



Case Number: 14-0740-EL-REN

A. Generating Facility

Name of Renewable Generating Facility: Maywood Photovoltaic Project

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

Facility Location

Street Address: 1800 S Tibbs Avenue

City: Indianapolis **State:** IN **County:** Marion **Zip Code:** 46241

Facility Latitude and Longitude

Latitude: 39.744 **Longitude:** -86.218

There are internet mapping tools available to determine the 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: Maywood Photovoltaic Project

EIA Plant Code: 58770

B. Legal 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.

Legal Name of the Facility Owner: HQC Maywood, LLC

Legal Name of Facility Owner Representative: Edvin Vehabovic

Title: O&M Manager

Organization: Hanwha Q Cells USA

Street Address: 95 Federal Street

City: San Francisco **State:** CA **Zip Code:** 94114

Phone: 415-541-9300 x8030 **Fax:** 415-541-9301

Email Address: edvin.vehabovic@hqamericas.com

Web Site Address (if applicable):

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

Legal Name of Facility Owner Representative: Herman Schkabla

Title: Manager, Resource Planning

Organization: Indianapolis Power & Light Company

Street Address: One Monument Circle

City: Indianapolis **State:** IN **Zip Code:** 46204

Phone: 317-261-8963 **Fax:** 317-261-5054

Email Address: herman.schkabla@aes.com

Web Site Address (if applicable): www.IPLpower.com

D. Name of Generation Facility Operating Company

Name of Generation Facility Operating Company: HQC Maywood, LLC

Legal Name of Contact Person: Edvin Vehabovic

Title: O&M Manager

Organization: Hanwha Q Cells USA

Street Address: 95 Federal Street

City: San Francisco **State:** CA **Zip Code:** 94114

Phone: 415-541-9300 x8030 **Fax:** 415-541-9301

Email Address: edvin.vehabovic@hqamericas.com

Web Site Address (if applicable):

E. Regulatory/Emergency Contact

Legal Name of Contact Person: Jay Grafton

Title: VP Operations, Maintenance & Engineering

Organization: Power Factors LLC

Street Address: 123 Estudillo Avenye

City: San Leandro **State:** CA **Zip Code:** 94577

Phone: 907-268-8656 **Fax:**

Email Address: jay.grafton@powerfactorscorp.com

Web Site Address (if applicable): www.powerfactorscorp.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 the facility's location:

No The facility is located in Ohio.

Yes The facility is located in a state geographically contiguous to Ohio (IN, KY, MI, PA, WV).

No 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 POWER FLOW study by one of the regional transmission organizations (RTO) operating in Ohio, either PJM or Midwest ISO, demonstrating that the power from the facility is physically deliverable into the state of Ohio. This study must be appended to the application as an exhibit. THE FACILITY MUST BE INTERCONNECTED TO TRANSMISSION LINES. FOR ADDITIONAL INFORMATION ON DELIVERABILITY REQUIREMENTS, PLEASE REFER TO THE COMMISSION FINDING & ORDER of 3/23/11 IN CASE NO. 09-555-EL-REN.)

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 45 acre generation facility consists of 36,556 polycrystalline, ground mounted, fixed-tilt solar panels and eight 480 volt 60HZ inverters for a total capacity of 8 MWs. The solar modules are mounted at a 20 degree tilt angle facing due south. Each of the eight 3-phase inverters is connected to a 480 volt to 13,200 volt step up transformer. The transformers are each connected to a radial collection system which conveys energy to S&C fused cutouts enabled with SEL voltage sensing for single phase condition protection. The generation facility interconnection equipment consists of two pole mounted metering clusters, reclosers, and visible lockable gang operated air break switches.

As the facility is constructed on a Superfund site, HQC installed a driven pile-based solar module mounting system rather than the concrete ballast system commonly used at landfills. The driven pile system provides stability for the solar panels and framing while avoiding soil excavation or adding weight. In a few locations where piles could not be driven to proper depth to achieve engineering goals, the design used ballast foundations.

The project also included an innovative wire management approach; use of above ground cable trays enabled the project to avoid digging trenches between each row of panels and burying wire below ground. These design choices helped HQC minimize soil cover disruption during construction.

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).

A series of devices have been installed to create a suitable interface between the PV site and the IPL distribution system.

A. 15 kV Pole-mounted Utility Metering Transformers (pole 671/599-A) [Site Pole #4]

These metering transformers measure the production and consumption of electrical energy by the PV site. It connects to two watt-hour meters installed adjacent to this pole to record monthly energy consumption and real-time solar production.

The metering data at the solar facility will be read by the centralized dSCADA application via wireless communication. The kW, kVAr, kWh, and kVArh information is packaged and sent to the Energy Control System (ECS) through an ICCP connection. The data gets transformed and placed into an Oracle database for Energy System Accounting purposes. Simultaneously, the information is placed in a format that MISO will dictate and placed on an ICCP connection to the offices of the Midcontinent Independent System Operator (MISO).

IPL will install its security padlocks at all accessible locations on this device.

B. 15 kV Pole-mounted Owner Metering Transformers and 13.8 kV Fuse Pole [Site Pole #1]

These metering transformers measure the production and consumption of electrical energy by the PV site. It connects to an SEL-735 power quality recording device as well as the site's GE SUNIQ inverter control system.

This pole also contains two sets of hook operated 250A fuses. Each set of fuses is connected to a 15kV cable system. Each section connects to four inverter skids. A single-phase tap from this pole extends back to Site Pole #2 where a pole-mounted 37.5KVA transformer is located. This transformer provides power to the site's SCADA building and other equipment requiring 120-240 VAC.

Data Sharing

IPL has requested access to data that the Owner may have available to support IPL's research in the application of distributed generation within its electric system. IPL may have data of value to the PV Owner. Both parties agree to share data as a means to verify data received as well as draw correlations between weather data and system impacts.

Configuration of Meter

See attachment: Maywood Interconnection Agreement Amendment 1 Exhibit 1B for the AC Single Line Drawing.

Meter Type

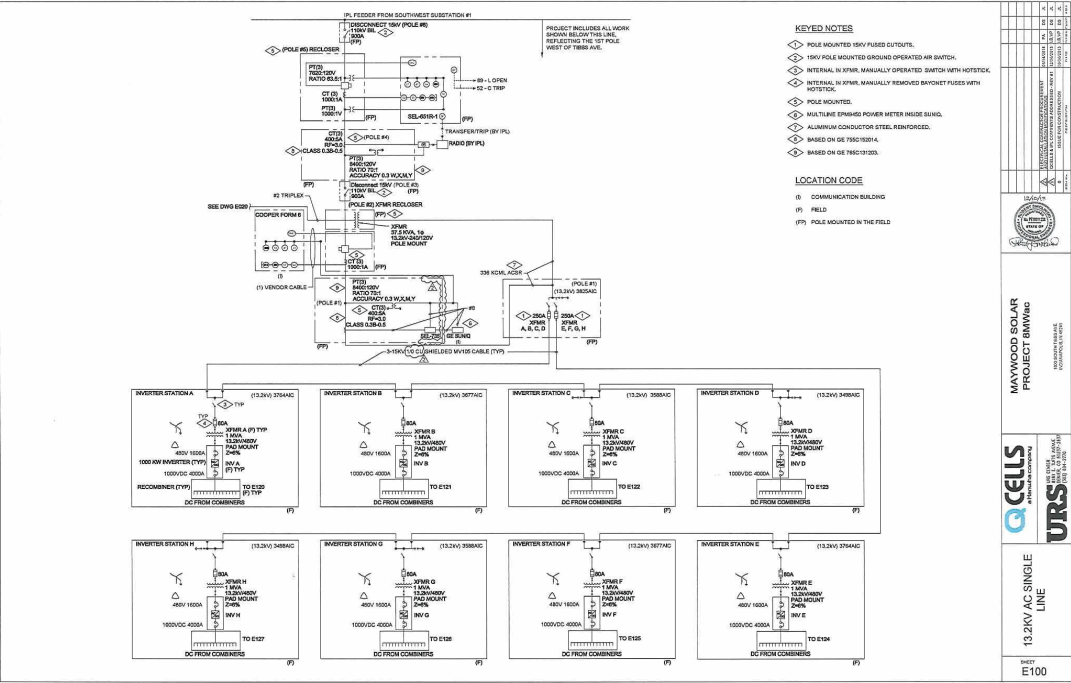
JEMSTAR High Accuracy Revenue meter. The JEMSTAR has a guaranteed accuracy of 0.07% on watt-hours with an unprecedented typical accuracy of 0.03%. Accuracy is further enhanced with TLC, LLC and selectable gain adjustments on PTs and CTs.

G.3. Please submit 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.



April 23, 2014





The Applicant is applying for certification in Ohio for a facility using one of the following qualified resources or technologies (Sec. 4928.01 ORC):

G.4 SOLAR PHOTOVOLTAIC

G.4a Location of the PV Array: Ground
Description:

G.4b Total number of Modules: 36,556

G.4.1 PV Modules

For each PV module, provide the following information:

G.4.1.a Manufacturer: Hanwha Q Cells

G.4.1.b Model and Rating: Q Pro L Series 295W & 300 W solar modules

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

The Renewable Energy Facility:

No has a placed-in-service date before January 1, 1998; Date:

Yes has a placed-in-service date on or after January 1, 1998; Date: 3/5/14

No has been modified or retrofitted on or after January 1, 1998; Date:

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.

No Not yet online; projected in-service date:

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.

Has the mercantile customer facility owner committed to integrate the resource under the provisions of Rule 4901:1-39-08 O.A.C? No

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

I. Facility Information

I.a The nameplate capacity of the entire facility kilowatts (kW): 8,000.00 (megawatts (MW): 8)

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

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

<u>Unit In-Service</u> <u>Date</u>	<u>Unit Nameplate</u> <u>Capacity (MW)</u>	<u>Projected Gross</u> <u>Annual Generation</u>	<u>Expected Annual</u> <u>Capacity Factor %</u>	<u>Number of</u> <u>Generating Units</u>
3/5/14	8	12,500	17.8	1

$$\text{Capacity Factor \%} = \frac{\text{Projected Annual Generation}}{\text{Nameplate Capacity} \times 8,760} \times 100$$

J. Regional Transmission Organization Information

In which Regional Transmission Organization area is your facility located:

No Within Geographic Area of PJM Interconnection, L.L.C.

Yes Within Geographic Area of Midwest ISO

No Other (specify):

K. Attribute Tracking System Information

Are you currently registered with an attribute tracking system: Yes

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)*:

No GATS (Generation Attribute Tracking System)

Yes M-RETS (Midwest Renewable Energy Tracking System)

Other (specify):

K.1 Enter the generation ID number you have been assigned by the tracking system: M899

(If the generation ID number has not yet been assigned, you will need to file this number in the PUCO Case Docket within 15 days of the facility receiving this number from the tracking system).

K.2 Has any of the generation of the facility been tracked as RECS that have been sold or otherwise consumed? No

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? No

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

<u>Name of State</u>	<u>State Certification Agency</u>	<u>State Certification Number</u>	<u>Certification Date Issued</u>
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M. Type of Generating Facility

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

- No Utility Generating Facility:
- No Investor Owned Utility
- No Rural Electric Cooperative
- No Municipal System
- No Electric Services Company (competitive retail electric service provider certified by the PUCO)
- No Distributed Generation with a net metering and interconnection agreement with a utility.
Identify the Utility:
- No Distributed Generation with both on-site use and wholesale sales.
Identify the Utility:
- Yes Distributed Generation, interconnected without net metering.
Identify the Utility: PPA Under Rate REP with Indianapolis Power & Light Company

N. Meter Specifications

Metering Requirements

- 1. 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.***
- 2. 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)***
- 3. 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.***

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

No Inverter Meter(s)

Yes Utility Grade Meter(s) (Must meet ANSI 12.1, or demonstrate an accuracy level of $\pm 2\%$)

N.1 Please provide the following information for each meter used in your system.

N.1.a Manufacturer: JEMSTAR

N.1.b Serial Number: 13 32 20845

N.1.c Type: Model: JS-09S6110-C High Accuracy Revenue Meter

N.1.d Date of Last Certification: August 07, 2013

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

N.1.e Report the total meter reading number at the time the photograph was taken and specify the appropriate unit of generation (e.g., kWh): 1,764.5

4/23/2014 12:00:00AM





Public Utilities Commission

Affidavit for Application for Certification as an Eligible Ohio Renewable Energy Resource Generating Facility

Please be advised that all applicant's contact information, including address and telephone number, will be made public and is not subject to confidential treatment. Additionally, any information pertaining to trade secrets contained within the application will be made public unless filed under seal with a motion for protective order, pursuant to Rule 4901-1-24 of the Ohio Administrative Code.

Case Number: 14-0740-EL-REN

Facility Name: Maywood Photovoltaic Project

Name of person making this affidavit: Seung H. Lee

State of CA

County of Orange County

The undersigned, being duly sworn according to law, deposes and says that:

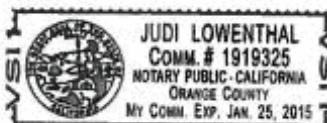
1. I am authorized to and do hereby make this affidavit on behalf of the Applicant,
2. All facts and statements made in the application for certification, including all attachments and supplemental information or filings, are true and complete to the best of my knowledge, information, and belief,
3. The facility has obtained or will obtain and will maintain all required local, state, and federal environmental permits,
4. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Seung H. Lee, Manager
Signature of Affiant & Title

Sworn and subscribed before me this _____ day of _____, _____ Month/Year

Notary

My commission expires on _____



State of California, County of ORANGE
Subscribed and sworn to (or affirmed) before me
on this 13 day of AUGUST, 20 14,
by SEUNG H. LEE,
proved to me on the basis of satisfactory evidence to
be the person(s) who appeared before me.
Signature: Judi Lowenthal

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: June 3, 2013

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

8/14/2014 3:11:53 PM

in

Case No(s). 14-0740-EL-REN

Summary: Application Maywood Photovoltaic Project Certification as an Eligible Ohio Renewable Energy Resource Generating Facility electronically filed by Mrs. Anita L Johnson on behalf of Indianapolis Power & Light Company and Schkabla, Herman Mr. and HQC Maywood, LLC and Mr. Seung H Lee