



**Case No.: 10\_\_\_\_ - 1210\_\_\_\_ -EL-REN**

**A. Name of Renewable Generating Facility:** Markel Residential Solar PV

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

**Facility Location**

Street Address: 452 Upper Georges Valley Road  
City: Spring Mills State: PA Zip Code: 16875

**Facility Latitude and Longitude**

Latitude: 40.818961 Longitude: -77.610342

*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:** Chris Markel

*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.*

Legal Name of Contact Person (First Name, MI, Last Name): Chris Markel

Title: Owner

Organization:

Street Address: 452 Upper Georges Valley Road

City: Spring Mills State: PA Zip Code: 16875

Country: USA

Phone: 814-360-8406 Fax: Email Address: chrismarkel@gmail.com

Web Site Address (if applicable):

**C. Name under which Facility Owner will do business in Ohio:** 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):

**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): Brad Bowery

Title: CEO

Organization: SRECTrade

Street Address: 1517 North Point St. #414

City: San Francisco State: CA Zip Code: 94123

Country: USA

Phone: 757-559-1580 Fax: 732-453-0065

Email Address: lisa.wadsworth@srectrade.com

Web Site Address (if applicable): www.srectrade.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 facility is a roof mounted behind the meter residential photovoltaic system.

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 facility has 1 GE CL200 240v 3w utility grade meter, type I-70S CL-200, that will be used to measure the output that is reported to GATS.

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.

Date photograph taken: 7/26/2010

**INSERT PHOTOGRAPH(S)**





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

**G.4 X SOLAR PHOTOVOLTAIC**

Total PV Capacity (DC): 9,660 watts

Total PV Capacity (AC): 7,728 watts

Expected Capacity Factor: 13.13%

*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: 11.109

Location of the PV array: X Roof    Ground    Other

# of Modules and/or size of the array: 42

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

For each PV module, provide the following information:

Manufacturer: Sharp

Model and Rating: ND-U230C1      230watts

#### **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.7 .1** Is your facility currently certified by the Low-Impact Hydro Institute?

☐ Yes

☐ No

## **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**



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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): 7/23/2010

☐ 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? No

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): .00966

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 %
7/23/2010	.00966	11109 kWh	13.13%

*(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**

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):

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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

**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: Allegheny Power

☐ 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

### Metering Requirements

***If the renewable energy resource generating facility is 6 kW or below, the output may be measured with either an inverter meter or a utility grade meter.***

***All facilities that are larger than 6 kW must measure the output of the facility with a utility grade meter. Facilities that are larger than 6 kW and that are not measuring output with a utility grade meter will not be certified. OAC 4901:1-40-04 (D)(1)***

***Please only report on the meter or the meters used to measure the output from the facility which will be reported to the attribute tracking system.***

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

☐ Inverter Meter(s)

☒ Utility Grade Meter(s)

***Please provide the following information for each meter used in your system.***

Manufacturer: GE Meter

Serial Number: 54 161 420

Type: I-70S

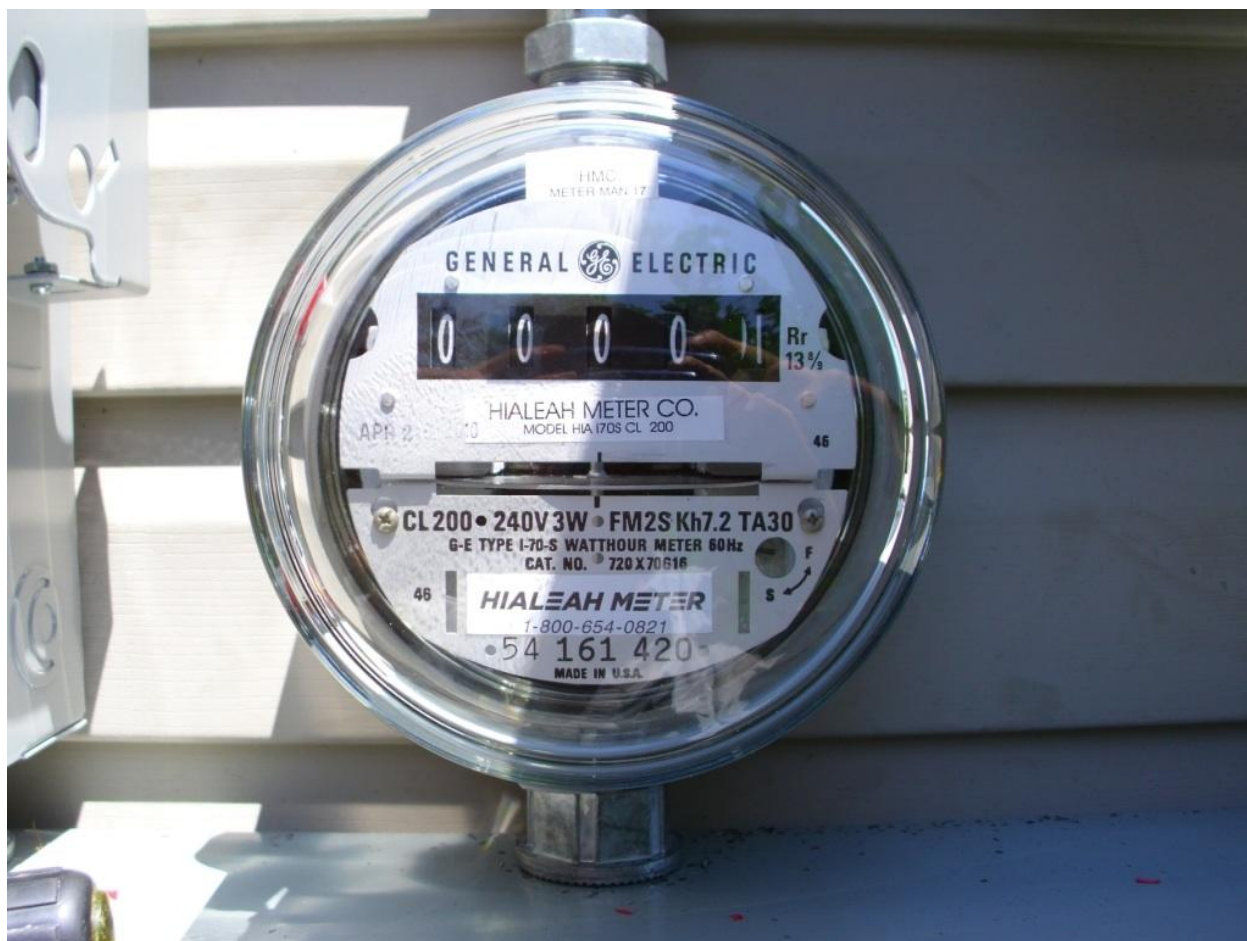
Date of Last Certification: 04/02/2010

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

Report the total meter reading number at the time the photograph was taken and specify the appropriate unit of generation (e.g., kWh): 0

Date photograph taken: 7/2/2010

**INSERT PHOTOGRAPH(S)**



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**O. Start date from which the facility may begin reporting generation towards the creation of Renewable Energy Credits (RECs)**

The start date from which an attribute tracking system will begin to count generation data toward the creation of renewable energy credits will be the date of certificate issuance in the state of Ohio, unless the facility satisfies one of the criterion established in the Commission's June 17, 2009 Entry on Rehearing issued in Case No. 08-888-EL-ORD.

In that Entry, the Commission found it to be appropriate to recognize the creation of RECs back to July 31, 2008, the date in which the Ohio alternative energy portfolio standard law became effective, provided that "The facility was a participant in an existing attribute tracking system during that time or had a meter in place which can accurately demonstrate generation levels from July 31, 2008 forward." (June 17, 2009 Entry on Rehearing at 34.)

- (1) Existing attribute tracking system:

- a. For facilities that are currently participating in an attribute tracking system, it is not sufficient to merely be registered with the tracking system; you also must be reporting generation data.
- b. If the facility was a participant in an existing attribute tracking system, please state the specific start date that will be used to recognize historical RECs.

(2) Meter which can accurately demonstrate generation levels from July 31, 2008:

- a. For facilities which have had a meter in place, accurately demonstrating generation levels must include documentation from an electric remote monitoring and reporting system, from the specified start date, and recorded on at least a monthly basis.
- b. If the facility had a meter that accurately demonstrates generation levels, please state the specific start date, and attach documentation from the remote monitoring and reporting system.

If the facility was a participant in an existing attribute tracking system, please state the specific start date, in accordance with the tracking system's rules, that will be used to recognize historical RECs:

If the facility had a meter that accurately demonstrates generation levels, please state the specific start date, and below insert documentation from the remote monitoring and reporting system:

INSERT DOCUMENTATION



Also, in the Commission's Entry on Rehearing, the Commission explained that consistent with its policy on double counting, the Commission "will not retroactively recognize any past RECs which have been sold or otherwise consumed." (June 17, 2009 Entry on Rehearing at 34.)

Has any of the generation of the facility been tracked as RECs that have been sold or otherwise consumed?      Yes                      X      No

***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: July 1, 2010

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**Case No(s). 10-1210-EL-REN**

Summary: Application Markel Residential Solar PV electronically filed by Mr. Brad Bowery on behalf of Mr. Chris Markel