



**Case No.: 10-0281-EL-REN**

**A. Name of Renewable Generating Facility:** MVE Partners

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

**Facility Location**

Street Address: 2010 West Main Street

City: Ephrata State: PA Zip Code: 17522

**Facility Latitude and Longitude**

Latitude: 40.211122

Longitude: -76.234446

*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:

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**B. Name of the Facility Owner**

*Please note that the facility owner name listed will be the name that appears on the certificate. The address provided in this section is where the certificate will be sent.*

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

Applicant's Legal Name (First Name, MI, Last Name): Tim Bollinger

Title:

Organization:

Street Address: 2010 West Main Street

City: Ephrata State: PA Zip Code: 17522

Country: USA

Phone: 717-738-2451 Fax: Email Address: tim@mveesco.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 (First Name, MI, Last Name): Same as B

Title:

Organization:

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 (First Name, MI, Last Name):

Title:

Organization:

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 (First Name, MI, Last Name): Gary Lakritz

Title: President

Organization: Knollwood Energy

Street Address: P.O. 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

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## **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.*

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## **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.*

G.1. For the resource or technology you identify in Sections G.4 – G.13 below, please provide a written description of the system.

The system is a roof mounted behind the meter solar pv system. The panels are on the roof of the business located here. All the panels feed one utility and production meter.

G.2. Please include a detailed description of how the output of the facility is going to be measured and verified, including the configuration of the meter(s) and the meter type(s).

The system has a Schneider Electric Power Logic Square D EME3084 utility grade production meter that will be used to track the system production that will be entered into GATS. The meter meets ANSI C12.1 metering standards. The meter specs are included below the meter picture.

The Schneider meter is model number EME3084.

G.3. Please attach digital photographs that depict an accurate characterization of the renewable generating facility. Please indicate the date(s) the photographs were taken. For existing facilities, these photographs must be submitted for your application to be reviewed. For

proposed facilities or those under construction, photographs will be required to be filed within 30 days of the on-line date of the facility.

**INSERT PHOTOGRAPH(S)**



**Photograph taken 3/2/10**

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

**G.4 \_\_ SOLAR PHOTOVOLTAIC**

Total PV Capacity (DC): 198,340 watts

Total PV Capacity (AC): 158,672 watts

Expected Capacity Factor: 12.0%

*Capacity factor is the ratio of the energy produced to the maximum possible at full power, over a given time period. Capacity factor may be calculated using this formula:*

*Projected annual generation (kWh or MWh) **divided by** [the nameplate capacity (in kW or MW) **times** 8760]*

Anticipated Annual output in kWh/yr: 208,695 kWh/yr  
Location of the PV array:   X   Roof    Ground    Other  
# of Modules and/or size of the array: 844

#### **G.4a PV Modules**

For each PV module, provide the following information:

Manufacturer: Sharp  
Model and Rating: NU-U235F1 235 watts

#### **G.5    SOLAR THERMAL (FOR ELECTRIC GENERATION)**

#### **G.6    WIND**

Total Nameplate Capacity (kilowatts AC):                      or    kW DC:  
Expected Capacity Factor:  
Anticipated Annual Output in kWh/yr or MWh/yr:  
# of Generators:

#### **G.6a 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.7    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.8 \_\_ GEOTHERMAL**

**G.9\_\_ 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.10\_\_ BIOMASS** (includes biologically-derived methane gas, such as landfill gas)

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.10a** List all fuel types used by the facility and respective proportions (show by the percent of heat input):

**G.10b** Please attach the formula for computing the proportions of output per fuel type by MWh or kWh generated.

**G.11 \_\_ 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.12 \_\_ 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):

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**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): 1/12/10

☐ 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.

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**I. Facility Information**

The nameplate capacity of the entire facility in megawatts (MW): .19834

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

Number of Generating Units: 1

**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 % |
|------------------------------|-------------------------------------------------------|-----------------------------|-----------------------------------|
| 1/12/10                      | .19834                                                | 208.695 Mwhrs               | 12.0%                             |
|                              |                                                       |                             |                                   |
|                              |                                                       |                             |                                   |
|                              |                                                       |                             |                                   |
|                              |                                                       |                             |                                   |

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

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## 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:

☒ No; explain why you are not a member of a regional transmission organization:  
This is a small business behind the meter solar facility.

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

☐ PJM

☐ Midwest ISO

☒ Other (specify): This is a small business behind the meter solar facility.

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## 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 (Generation Attribute Tracking System)

☐ M-RETS (Midwest Renewable Energy Tracking System)

☐ Other (specify):

**K.1** Enter the generation ID number you have been assigned by the tracking system:

*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).*

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**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 Currently applying for PA certification

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

| Name of State | State Certification Agency | State Certification Number | Date Issued |
|---------------|----------------------------|----------------------------|-------------|
|               |                            |                            |             |
|               |                            |                            |             |
|               |                            |                            |             |
|               |                            |                            |             |
|               |                            |                            |             |

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

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**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 certified by the PUCO)
- ☒ Distributed Generation with a net metering and interconnection agreement with a utility.  
Identify the utility: PPL Electric Utilities
- ☐ 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:

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## 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.***

The meter(s) that are measuring output from the facility are:

\_\_\_\_ Inverter Meter(s)

\_\_X\_\_ Utility Grade Meter(s)

Manufacturer: Schneider Electric Power Logic

Serial Number: 1266047683

Type: EME3084

Date of Last Certification: at factory

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

**INSERT PHOTOGRAPH(S)**



Photograph taken 3/2/10

Report the total meter reading number at the time of the photograph and specify the appropriate unit of generation (e.g., kWh): 3,168 kWh



Photograph taken 3/2/10

## PowerLogic® Energy Meter

for submetering applications

### Applications

- Tenant Submetering

- Cost Allocation
- Performance Contracting
- Real Time Power Monitoring
- LEED Certification
- EPACT 2005 Compliance
- Demand Response

A  
E  
F  
B  
D  
C

A = 2.58" (81 mm)  
B = 1.10" (48 mm)  
C = .75" (23 mm)  
D = 1.04" (26 mm)  
E = 2.90" (74 mm)  
F = 3.52" (90 mm)  
A = 3.75" (95 mm)  
B = 1.51" (38 mm)  
C = 1.25" (32 mm)  
D = 1.13" (29 mm)  
E = 4.20" (106 mm)  
F = 4.75" (121 mm)

#### Size 1

#### Size 2

A = 2.15" (55 mm)  
B = 1.28" (33 mm)  
C = .518" (13 mm)  
D = .915" (23 mm)  
E = 2.34" (60 mm)  
F = 3.52" (90 mm)

#### Size 0

B  
E  
F  
C  
D  
A

A = 4.90" (124 mm)  
B = 2.89" (73 mm)  
C = 2.45" (62 mm)  
D = 1.13" (29 mm)  
E = 5.57" (141 mm)  
F = 5.91" (150 mm)

#### Size 3

A = 4.90" (124 mm)  
B = 5.50" (140 mm)  
C = 2.45" (62 mm)  
D = 1.13" (29 mm)  
E = 8.13" (207 mm)  
F = 5.92" (150 mm)

#### Size 4

## Ordering Information

Basic 120/240 Volt 208Y/120V

3.00"  
(76 mm)  
7.60"  
(193 mm)  
8.30"  
(211 mm)

#### Features and Benefits

High-resolution back-lit liquid crystal display — Provides clear data readings from a distance under any lighting conditions.

True reading display — No multipliers are required for data readings. The true reading is what you see in the display.

**High accuracy — ±1% systems accuracy from 2% to 100% of the CT rating meets ANSI C12.1 metering accuracy standards.**

kW demand metering — The optional EMCB also provides kW demand monitoring in the Energy Meter. The user can set the demand interval from five minutes to one hour to accurately measure kW demand.

Simple, fast installation — Factory assembled split-core CTs greatly reduce installation time. The meter automatically corrects for phase reversal, eliminating concern with CT load orientation. To simplify installation further, CTs and voltage terminals are color coded, making it easy to determine the correct phase matching.

Easy integration to PowerLogic or Control/Data Acquisition Systems — Extended models have pulse output contacts, selectable from 1/10 to 1 kWh per pulse, for easy integration to existing control systems.

Automatic meter reading — The optional Energy Meter Communications Board (EMCB) provides serial Modbus®RS-485 RTU communications for connecting the Energy Meter to a remote monitoring system. With the addition of the EMCB, the Energy Meter can be used with PowerLogic software for electrical cost allocation and billing of submetered electrical systems.

Schneider Electric - North American Operating Division

295 Tech Park Drive, LaVergne, TN 37086

Tel: 866-466-7627 Toll Free

PowerLogic.com

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"Safety & Security. Reliability & Productivity. Aesthetics & Comfort. Efficiency & Sustainability.

Whatever your need Schneider Electric has the solution.

To find genuine Schneider Electric and Square D Brand products, go to

www.squared.com to find your nearest authorized distributor or call 1-888-SquareD.

## Technical Specifications

LCD display. Physical 1.2" x 3.8" inch viewing area,

160 segments, back lit with green LEDs

Electrical services . . . . . Single and three phase plus neutral

CT case isolation. . . . . 600 Vac

Sample rate. 1280 Hz

Internal isolation. . . . . 2500 Vac

Operating temperature range . 0 to 50°C (<95% RH, non-condensing)

Storage temperature range . -40 to 70°C

Systems accuracy . . . . . ±1% of reading from 2% to 100% of the rated current of the CTs

Meter/CT distance . . . . . 20 feet (5 meters) maximum

Frequency . . . . . 50/60 Hz

**Basic 120/240 Volt, 208Y/120V Volt Wye**

Power source. Line powered 120 Vac, line-to-neutral

Voltage tolerance . -25/+10% (90–132 Vac)

Services . . . . . 120/240 Vac with neutral, 208Y/120 Vac with neutral

**Extended Range 120 /240V to 480Y/277V (4 wire) Wye**

Power source. Line powered 120-277 Vac (line-to-neutral)

Voltage tolerance . -25/+10% (90 Vac line-to-neutral to 300 Vac (line-to-line)

Services . . . . . 1Ø2W, 1Ø3W and 3Ø4W up to 480Y/277V

Pulse output. . . . . N.O., Opto-FET, 100 mA at 24 Vac/dc

Pulse rate. 0.10, 0.25, 0.50, or 1.00 kWh per pulse

Phase loss alarm output. . . . N.C. Opto-FET, 100 mA at 24 Vac/dc

Fixed threshold 25% below any other phase.

Always open as long as alarm persists.

**Split Core CTs** Included, quantity dependent upon

model selected. Available CT ranges:

100A, 200A, 300A, 400A, 800A, 1600A

**Communications Board, EMCB** Modbus Communications

Output type. . . . . Modbus RTU

Connection. . . . . 2-wire or 4-wire selectable

Baud rate. . . . . 2400, 4800, 9600, 19200 Baud

Parity. . . . . None/Odd/Even selectable

Address. 1–63

**Display**

Energy, kWh,

Real Power, kW, per phase

Reactive power, kVAR

Power factor, per phase

Max Power, kW max

Voltage, V, per phase

Current, A, phase

**Agency Compliance**

UL, CUL

**Also Displays (with Comms Card)**

Real Power, kW total

Reactive power, kVAR total

Power factor total

Voltage, V average

Current, A average  
Demand, kW

***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.***

Version: October 08, 2009

**This foregoing document was electronically filed with the Public Utilities**

**Commission of Ohio Docketing Information System on**

**3/9/2010 10:44:02 PM**

**in**

**Case No(s). 10-0281-EL-REN**

Summary: Application Solar Renewable Application for MVE Partners electronically filed by Mr. Gary Lakritz on behalf of MVE Partners