



Case No.: 09-885-EL-REN

A. Name of Renewable Generating Facility: Bortz

The name specified will appear on the facility's certificate of eligibility issued by the Public Utilities Commission of Ohio.

Facility Location:

Street Address: 309 Shepherd Street

City: Lebanon State: PA Zip Code: 17038

Facility Latitude and Longitude

Latitude: 40.4090067

Longitude: -75.489577

There are internet mapping tools available to determine your latitude and longitude, if you do not have this information.

If applicable, U.S. Department of Energy, Energy Information Administration Form EIA-860 Plant Name and Plant Code.

EIA-860 Plant Name:

EIA Plant Code:

B. Name of the Facility Owner: Christopher Bortz

Please note that the facility owner name listed will be the name that appears on the certificate.

If the facility has multiple owners, please provide the following information for each on additional sheets.

Applicant's Legal Name: Christopher Bortz

Title:

Organization:

Owner's Address:

Street Address: 309 Shepherd Street

City: Lebanon State: PA Zip Code: 17038

Country: USA

Phone: 717-679-2621 Fax:

Email Address: cbbortz@yahoo.com

Web Site Address (if applicable):

C. List name, address, telephone number and web site address under which Applicant will do business in Ohio.

Applicant's Legal Name: Same as B.

Title:

Organization:

Please note that the company name will appear on the certificate

Owner's Address:

The address provided in this section is where the certificate will be sent

Street Address:

City: State: Zip Code:

Country:

Phone: Fax: Email Address:

Web Site Address (if applicable):

D. Name of Generation Facility Operating Company: Same as B.

Legal Name of Contact Person:

Title:

Organization:

Operator's Address:

Street Address:

City: State: Zip Code:

Country:

Phone: Fax: Email Address:

Web Site Address (if applicable):

E. Contact person for regulatory or emergency matters:

Legal Name of Contact Person: Gary Lakritz

Title: President

Organization: Knollwood Energy

Operator's Address:

Street Address: PO Box 30

City: Chester State: NJ Zip Code: 07930

Country: USA

Phone: 862-432-0260 Fax: Email Address: gary@knollwoodenergy.com

Web Site Address (if applicable): knollwoodenergy.com

F. Certification Criteria 1: Deliverability of the Generation into Ohio

Ohio Revised Code (ORC) Sec. 4928.64(B)(3)

The facility must have an interconnection with an electric utility.

Check which of the following applies to your facility's location:

☐ The facility is located in Ohio.

☒ The facility is located in a state geographically contiguous to Ohio (Indiana, Kentucky, Michigan, Pennsylvania, or West Virginia).

☐ The facility is located in the following state:

If the renewable energy resource generation facility is not located in Ohio, Indiana, Kentucky, Michigan, Pennsylvania, or West Virginia, you are required to submit a study by one of the regional transmission organizations (RTO) operating in Ohio, either PJM or Midwest ISO, demonstrating that the power from your facility is physically deliverable into the state of Ohio. The study may be conducted by someone other than the RTO provided that the RTO approves the study. This study must be appended to your application as an exhibit.

G. Certification Criteria 2: Qualified Resource or Technology

You should provide information for only one resource or technology on this application; please check and/or fill out only one of the sections below. If you are applying for more than one resource or technology, you will need to complete a separate application for each resource or technology.

For the resource or technology you identify below, please provide a written description of your system. Please indicate if the facility is a customer-owned renewable distributed generation system. Please also include a detailed description of how the output of the facility is going to be measured and verified. If the facility is behind-the-meter and grid connected, please describe the configuration of the meter and the meter type. Please also attach digital photographs that depict an accurate characterization of your installed system. Please indicate the date(s) the photographs were taken. If you need additional sheets for the description of your system, please include those as an exhibit and clearly identify the subject matter in the heading.

Solar PV – The system is a customer owned, grid connected, behind the meter solar pv facility with net metering. The system is composed of both a roof mounted and ground mounted system with a sun tracker. Each system has a Sunpower inverter which is used to track the production. The Model numbers are Sunpower SPR – 3000M & SPR – 4000M. The specifications are included at the bottom of the application. Additionally, the system has an Itron CL 200 utility grade meter, which is being used additionally to measure output. The utility grade meter was installed after the system started.



9/23/09



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10/1/09



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The Applicant is applying for certification in Ohio based on the following qualified resource or technology (Sec. 4928.01 O.R.C.):

G.1 __ SOLAR PHOTOVOLTAIC

Total PV Capacity (DC): 6,300 Watts

Total PV Capacity (AC): 5,040 Watts

Expected Capacity Factor: 15%

Anticipated Annual output in kWh/yr: 6,985

Location of the PV array: ☒ Roof ☒ Ground __ Other

of Modules and/or size of the array: 28 modules

G.1a PV Modules

For each PV module, provide the following information:

Manufacturer: Sunpower

Model and Rating: SPR-225-BLK 225 watts

G.2 __ SOLAR THERMAL

G.3 __ WIND

Total Nameplate Capacity (kilowatts AC): kW DC

Expected Capacity Factor:

Anticipated Annual Output in kWh/yr or MWh/yr:

of Generators:

G.3a Wind Generators

If your system includes multiple generators, please provide the following information for each unique generator you have in your system

Manufacturer:

Model Name and Number:

Generator Nameplate Capacity (kilowatts AC):

Wind Hub Height (ft):

Wind Rotor Diameter (ft):

G.4 __ HYDROELECTRIC ("hydroelectric facility" means a hydroelectric generating facility that is located at a dam on a river, or on any water discharged to a river, that is within or bordering this state or within or bordering an adjoining state (Sec. 4928.01(35) O.R.C.)

Check each of the following to verify that your facility meets each of the statutory standards (Sec. 4928.01(35) O.R.C.):

- (a) The facility provides for river flows that are not detrimental for fish, wildlife, and water quality, including seasonal flow fluctuations as defined by the applicable licensing agency for the facility.
- (b) The facility demonstrates that it complies with the water quality standards of this state, which compliance may consist of certification under Section 401 of the "Clean Water Act of 1977," 91 Stat. 1598, 1599, 33 U.S.C. 1341, and demonstrates that it has not contributed to a finding by this state that the river has impaired water quality under Section 303(d) of the "Clean Water Act of 1977," 114 Stat. 870, 33 U.S.C. 1313.
- (c) The facility complies with mandatory prescriptions regarding fish passage as required by the Federal Energy Regulatory Commission license issued for the project, regarding fish protection for riverine, anadromous, and catadromus fish.
- (d) The facility complies with the recommendations of the Ohio Environmental Protection Agency and with the terms of its Federal Energy Regulatory Commission license regarding watershed protection, mitigation, or enhancement, to the extent of each agency's respective jurisdiction over the facility.
- (e) The facility complies with provisions of the "Endangered Species Act of 1973," 87 Stat. 884, 16 U.S.C. 1531 to 1544, as amended.
- (f) The facility does not harm cultural resources of the area. This can be shown through compliance with the terms of its Federal Energy Regulatory Commission license or, if the facility is not regulated by that commission, through development of a plan approved by the Ohio Historic Preservation Office, to the extent it has jurisdiction over the facility.
- (g) The facility complies with the terms of its Federal Energy Regulatory Commission license or exemption that are related to recreational access, accommodation, and facilities or, if the facility is not regulated by that commission, the facility complies with similar requirements as are recommended by resource agencies, to the extent they have jurisdiction over the facility; and the facility provides access to water to the public without fee or charge.
- (h) The facility is not recommended for removal by any federal agency or agency of any state, to the extent the particular agency has jurisdiction over the facility.

G.5 __ GEOTHERMAL

G.6 __ SOLID WASTE (as defined in ORC section 3734.01), electricity generation using fuel derived from solid wastes through fractionation, biological decomposition, or other process that does not principally involve combustion. (Sec. 4928.01(A)(35) O.R.C.)

Identify all fuel types used by the facility and respective proportions (show by the percent of heat input):

G.7 __ BIOMASS

Identify the fuel type used by the facility:

If co-firing an electric generating facility with a biomass energy resource, the proportion of fuel input attributable to the biomass energy resource shall dictate the proportion of electricity output from the facility that can be considered biomass energy.

G.7a List all fuel types used by the facility and respective proportions (show by the percent of heat input):

G.7b Please attach the formula for computing the proportions of output per fuel type by MWh or kWh generated.

G.8 __ FUEL CELL (any fuel cell used in the generation of electricity, including, but not limited to, a proton exchange membrane fuel cell, phosphoric acid fuel cell, molten carbonate fuel cell, or solid oxide fuel cell; Sec. 4928.01(35)(A) O.R.C.).

Identify all fuel types used by the facility and respective proportions:

G.9 __ STORAGE FACILITY

If using compressed air or pumped hydropower, the renewable energy resource used to impel the resource into the storage reservoir is (include resource type and facility name):

H. Certification Criteria 3: Placed in Service Date (Sec. 4928.64. (A)(1) O.R.C.)

The Renewable Energy Facility:

☐ has a placed-in-service date before January 1, 1998; (month/day/year):

☒ has a placed-in-service date on or after January 1, 1998; (month/day/year): 04/23/2009

☐ has been modified or retrofitted on or after January 1, 1998; (month/day/year):

Please provide a detailed description of the modifications or retrofits made to the facility that rendered it eligible for consideration as a qualified renewable energy resource. In your description, please include the date of initial operation and the date of modification or retrofit to use a qualified renewable resource. Please include this description as an exhibit attached to your application filing and identify the subject matter in the heading of the exhibit.

☐ Not yet online; projected in-service date (month/day/year):

H.1 Is the renewable energy facility owner a mercantile customer?

ORC Sec. 4928.01 (19) "Mercantile customer" means a commercial or industrial customer if the electricity consumed is for nonresidential use and the customer consumes more than seven hundred thousand kilowatt hours per year or is part of a national account involving multiple facilities in one or more states.

☒ No

☐ Yes

Has the mercantile customer facility owner committed to integrate the resource under the provisions of Rule 4901:1-39-08 O.A.C?

☐ No

☐ Yes

If yes, please attach a copy of your approved application as an exhibit to this filing.

I. Facility Information

The nameplate capacity of the entire facility in megawatts (MW): .0063

If applicable, what is the expected heat rate of resource used per kWh of net generation:
BTU/kWh

Number of Generating Units: 2

I.1 For each generating unit, provide the following information:

In-Service date of each unit	The nameplate capacity of each unit in megawatts (MW)	Projected Annual Generation	Expected Annual Capacity Factor %
4/23/2009	.0027	2.985 MWhrs	15%
4/23/2009	.0036	4.0 MWhrs	15%

(To expand the number of rows if more units need to be reported, place your cursor in the bottom right cell and hit tab).

J. Regional Transmission Organization Information

J.1 In which Regional Transmission Organization area is your facility located:

☒ Within Geographic Area of PJM Interconnection, L.L.C.

☐ Within Geographic Area of Midwest ISO

☐ Other (specify):

J.2 Are you a member of a regional transmission organization?

☒ Yes; specify which one: PJM

☐ No; explain why you are not a member of a regional transmission organization:

J.3 Balancing Authority operator or control area operator for the facility:

☒ PJM

☐ Midwest ISO

☐ Other (specify):

K. Attribute Tracking System Information

Are you currently registered with an attribute tracking system: ☒ Yes ☐ No

In which attribute tracking system are you currently registered or in which do you intend to register (*the tracking system you identify will be the system the PUCO contacts with your eligibility certification*):

☒ GATS

☐ M-RETS

☐ Other (specify):

K.1 Enter the generation ID number you have been assigned by the tracking system: NON38947
If the generation ID number has not yet been assigned, you will need to provide this number to the PUCO within 15 days of your facility receiving this number from the tracking system).

L. Other State Certification

Is the facility certified by another state as an eligible generating resource to meet the renewable portfolio standards of that state?

☒ Yes

☐ No

L.1 If yes, for each state, provide the following information:

Name of State	State Certification Agency	State Certification Number	Date Issued
Pennsylvania	PA PUC	PA-39324-SUN-I	9/4/2009

(To expand the number of rows if more units need to be reported, place your cursor in the bottom right cell and hit tab).

M. Type of Generating Facility

Please check all of the following that apply to your facility:

- ☐ Utility Generating Facility:
 - ☐ Investor Owned Utility
 - ☐ Rural Electric Cooperative
 - ☐ Municipal System
- ☐ Electric Services Company (competitive retail electric service provider)
- ☒ Distributed Generation with a net metering and interconnection agreement with a utility.
Identify the utility: Met Ed
- ☐ Distributed Generation with both on-site use and wholesale sales.
Identify the utility with which the facility is interconnected:
- ☐ Distributed Generation, interconnected without net metering.
Identify the utility with which the facility is interconnected:

Note: if the facility does not yet have an interconnection agreement with a utility or transmission system operator, please note here the status of the application for such an agreement:

N. Meter Specifications

All facilities are required to measure output with a utility grade meter. Please provide this information for each meter used in your system.

Manufacturer: Sunpower
Serial Number: 2000600303
Type: SPR3000M
Date of Last Certification:

Attach a photograph of the meter with date image taken. The meter reading must be clearly visible in the photograph.

Total kWh shown on meter at time of photograph: 1567

Manufacturer: Sunpower
Serial Number: 2000673012
Type: SPR4000M
Date of Last Certification:
Total kWh shown on meter at time of photograph: 3117

Manufacturer: Itron
Serial Number: 58 812 321
Type: CL200
Date of Last Certification: When Installed
Total kWh shown on meter at time of photograph: 19

The Public Utilities Commission of Ohio reserves the right to verify the accuracy of the data reported to the tracking system and to the PUCO.

SUNPOWER®

BENEFITS

Reliable and Robust Design

Proven track record for durability and longevity

High Efficiency

Weighted CEC efficiency over 95% and peak efficiency over 96%

Reduced Installation Cost

Integrated DC disconnect with fuses lowers material costs and labor requirements

Attractive Aesthetics

Integrated disconnect eliminates need for visible conduits to inverter

Ideal Output

Ideal for residential applications



3000m & 4000m INVERTERS

EXCEPTIONAL RELIABILITY AND PERFORMANCE



The SunPower inverters 3000m and 4000m provide exceptional reliability combined with superior performance. Innovative design and advanced testing have been brought together to create a durable inverter that enables optimal system performance over the long term. Both models come with a standard 10-year warranty.

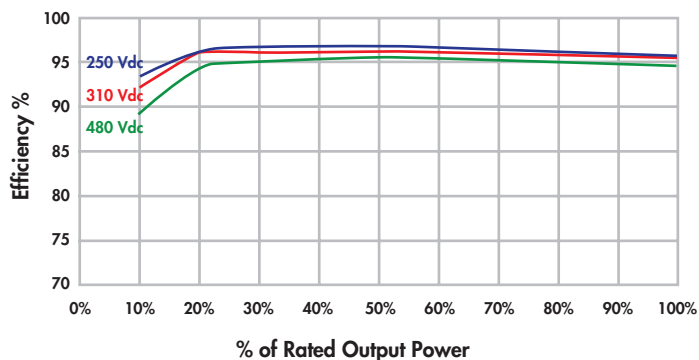
SPR-3000m and SPR-4000m

www.sunpowercorp.com

Electrical Data

	SPR-3000m	SPR-4000m
AC Power	3000 W	3500 W @ 208 V / 4000 W @ 240 V
AC Maximum Output Current (@ 208V, 240V)	15A, 12.5A	17A, 16.6A
AC Nominal Voltage / Range	183 – 229 V @ 208 VAC 211 – 264 V @ 240 VAC	183 – 229 V @ 208 VAC 211 – 264 V @ 240 VAC
AC Frequency / Range	60 Hz / 59.3 Hz – 60.5 Hz	60 Hz / 59.3 Hz – 60.5 Hz
Power Factor	1	1
Peak Inverter Efficiency	96.6%	96.8%
CEC Weighted Efficiency	95.0 % @ 208 V 95.5 % @ 240 V	95.5 % @ 208 V 96.0 % @ 240 V
Recommended Array Input Power (DC @ STC)	3600 W	4800 W
DC Input Voltage Range	200 – 500 V @ 208V 200 – 500 V @ 240V	250 – 600 V @ 208 VAC 250 – 600 V @ 240 VAC
Peak Power Tracking Voltage	180 – 400 V @ 208 VAC 200 – 400 V @ 240 VAC	220 – 480 V @ 208 VAC 250 – 480 V @ 240 VAC
DC Max. Input Current	17 A	18 A
DC Voltage Ripple	< 5%	
No. of Fused String Inputs	4	
Power Consumption: Standby / Nighttime	< 7 W / 0.1 W	
Fused DC Disconnect	Standard; Complies w NEC Standards	
Grounding	Positive Ground	

SPRm Efficiency Curves

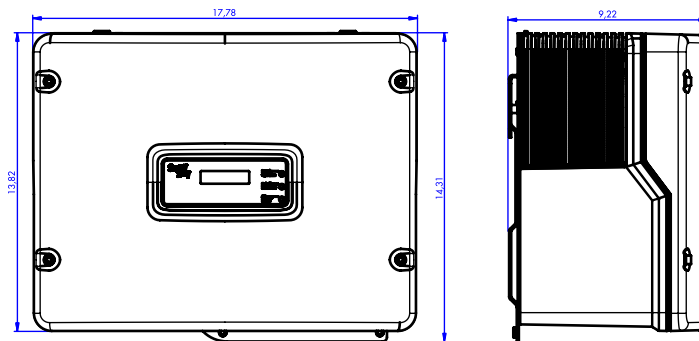


Mechanical Data

Shipping Dimensions W x H x D inches	23.5" x 18.5" x 16.0"
Unit Dimensions W x H x D inches	17.8" x 13.8" x 9.3"
Inverter Weight	88 lbs
Shipping Weight	94 lbs
Cooling	Forced Air / Sealed Electronics Enclosure
Enclosure	NEMA 3R
Mounting	Wall Mount Bracket Standard
Ambient Temperature Range	-13 to +113 °F

Warranty and Certifications

Warranty	10 year limited warranty
Certifications	Compliance: IEEE-929, IEEE-1547, UL 1741-2005, UL 1998, FCC Part 15 A & B



About SunPower

SunPower designs, manufactures and delivers high-performance solar electric technology worldwide. Our high-efficiency solar cells generate up to 50 percent more power than conventional solar cells. Our high-performance solar panels, roof tiles and trackers deliver significantly more energy than competing systems.

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Case No(s). 09-0885-EL-REN

Summary: Application Ohio Renewable Energy application form electronically filed by Mr. Gary Lakritz on behalf of Mr. Christopher Bortz