connection. All data from the connected devices is stored and, if desired, automatically transmitted to the Sunny Portal. With the optional GSM modem, measurement data can even be transmitted to the Sunny Portal from remote locations.

Technical data	Sunny WebBox	Sunny WebBox with Bluetooth
Communication		
Inverter communication	RS485, 10/100 Mbit Ethernet (only for Sunny Central)	Bluetooth
PC-communication	10/100 Mbit Ethernet	10/100 Mbit Ethernet
Modem	Analog (optional), GSM (optional)	–
Data Interface	Modbus TCP, RPC	RPC
Connections		
Inverter	1x SMACOM	–
Ethernet	10/100 Mbit, RJ45	10/100 Mbit, RJ45
Max. number of SMA devices		
RS485 / Ethernet	50 / 50	–/–
Bluetooth	–	50
Max. communication range		
RS485 / Ethernet	1200 m / 100 m (3937 ft / 328 ft)	–/–
Bluetooth (unobstructed)	–	Up to 100 m (328 ft)** (can be extended with an SMA Bluetooth Repeater)
Power supply		
Power supply	External plug-in power supply	External plug-in power supply
Input voltage	100 V – 240 V AC, 50 / 60 Hz	100 V – 240 V AC, 50 / 60 Hz
Power consumption	Typ. 4 W/ max. 12 W	Typ. 4 W/ max. 12 W
Environmental conditions in operation		
Ambient temperature	–20 °C ... +65 °C (–4 °F ... +149 °F)	–20 °C ... +65 °C (–4 °F ... +149 °F)
Relative humidity	5% ... 95%, non-condensing	5% ... 95%, non-condensing
Memory		
Internal	8 MB in a ring memory configuration	12.5 MB in a ring memory configuration
External	SD card 1 GB / 2 GB (optional)	SD card 1 GB / 2 GB (optional)
General data		
Dimensions (W / H / D) in mm (in)	255 / 130 / 57 (10 / 5 / 2)	255 / 130 / 57 (10 / 5 / 2)
Weight	750 g (2 lb)	750 g (2 lb)
Mounting location	Indoors	Indoors
Installation options	DIN rail installation, wall mounting, tabletop device	DIN rail installation, wall mounting, tabletop device
Status display	LEDs	LEDs
Language versions (software, manual)	German, English, French, Greek, Italian, Korean, Dutch, Portuguese, Spanish, Czech	German, English, French, Greek, Italian, Korean, Dutch, Portuguese, Spanish, Czech
Features		
Operation	Integrated Web server (Internet browser)	Integrated Web server (Internet browser)
Warranty: 5 years	●	●
Certificates and approvals	www.SMA-Solar.com	www.SMA-Solar.com
Accessories		
Sunny SensorBox	Connection via RS485 Power Injector	Connection via SMA Power Injector with Bluetooth
SMA Bluetooth Repeater for extending the max. communication range	–	○
Sunny Matrix	○	○
SD card 1 GB / 2 GB	○	○
Outdoor GSM antenna	○	○*
GSM data card	○	○*
RS485 communication cables	○	–
Plug-in power supply with adapters	●	●

* Analog and GSM modem as well as corresponding accessories not available for first version of Sunny WebBox with Bluetooth

** Up to 50 m (165 ft) with SMA Bluetooth® Piggy-Back. Required for Sunny Boy 3000-US / 3800-US / 4000-US / 5000-US / 6000-US / 7000-US / 8000-US and 8000TL-US / 9000TL-US / 10000TL-US

● Standard features ○ Optional features – Not available

Type designation

Sunny WebBox

Sunny WebBox with Bluetooth



Communication with the inverters via RS485 or Bluetooth



Presentation of plant data with Sunny Matrix or Flashview



Free, automatic **visualization** of the measurement data in Sunny Portal



SD card slot for optional **memory expansion** and data transfer to a PC



Integrated web server enables **online remote data access** from any web-enabled PC in the world



Integrated **FTP server** for data transfer and storage on a PC

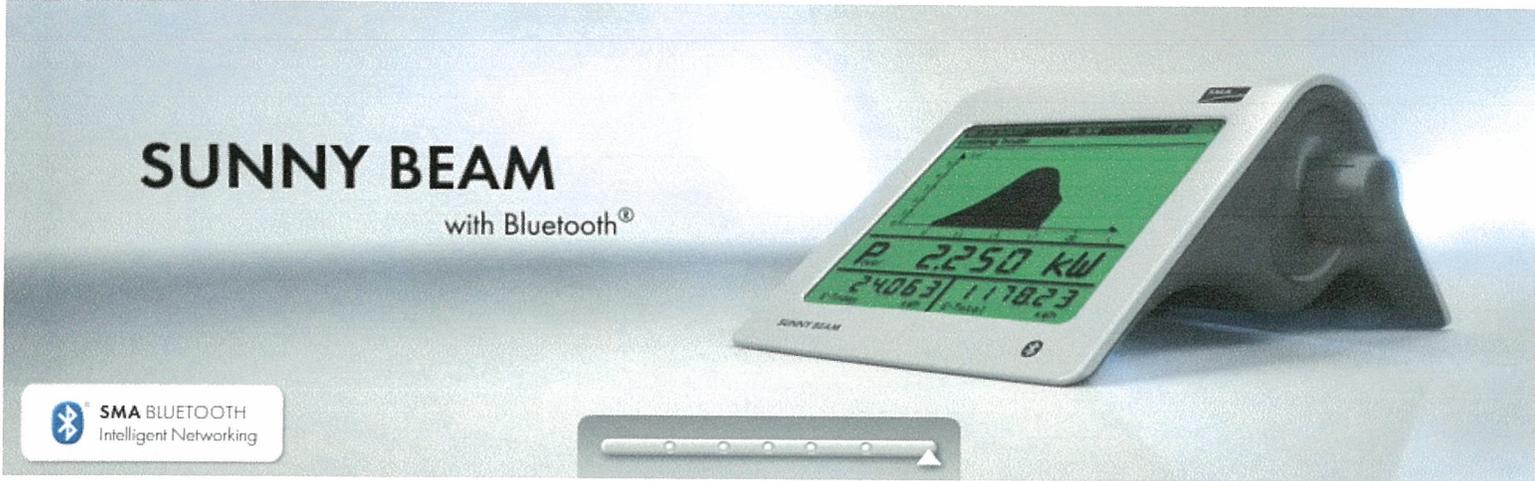


Quick set-up thanks to Sunny WebBox Assistant and the quick reference guide



Flexible, simultaneous data transfer to an FTP server and the Sunny Portal

Toll Free +1 888 4 SMA USA



SMA BLUETOOTH
Intelligent Networking

Overview

Technical Data

Downloads

Sunny Beam with Bluetooth®

Communication

Inverter communication	Bluetooth
PC communication	USB 2.0

Max. Communication Range

Bluetooth in free-field conditions	up to 100 m
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Max. Number of SMA Devices

Sunny Beam with Bluetooth®	max. 12
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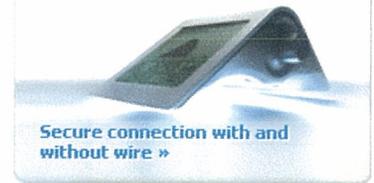
Power supply

Power supply	Integrated PV cell, USB cable
Number of batteries	2
Battery type	ENEKEEP (Mignon AA), NiMH (1.2 Vdc)

Environmental Conditions in Operation

Ambient temperature	0 °C ... 40 °C
Degree of protection (according to EN IEC 60529)	IP20

WIRELESS OR CABLE?



Solar Power Professional Search

Well informed and trained SMA contractors will be happy to help select the right product for you.

General Data

Dimensions (W / H / D)	127 / 75 / 195 mm
Weight (kg)	0.35 kg
Mounting location	Indoors
Installation options	Tabletop device
Status display	LCD
Software language	German, English, Italian, Spanish, French, Dutch, Portuguese, Greek, Czech
Language versions (manual)	German, English, Italian, Spanish, French, Dutch, Portuguese, Greek, Czech

Features

Display	LCD
Operation	Rotary push button
Warranty	5 years
Certificates and approvals	www.SMA-Solar.com

Information Displayed

General information	Date, time
Plant data	Current output, daily yield, total yield, specific annual yield, CO ₂ savings, remuneration
USB cable	yes
USB plug-in power supply	opt.
Replacement batteries	opt.
SMA <i>Bluetooth</i> Repeater	For extending the maximum <i>Bluetooth</i> communication range
Type designation	Sunny Beam Bluetooth

[Home](#) > [Products](#) > [Monitoring Systems](#) > [SUNNY BEAM with Bluetooth®](#)

Monitoring Systems

[SUNNY BEAM with Bluetooth®](#)
[SUNNY HOME MANAGER](#)
[SUNNY WEBBOX](#)
[SUNNY WEBBOX with Bluetooth®](#)
[SUNNY PORTAL](#)
[SUNNY SENSORBOX](#)
[METER CONNECTION BOX](#)
[SUNNY MATRIX](#)
[POWER REDUCER BOX](#)
[WIRELESS-SET485](#)

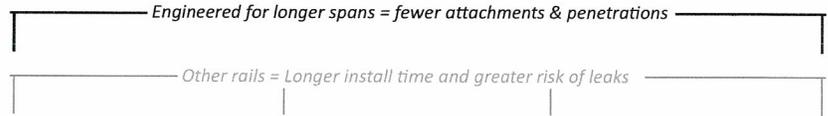


IronRidge Roof Mounts are the highest quality and fastest system for solar panel installers. Our customers appreciate the professional appearance found exclusively with IronRidge rail profiles.

- Key Features**
- Longest Spans In The Industry** Means Fewest Required Attachment Points
 - Fewest Attachment Points** Reduce Total Installed Costs And Liability
 - Unique Curved Profile** Of The Standard Rail Increases Strength And Enhances Aesthetic Design
 - Backed By Industry Leading Warranty** 10 yr. Limited Product, 3 yr. Finish
 - PE Certified For Most States**
 - Universal Clamping Components** Work With Most Solar Module Brands
 - Versatile Design** Allows For Use In Ground Mount, Roof Mount, or Large Array Applications
 - Best Customer Service And Support**

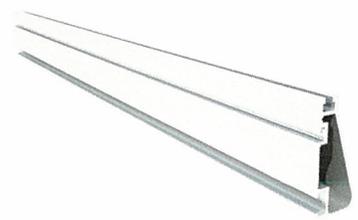
IronRidge Roof Mount System is a reliable, comprehensive, and feature rich photovoltaic mounting solution. Anchored by IronRidge Standard or IronRidge Light rails, our Roof Mount platform includes all of the components necessary for supporting virtually any commercial or residential roof mount installation, regardless of roof type or pitch.

IronRidge Standard Rails Less Material, Faster Install, Minimized Risk of Leaks



IronRidge Standard Rail

- Engineered profile allows for spans over 13'
- Cantilever can be 40% of span length
- Attractive structural design, ideal for residential and commercial applications



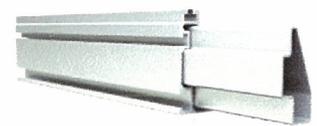
IronRidge Light Rail

- Light, cost effective rail system supports spans up to 8'
- Cantilever can be 40% of span length



Splices (Internal)

- Can be installed at same location as an attachment
- Does not require additional attachments to support the splice



Maximum Span Chart:		IronRidge Standard Rail						IronRidge Light Rail				
Wind Speed	Snow Loads											
		0 psf	10 psf	20 psf	30 psf	40 psf	50 psf	60 psf	0 psf	10 psf	20 psf	30 psf
90 mph	13.5'	12.5	10.5	10.0	9.0	8.5	7.5	8	7	6	5.5	5
100 mph	13.5	12.5	10.5	10.0	9.0	8.5	7.5	8	7	6	5.5	5
110 mph	13	12.5	10.5	10.0	9.0	8.5	7.5	7.6	7	6	5.5	5
120 mph	12	12	10.5	10.0	9.0	8.5	7.5	7	7	6	5.5	5
130 mph	11	11	10.5	10.0	9.0	8.5	7.5	6.5	6.5	6	5.5	5
140 mph	10	10	10	9.5	9.0	8.5	7.5	6	6	6	5.5	5
150 mph	9.6	9.5	9.5	9.5	8.5	8	7.5	5.5	5.5	5.5	5.5	5

Roof Zone 1, Flush Mount Only
Slope = 6" / ft.
Exposure category B
Module length: 77"

Building mean roof height = 30'
Clearance between roof and rail: 2"
End Cant Span: 40% (adj. interior span)
Middle 1/3 span rail splice not permitted

* For more information visit www.ironridge.com to download certification letters, installation guides, and to use our roof mount configuration software.

Attachments

- Adjustable L feet (4 pack kits)
- Adjustable tilt leg kits (5° to 45°)
- Flush mount aluminum standoffs (3", 4", 6", 7")
- Tilt steel standoffs (4", 6")



Clamps

- Panel Sizes 1.22" to 2.30"
- Mid clamps (require only 1/4" between panels)
- Mid clamps available in hex or t-bolt
- All hardware stainless steel



End Caps

Protect against debris while providing a finished look for both standard and light rails



Wire Clips

Accommodate up to eight 6mm panel wires or an Enphase wire harness



Why IronRidge



Experience - Designing/manufacturing solar mounting products since 1996

Single Source - Roof mounts, ballasted mounts, large arrays, and more; *a solution for your specific application*

Customer Satisfaction - Customer service and technical support to help you succeed

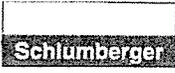
On-line Resources Available:

- Video Tutorials
- Product Configurators
- Product Certifications
- Installation Guides
- Data Sheets
- Reseller Locator



Sales: 800-227-9523
sales@ironridge.com

www.IronRidge.com
1435 Baechtel Road
Willits, CA 95490



BULLETIN 11111
Effective Date June 1994

J5S Singlephase Watthour Meter

DESCRIPTION

The **J5S Watthour Meter** is used for measuring singlephase electrical energy consumption. Available in a wide variety of class ratings and register designs, the J5S measures kilowatthours on both self-contained and transformer-rated services.

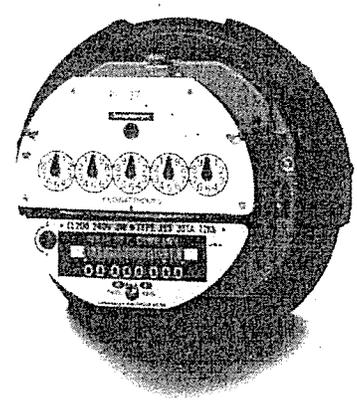
PRODUCT AVAILABILITY

Volts & Service	Meter Class	Test Amps	Disk Constant Kh	Form No.	Register Description	Reg. Dials & Mult.	Rr	Cat. No. with Glass Cover	Cat. No. with Polycarbonate Cover
SELF-CONTAINED METERS									
240V, 3 Wire	200	30	7.2	2S	Clock	5 x 1	27 7/9	96000	96019
240V, 3 Wire	200	30	7.2	2S	Clock	4 x 10	277 7/9	96002	96062
240V, 3 Wire	200	30	7.2	2S	Cyclometer	5 x 1	27 7/9	96003	96068
240V, 3 Wire	200	30	7.2	2S	Cyclometer	5 x 1**	27 7/9	96006	96141
240V, 3 Wire	200	30	7.2	2S	Cyclometer	4 x 10*	27 7/9	96005	96128
120V, 2 Wire	100	15	1.8	1S	Clock	4 x 1	111 1/9	96215	96383
120V, 2 Wire	100	15	1.8	1S	Clock	5 x 1	111 1/9	96148	96354
120V, 2 Wire	100	15	1.8	1S	Cyclometer	4x 1	111 1/9	96198	96237
120V, 2 Wire	100	15	1.8	1S	Cyclometer	5 x 1	111 1/9	96388	96273
TRANSFORMER-RATED METERS									
240V, 2 Wire	10†	2.5	0.6	3S	Clock	4 x TR	333 1/3	96077	96295
240V, 2 Wire	10†	2.5	0.6	3S	Cyclometer	4 x TR	333 1/3	96078	96249
240V, 3 Wire	10†	2.5	0.6	4S	Clock	4 x TR	333 1/3	96080	96279
240V, 3 Wire	10†	2.5	0.6	4S	Cyclometer	4 x TR	333 1/3	96186	96389
120V, 2 Wire	10†	2.5	0.3	3S	Clock	4 x TR	666 2/3	96175	97075
120V, 2 Wire	10†	2.5	0.3	3S	Cyclometer	4 x TR	666 2/3	96238	N/A

Note: All registers have Rs=50 (first gear reduction between: disk spindle and takeoff gear).
 * * x 10* tab in right-hand window of 5-drum cyclometer register.
 ** *0* tab in right-hand window of 5-drum cyclometer.
 † Secondary reading meters for which meter multiplier is equal to TR, product of transformer ratios (CTR x PTR).

TECHNICAL DATA

- Meets Applicable Standards
- ANSI C12.1 - 1988
 - ANSI C12.10 - 1987
 - IEC 521



Standard Features

- Clock Register
- Polycarbonate Cover

Option Availability

- A-Base Adapter
- Glass Cover
- Cyclometer Register
- Mechanical Detent
- Encoded Register - Type NC 110
- Identification/Accounting Aids
- Pulse Initiator - Type EPI
- Recording Register - Type DS 120

Reference Information

- Price Bulletin 110
- Instruction Manual 0100

Note: Refer to Options Section for description of options.

CHARACTERISTIC DATA

PARAMETER	J5S
Disk speed at test amps, unity power factor	16-2/3 rpm
Disk torque at test amps, unity power factor	40 mmg
Potential coil exciting current	15 ma
Starting watts	0.33% of test amps x rated volts at unity power factor
Range of adjustment	Full load: 5% total Light load: 30% total Power factor: 10% total
Temperature rise	In accordance with ANSI C12.1 standards

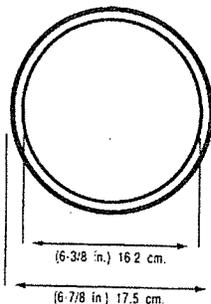
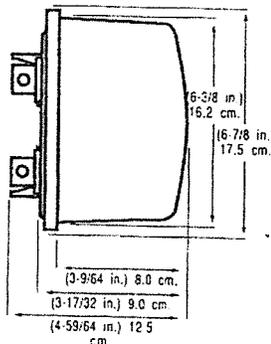
BURDEN DATA

VOLTAGE COIL - (at rated voltage) All ratings, 60 Hz.		
Watts	Reactive Volt-Amps	Volt-Amps
0.9	4.7	4.8

CURRENT COIL - Self Contained, Test Amp Current, 60 Hz.			
Service	Test Current (Amps)	Watts	Volt-Amps
2 Wire	15	0.14	0.31
3 Wire	15	0.09	0.12
3 Wire	30	0.15	0.16

CURRENT COIL - CLASS 10 AT 5 AMPERES, 60 HZ.						
Service	R	X	Z	VA	Watts	PF
2 Wire	.019	.045	.049	1.23	0.48	.39
3 Wire	.008	.012	.015	0.37	0.21	.57

DIMENSIONS/SHIPPING DATA



SHIPPING WEIGHTS		
UNIT NET WEIGHT	1.40 kg	3 lb
4 METER CARTONS	7.10 kg	15 lb
96 METER PALLETS	170.40 kg	360 lb

180 Technology Parkway
Norcross, GA 30092
Tel: (404) 447-7300 • FAX: (404) 447-7352

215 Laird Drive
Toronto, Ontario M4G 3X1
Tel: (416) 425-3330 • FAX: (416) 425-9062

BULLETIN 11111

INSTALLED
12/29/2011

Revision Energy
Reverse Grade Meter



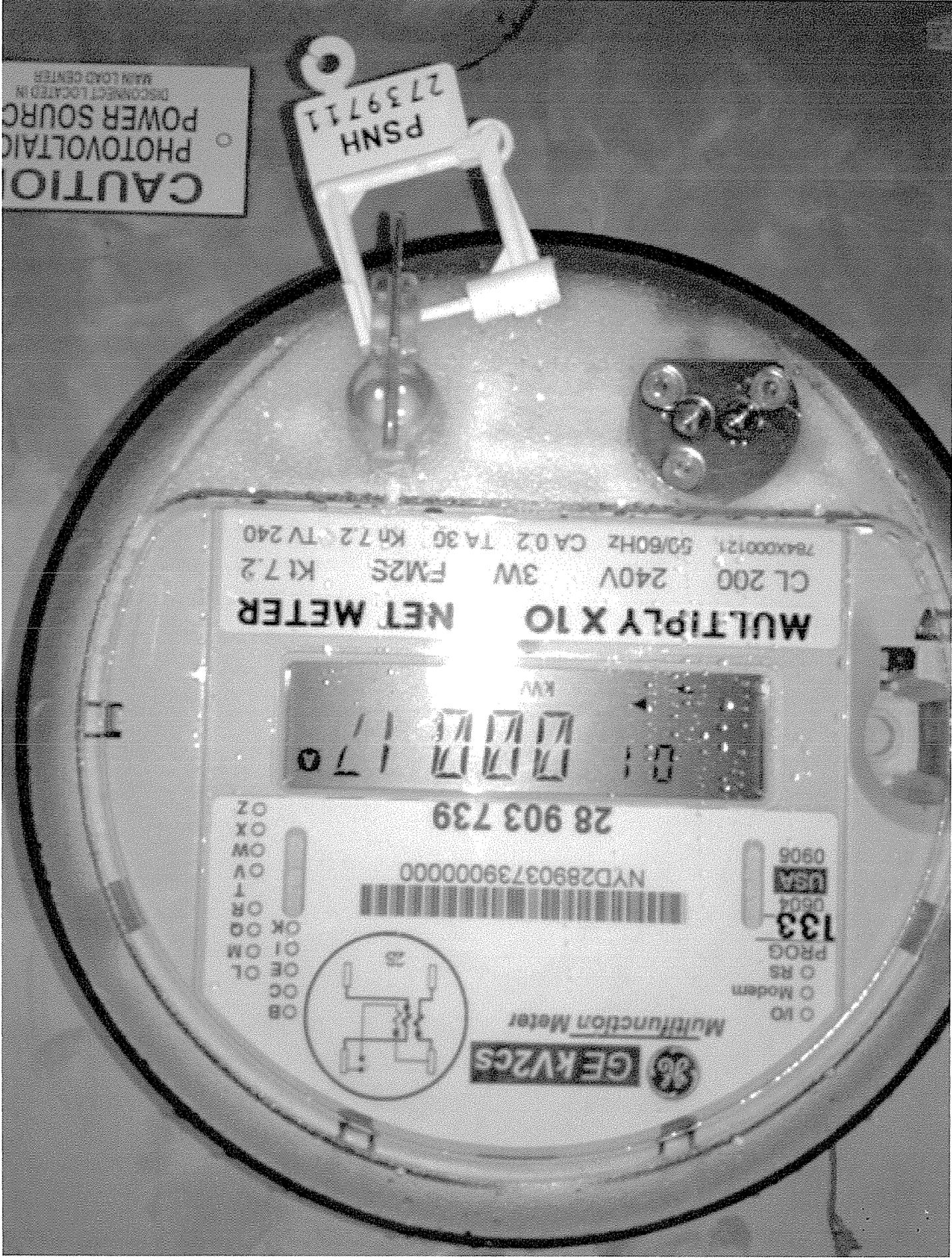
AC PRODUCTION METER

INSTALLED
11/16/2012

PSNH REVENUE
GRADE METER

CAUTION
PHOTOVOLTAIC
POWER SOURCE
DISCONNECT LOCATED IN
MAIN LOUIS CENTER

PSNH
2739711



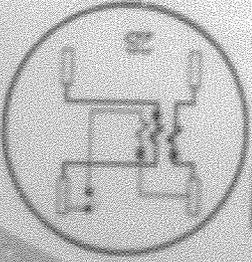
MULTIPLY X 10
NET METER
CL 200 240V 3W FM2S KI 7.2
50/60HZ CA 0.2 TA 35 KH 7.2 TV 240

01 170
kW

28 903 739

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GE KVAZCS
Multifunction Meter

R-28

Thursday, January 19, 2012 11:49:52 AM Eastern Standard Time

Subject: #N2413 Durham Boat PV (Durham) - Certificate of Completion, On Line
Date: Thursday, December 29, 2011 6:10:53 PM Eastern Standard Time
From: mottamd@nu.com
To: cfuerst@durhamboat.com
CC: jen@revisionenergy.com, heather@revisionenergy.com

Dear Ms. Fuerst,

Thank you for the submitting the 'Exhibit B - Certificate of Completion' for your PV installation #N2413 Durham Boat PV (Durham) located at 220 Newmarket Road in Durham, NH. The Certificate of Completion has been reviewed and processed. Enrollment into the Net Metering program is complete and you may interconnect your project to the PSNH electrical distribution system in accordance with the *New Hampshire Code of Administrative Rules Chapter Puc 900 Net Metering For Customer-Owned Renewable Energy Generation Resources of 1000 Kilowatts or Less*, and the *Terms and Conditions for Simplified Process Interconnections*.

Attached for your records is a copy of the 'Simplified Process Interconnection Application and Service Agreement.' I have not received an updated 'Exhibit B - Certification of Completion', however I was in touch with the Town of Durham electrical inspector today, and understand that the installation passed today's follow-up inspection. I will forward you a copy of the original 'Exhibit B - Certificate of Completion' when I return to my office on Tuesday, January 3, 2012.

(See attached file: #N2413 Durham Boat Company PV - Approved Simplified Application with conditions.pdf)

Please call me should you have any questions or require additional information.

Sincerely,

*Michael D. Motta
Engineer, Supplemental Energy Sources
780 North Commercial Street
Manchester, NH 03105
Office: 603.634.2920
Fax: 603.634.2449
mottamd@nu.com*

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PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
INTERCONNECTION STANDARDS FOR INVERTERS
SIZED UP TO 100 KVA
Terms and Conditions for Simplified Process Interconnections

PSNH waives inspection/Witness Test: Yes No

Date of inspection/Witness Test: Call to Schedule

1. **Construction of the Facility.** The Interconnecting Customer may proceed to construct the Facility in compliance with the specifications of its Application once the Approval to Install the Facility has been signed by the Company.
2. **Interconnection and operation.** The Interconnecting Customer may operate Facility and interconnect with the Company's system once the all of the following has occurred:
 - 2.1. **Municipal Inspection.** Upon completing construction, the Interconnecting Customer will cause the Facility to be inspected or otherwise certified by the local electrical wiring inspector with jurisdiction.
 - 2.2. **Certificate of Completion.** The Interconnecting Customer returns the Certificate of Completion to the Agreement to the Company at address noted.
 - 2.3. **Company has completed or waived the right to inspection.**
3. **Company Right of Inspection.** The Company will make every attempt within ten (10) business days after receipt of the Certificate of Completion, and upon reasonable notice and at a mutually convenient time, conduct an inspection of the Facility to ensure that all equipment has been appropriately installed and that all electrical connections have been made in accordance with the Interconnection Standard. The Company has the right to disconnect the Facility in the event of improper installation or failure to return Certificate of Completion. All projects larger than 10 kVA will be witness tested, unless waived by the Company.
4. **Safe Operations and Maintenance.** The Interconnecting Customer shall be fully responsible to operate, maintain, and repair the Facility.
5. **Disconnection.** The Company may temporarily disconnect the Facility to facilitate planned or emergency Company work.
6. **Metering and Billing.** All renewable Facilities approved under this Agreement that qualify for net metering, as approved by the Commission from time to time, and the following is necessary to implement the net metering provisions:
 - 6.1. **Interconnecting Customer Provides:** The Interconnecting Customer shall furnish and install, if not already in place, the necessary meter socket and wiring in accordance with accepted electrical standards. In some cases the Interconnecting Customer may be required to install a separate telephone line.
 - 6.2. **Company Installs Meter.** The Company will make every attempt to furnish and install a meter capable of net metering within ten (10) business days after receipt of the Certificate of Completion if inspection is waived, or within 10 business days after the inspection is completed, if such meter is not already in place.
7. **Indemnification.** Interconnecting Customer and Company shall each indemnify, defend and hold the other, its directors, officers, employees and agents (including, but not limited to, Affiliates and contractors and their employees), harmless from and against all liabilities, damages, losses, penalties, claims, demands, suits and proceedings of any nature whatsoever for personal injury (including death) or property damages to unaffiliated third parties that arise out of, or are in any manner connected with, the performance of this Agreement by that party, except to the extent that such injury or damages to unaffiliated third parties may be attributable to the negligence or willful misconduct of the party seeking indemnification.
8. **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, incidental, special, consequential, or punitive damages of any kind whatsoever.
9. **Termination.** This Agreement may be terminated under the following conditions:
 - 9.1. **By Mutual Agreement.** The Parties agree in writing to terminate the Agreement.
 - 9.2. **By Interconnecting Customer.** The Interconnecting Customer may terminate this Agreement by providing written notice to Company.
 - 9.3. **By Company.** The Company may terminate this Agreement (1) if the Facility fails to operate for any consecutive 12 month period, or (2) in the event that the Facility impairs or, in the good faith judgment of the Company, may imminently impair the operation of the electric distribution system or service to other customers or materially impairs the local circuit and the Interconnecting Customer does not cure the impairment.
10. **Assignment/Transfer of Ownership of the Facility.** This Agreement shall survive the transfer of ownership of the Facility to a new owner when the new owner agrees in writing to comply with the terms of this Agreement and so notifies the Company.
11. **Interconnection Standard.** These Terms and Conditions are pursuant to the Company's "Interconnection Standards for Inverters Sized Up to 100 kVA" for the Interconnection of Customer-Owned Generating Facilities, as approved by the Commission and as the same may be amended from time to time ("Interconnection Standard"). All defined terms set forth in these Terms and Conditions are as defined in the Interconnection Standard (see Company's website for the complete document).

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
INTERCONNECTION STANDARDS FOR INVERTERS
SIZED UP TO 100 KVA (Continued)

RECEIVED
OCT 06 2011
SESD

Simplified Process Interconnection Application and Service Agreement

Contact Information:

Date Prepared: October 5, 2011

Legal Name and Address of Interconnecting Customer (or, Company name, if appropriate)

Customer or Company Name (print): Durham Boat Company, Inc.

Contact Person, if Company: Coleen Fuerst

Mailing Address: 220 Newmarket Rd

City: Durham State: NH Zip Code: 03824

Telephone (Daytime): 603-659-7575 (Evening): 603-767-7238

Facsimile Number: 603-659-2548 E-Mail Address: c.fuerst@durhamboat.com

Alternative Contact Information (e.g., system installation contractor or coordinating company, if appropriate):

Name: James Dreher

Mailing Address: 220 Newmarket Rd

City: Durham State: NH Zip Code: 03824

Telephone (Daytime): 603-659-7575 (Evening): 603-767-6611

Facsimile Number: 603-659-6565 E-Mail Address: _____

Electrical Contractor Contact Information (if appropriate):

Name: Revision Energy Telephone: (207) 221-6342

Mailing Address: 142 Presumpscot Street

City: Portland State: ME Zip Code: 04103

Facility Information: DURHAM BOAT COMPANY, INC.

Address of Facility: 220 Newmarket Rd

City: Durham State: NH Zip Code: 03824

Electric Service Company: PSNH Account Number: 56122490030 Meter Number: 696893711

Electricity Supply Company: Glacial Energy Account Number: 35432413

Generator/Inverter Manufacturer: SMA Model Name and Number: 7000 Quantity: 4

Nameplate Rating: 29375 (kW) _____ (kVA) _____ (AC Volts) Single or Three _____ Phase

System Design Capacity: _____ (kVA) _____ (kVA) Battery Backup: Yes _____ No

Net Metering: If Renewably Fueled, will the account be Net Metered? Yes No _____

Prime Mover: Photovoltaic Reciprocating Engine Fuel Cell Turbine Other _____

Energy Source: Solar Wind Hydro Diesel Natural Gas Fuel Oil Other _____

UL 1741.1 (IEEE 1547.1) Listed? Yes No _____ External Manual Disconnect: Yes No _____

Estimated Install Date: Dec 2011 Estimated In-Service Date: Dec 2011

Interconnecting Customer Signature

I hereby certify that, to the best of my knowledge, all of the information provided in this application is true and I agree to the Terms and Conditions on the following page.

Customer Signature: [Signature] Title: President Date: October 5, 2011

Please attach any documentation provided by the inverter manufacturer describing the inverter's UL 1741 listing.

Approval to Install Facility (For Company use only)

Installation of the Facility is approved contingent upon the terms and conditions of this Agreement, and agreement to any system modifications, if required (Are system modifications required? Yes _____ No To be Determined _____)

Company Signature: [Signature] Title: Associate Engineer Date: 10/3/11

220 Newmarket Rd.
Durham, NH 03824

603-659-7575 ph
603-659-2548 fax

Durham Boat Company, Inc.

January 20, 2012

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: Application For Renewable Energy Source Eligibility – Exhibit D

Dear Ms. Howland:

The Durham Boat Company, Inc. hired ReVision Energy to install a 29.375 KW Grid-tied Photovoltaic System on its building at 220 Newmarket Rd., Durham, NH 03828.

Prior to the installation ReVision Energy applied and received all the necessary building, electrical and PSNH permits required to complete the job.

The work was completed in a professional and timely manner on December 29, 2011 and since that day we have been generating electricity for our use or when there is a surplus to the grid, when weather permits. Our net-metering meter was installed by PSNH on January 16, 2012.

ReVision Energy used licensed engineers and electricians. In addition ReVision Energy personnel are certified NABCEP-certified in photovoltaic installation. (See Exhibit D-1 completed by ReVision Energy)

I, Coleen Fuerst, signing on behalf of Durham Boat Company, Inc., the owner and operator of this renewable energy generating facility attest that the facility was installed and is operating in conformance with any applicable building codes.

Sincerely,



Coleen M. Fuerst, President
Durham Boat Company, Inc.
220 Newmarket Rd.
Durham, NH 03824

cfuerst@durhamboat.com
<http://www.durhamboat.com>



Professional design, installation and service of renewable energy systems

Exhibit D - 1

January 18, 2012

RE: ReVision Energy Solar Installation at Durham Boat Company, Inc.
Address: 220 Newmarket Road Durham, NH 03824

To Whom It May Concern:

ReVision Energy has been contracted to design and install a solar electric system at the above address in Durham. This letter is to confirm that the installation is complete and that all work has been performed by licensed and qualified installers, expert in the field and in compliance with both manufacturer's recommendations and all applicable local and state codes and standards.

ReVision Energy employs licensed engineers, plumbers, and electricians and carries the solar industries highest certifications (NABCEP) in both solar thermal and photovoltaic installation. We're committed to high quality, code compliant work and work together with the town to ensure that all requirements and needs are met and that our customer ends up with a system that is beautiful, functional and safe.

Respectfully,

Jennifer Hatch
Office Manager
ReVision Energy
142 Presumpscot Street
Portland, ME 04103
(207) 221-6342
jen@revisionenergy.com

Bangor
207-570-4222

Liberty
207-589-4171

Portland
207-221-6342

Portsmouth
603-486-7170

www.revisionenergy.com

Thursday, January 19, 2012 11:49:52 AM Eastern Standard Time

Subject: #N2413 Durham Boat PV (Durham) - Certificate of Completion, On Line
Date: Thursday, December 29, 2011 6:10:53 PM Eastern Standard Time
From: mottamd@nu.com
To: cfuerst@durhamboat.com
CC: jen@revisionenergy.com, heather@revisionenergy.com

Dear Ms. Fuerst,

Thank you for the submitting the 'Exhibit B - Certificate of Completion' for your PV installation #N2413 Durham Boat PV (Durham) located at 220 Newmarket Road in Durham, NH. The Certificate of Completion has been reviewed and processed. Enrollment into the Net Metering program is complete and you may interconnect your project to the PSNH electrical distribution system in accordance with the *New Hampshire Code of Administrative Rules Chapter Puc 900 Net Metering For Customer-Owned Renewable Energy Generation Resources of 1000 Kilowatts or Less*, and the *Terms and Conditions for Simplified Process Interconnections*.

Attached for your records is a copy of the 'Simplified Process Interconnection Application and Service Agreement.' I have not received an updated 'Exhibit B - Certification of Completion', however I was in touch with the Town of Durham electrical inspector today, and understand that the installation passed today's follow-up inspection. I will forward you a copy of the original 'Exhibit B - Certificate of Completion' when I return to my office on Tuesday, January 3, 2012.

(See attached file: #N2413 Durham Boat Company PV - Approved Simplified Application with conditions.pdf)

Please call me should you have any questions or require additional information.

Sincerely,

Michael D. Motta
Engineer, Supplemental Energy Sources
780 North Commercial Street
Manchester, NH 03105
Office: 603.634.2920
Fax: 603.634.2449
mottamd@nu.com

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