



Public Utilities Commission

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

Case No.: 10-0387EL-REN

A. Name of Renewable Generating Facility: Picway Generating Station

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

Facility Location

Street Address: 9301 U.S. Rt. 23

City: Columbus State: Ohio Zip Code: 43137

Facility Latitude and Longitude

Latitude: 39.797555555556 N

Longitude: 83.009333333333 W

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: Picway Plant

EIA Plant Code: 2843

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): Joe Hamrock

Title: President & Chief Operating Officer

Organization: AEP Ohio

Street Address: 1 Riverside Plaza

City: Columbus State: Ohio Zip Code: 43215

Country: USA

Phone: 614.883.6670 Fax: Email Address: jhamrock@aep.com

Web Site Address (if applicable): www.aep.com, www.aepohio.com

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 above in "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:

Legal Name of Contact Person (First Name, MI, Last Name): Mary Zando

Title: Plant Manager

Organization:

Street Address:

City: State: Zip Code:

Country:

Phone: 614.835.3000 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): Selwyn J. Dias

Title: VP Regulatory & Finance

Organization: American Electric Power Service Corporation

Street Address: 850 Tech Center Drive

City: Gahanna State: Ohio Zip Code: 43230

Country: USA

Phone: 614.883.6701 Fax: Email Address: sjdias@aep.com

Web Site Address (if applicable): www.aep.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.

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 technology Picway plant will be using is primary firing and/or co-firing of biomass. There are two different fuel switches the plant is testing:

- 1) Picway plant currently consumes coal. The goal moving forward is to fire the unit primarily with solid biomass. If testing shows that 100% biomass causes technical issues the plant will then co-fire coal and biomass. Picway plant has previous experience testing cabinet residue (sawdust) co-fired with coal. During the previous test, the plant was able to co-fire up to 17% by mass and maintain full load of the unit. In summary, the proposed renewable resource for this unit is solid biomass fuel which may be burned at a 100% level or blended with coal as outlined in Section G10a. The new resource or technology in this case is the integration of biomass as a renewable fuel into the fuel supply.
- 2) Picway plant currently uses No. 2 fuel oil for unit startup and flame stabilization. After a technical review it is believed that biodiesel or a blend can be a direct replacement for No. 2 fuel oil.

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).

With respect to the fuel supply, the fuel will be sampled at the suppliers location prior to being transported. The fuel will also be sampled, in compliance with ASTM standards, when it is offloaded from the delivery trucks. The fuel will again be sampled when it is loaded into the fuel bunkers at the plant. Both received and consumed tonnage data will be recorded and tracked. This is consistent with the current process for coal. The samples will be sent to the AEP Central Coal Lab for analysis including the heat content of the fuel.

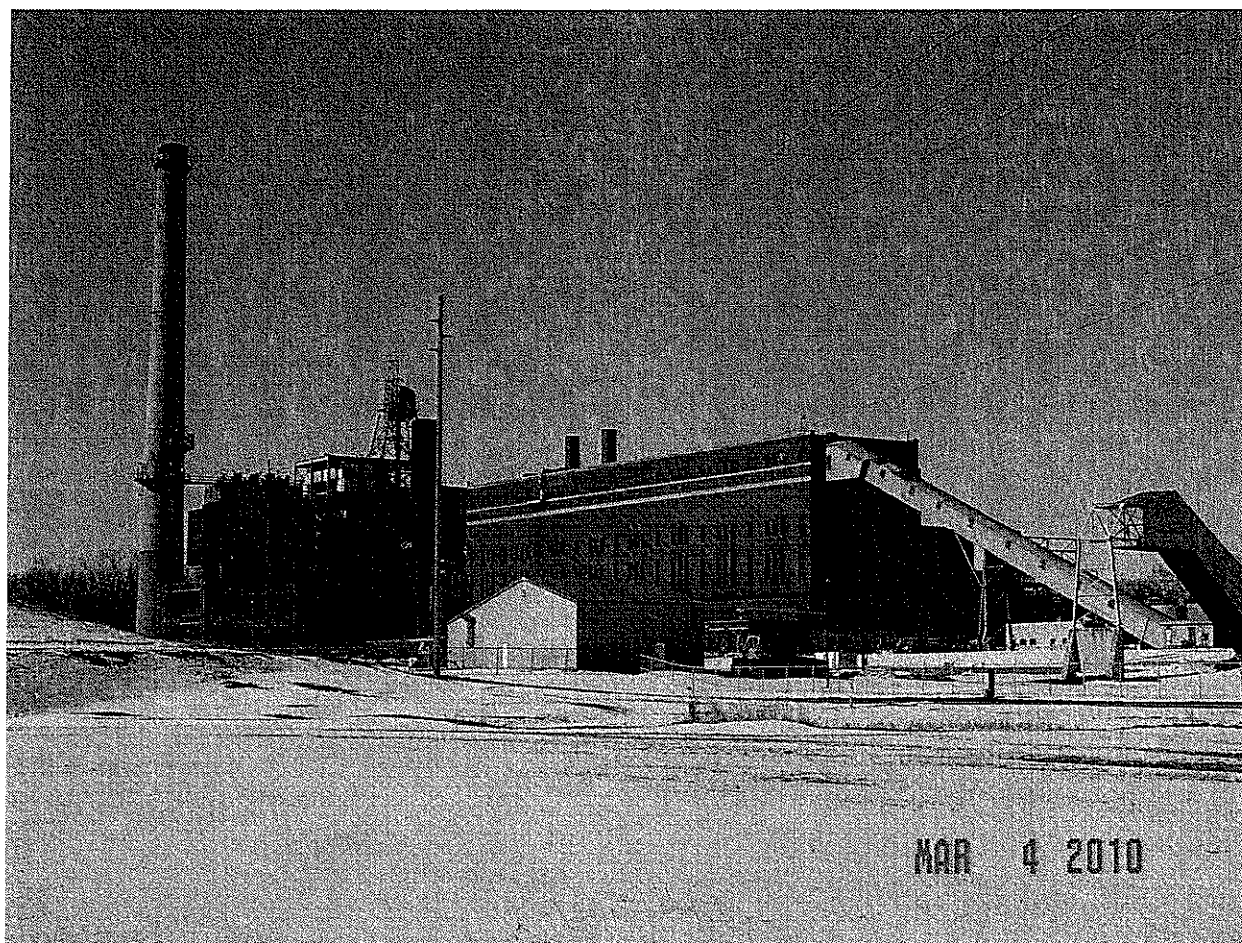
The processes for sampling the biofuels will mirror the process for sampling coal and No. 2 fuel oil.

The net generation from the unit is measured using the meters identified in Section N and will follow the current processes used at the plant.

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: 03/04/2010

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 ☐ SOLAR PHOTOVOLTAIC

Total PV Capacity (DC):

Total PV Capacity (AC):

Expected Capacity Factor:

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:

Location of the PV array: ☐ Roof ☐ Ground ☐ Other

of Modules and/or size of the array:

G.4a PV Modules

For each PV module, provide the following information:

Manufacturer:

Model and Rating:

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:

1) Solid Biomass

The primary solid biomass fuel will be a biomass pellet made from primarily woody sources. Supplementary biomass such as sawdust, wood chips, herbaceous crops, agricultural waste, as well as other fuels compliant with the statute may be utilized.

2) Biodiesel

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):

Biomass: 5 - 100% with the goal being 100% biomass – NEW FUEL

Coal 0 – 95% with the goal being 0% coal

Biodiesel: 0 – 5% (startup and stabilization) – NEW FUEL

No. 2 fuel oil 0 – 5% (startup and stabilization)

Historically, No. 2 fuel oil has comprised on < 1% of heat input

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

Ohio Administrative Code (O.A.C) § 4901:1-40-01(G) defines a “renewable energy resource” in connection with “co-firing” as follows:

“Co-firing means simultaneously using multiple fuels in the generation of electricity. In the event of co-firing, the proportion of energy input comprised of a renewable energy resource shall dictate the proportion of electricity output from the facility that can be considered a renewable energy resource.”

Output in MWh will be calculated in the same proportion as the Btu input.

$$MWh_{REC} = \left(\frac{m_{bd} * HHV_{bd} + m_{bm} * HHV_{bm}}{m_{bd} * HHV_{bd} + m_{fo} * HHV_{fo} + m_{bm} * HHV_{bm} + m_c * HHV_c} \right) * MWh_{NET MEASURED}$$

Where:

MWh_{REC} = Renewable energy produced

m_{bd} = measured mass of biodiesel consumed

m_{bm} = measured mass of biomass (solid) consumed

m_{fo} = measured mass of fuel oil consumed

m_c = measured mass of coal consumed

HHV_{bd} = biodiesel heating value

HHV_{bm} = biomass (solid) heating value

HHV_{fo} = fuel oil heating value

HHV_c = coal heating value

$MWh_{NET MEASURED}$ = measured net megawatt-hours

Biodiesel and/or fuel oil are used for startup and flame stabilization purposes, which are required to generate.

Coal and/or biomass are used for on-going generation.

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

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):

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

As required, the date in which the renewable fuel will begin to be consumed is after January 1, 1998.

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.

Please see Appendix A

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

The facility has not used renewable fuel to date. The current projection is to test as early as May 2010.

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 4928.64(A)(1), O.R.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): 100MW for coal

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

10,100 – 12,500 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 %
Unit 5 In service 1955	100MW	166 - 490	15 – 55 %

(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

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):

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:
MSET89340105.

On March 4, 2010 the GATS Administrator approved the facility as a Multi-Fuel Generating Facility.

The following fuels have been added to the above mentioned Picway Plant GATS ID number:

- 1) Biomass - Agriculture Crops
- 2) Biomass - Other Biomass Liquids
- 3) Biomass - Other Biomass Solids

The renewable generation will be submitted into GATS once per month and will meet the documentation and reporting requirements for Multi-Fuel Generating Units in Section 6.5 and Appendix C of the GATS Operating Rules on an ongoing basis. The MWh_{NET, MEASURED} will be calculated as outlined in section G.10b.

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:

N.A.

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).

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:

☐ 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

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: SCIENTIFIC COLUMBUS

Serial Number: 89091223

Type: WATT HOUR / LAG / LEAD VARh METER

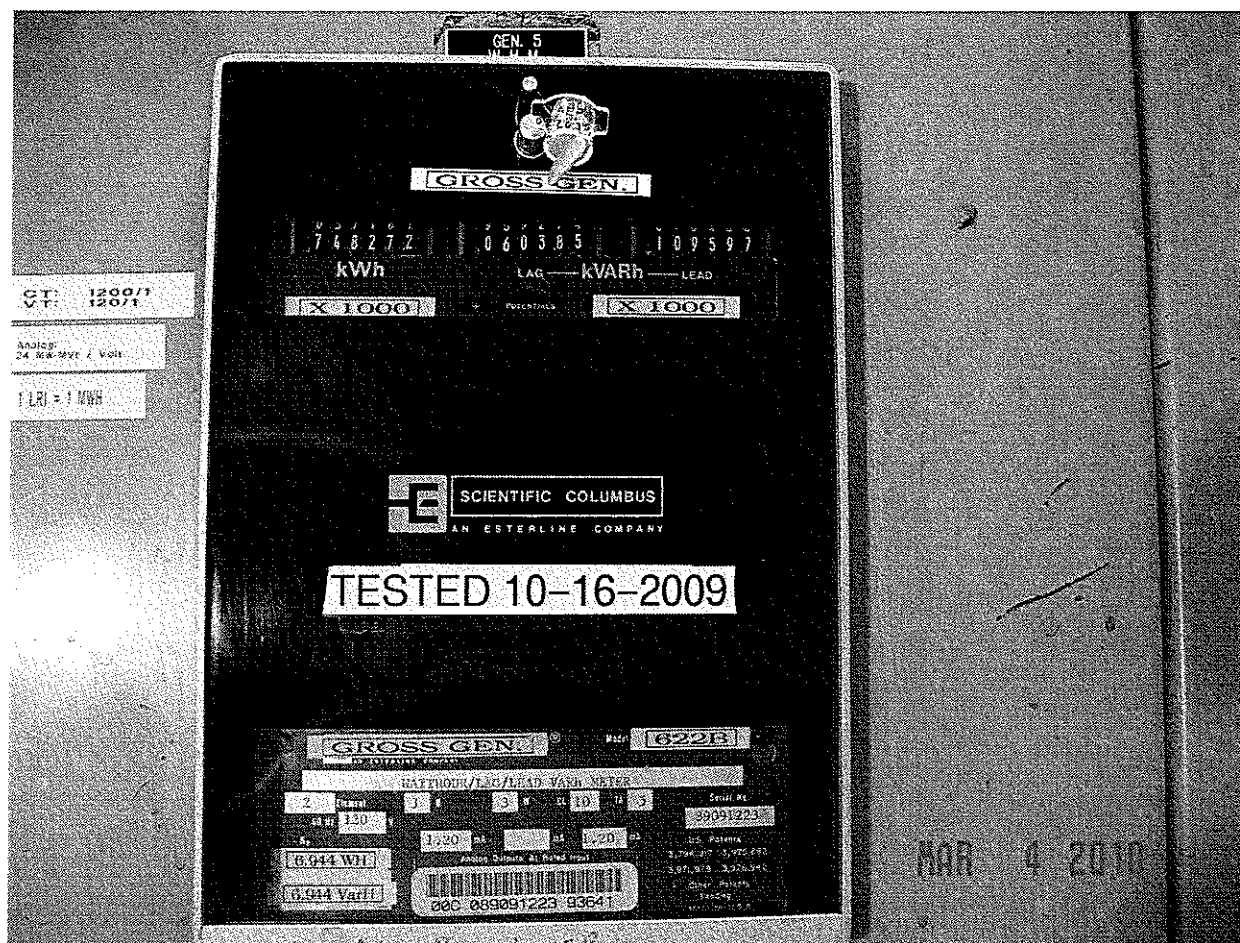
Date of Last Certification: 10.16.2009

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): 748272 MWh

Date photograph taken: 03.03.2010

INSERT PHOTOGRAPH(S)



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: December 10, 2009

Appendix A

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.**

Solid Biomass

The plan is to have the biomass fuel delivered via truck from the supplier(s). The fuel will then be contained and stored within the existing permitted coal pile area, but segregated from the existing coal pile itself. The goal is to minimize the onsite storage of the fuel to approximately 3-5 days. This storage duration may change after initial testing.

The biomass will be metered at an appropriate concentration and then sent to the boiler for consumption. The goal is to be able to burn 100% biomass. Due to the heat and moisture content of biomass fuel, it is expected that the unit will be able to produce 50MW at full load. This is a 50% derate of the unit.

The modifications at the plant include, but are not limited to the following:

1. Delivery philosophy – since biomass is very hygroscopic, it must be kept dry and onsite storage will be limited. For the test, the biomass will be covered with a tarp or tent. The goal is to minimize cost for the test and this method will achieve the desired results, but on an ongoing basis is likely not optimal. It is expected that a fixed roof structure will be required for on-going operation.
2. Housekeeping – Due to expected additional dusting from the biomass fuel, as compared to coal, additional measures will be taken to keep dust at acceptable levels. The current plan is to have a vacuum truck on-site as needed to keep areas inside the plant clean where the dust will accumulate. The additional housekeeping will be required due to the anticipated increased fire hazards associated with the biomass fuel as compared to coal.
3. Operation of the plant – as previously discussed it is not possible to achieve 100MW while consuming 100% biomass. It is expected that 50MW will be the maximum capacity rating in this scenario. Due to this the balance of plant operations will be adjusted appropriately to support this amount of generation.

Prior to long term ongoing operation of biomass at Picway plant there is a detailed test burn planned. In support of the test burn new operating procedures will be put in place to handle the biomass fuel. Below is a summary of the five phases of the test:

- Phase I will be Designed to determine the flowability of this biomass in the existing material handling equipment. This phase will consist of placing varying amounts of material in the bunker and evaluating its flow characteristics. The material will then be removed before the pulverizer.
- Phase II will consist of loading the biomass in the silo of one pulverizer and the other three will be operated on coal. The biomass pulverizer will be operated with increasing loading. The main purpose of this phase will be evaluation of the pulverizer and the

associated burners when operating on biomass. System limits will be determined, and the maximum achievable firing rate on biomass will be estimated.

- Phase III will consist of a single (8 hour minimum) day full load achievable burn of 100% biomass (estimated to be at 50 MW).
- Phase IV will be a test burn of 3 continuous weeks of operation on biomass. The main goal of this test phase is to determine how the daily operation of the unit is effected by the combustion of biomass.
- Phase V will be a long term test. During this phase, updated operational procedures, safety procedures and equipment adjustments may be implemented and tested at the chosen biomass blend of 100% or co-fire percentage. Results from the previous tests will dictate required changes.
- Continuous Operation would follow the above outlined testing phases. Should the test prove technically successful, and the economics support firing biomass at Picway to address the REC compliance, operation would continue. Obtain the necessary permit modifications and approval for any potential new required permits.

Biodiesel

Biodiesel is expected to be a direct replacement of No. 2 fuel oil in the current system. Prior to introducing biodiesel into the system, the system will be cleaned to remove sludge and build up from the No. 2 fuel oil. The solvency of biodiesel is much greater than No. 2 fuel oil and cleaning is required so the system does not have pluggage issues. In addition to the cleaning, gaskets in the system will be changed out to support the higher solvency fuel

Schedule

As noted within the application in Section H these projects are not yet on-line. The Biomass and Biodiesel fuels will begin to be introduced into the fuel supply following approval from the OEPA (PTI Exemption). This approval is expected to occur in the May time frame of this year. The above mentioned modifications will be in place prior to introduction of the biomass and biodiesel.



Public Utilities Commission

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

Case No.: ____ - ____ -EL-REN

A. Name of Renewable Generating Facility: Picway Generating Station

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

Facility Location

Street Address: 9301 U.S. Rt. 23

City: Columbus State: Ohio Zip Code: 43137

Facility Latitude and Longitude

Latitude: 39.797555555556 N

Longitude: 83.009333333333 W

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: Picway Plant

EIA Plant Code: 2843

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): Joe Hamrock

Title: President & Chief Operating Officer

Organization: AEP Ohio

Street Address: 1 Riverside Plaza

City: Columbus State: Ohio Zip Code: 43215

Country: USA

Phone: 614.883.6670 Fax: Email Address: jhamrock@aep.com

Web Site Address (if applicable): www.aep.com, www.aepohio.com

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 above in "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:

Legal Name of Contact Person (First Name, MI, Last Name): Mary Zando

Title: Plant Manager

Organization:

Street Address:

City: State: Zip Code:

Country:

Phone: 614.835.3000 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): Selwyn J. Dias

Title: VP Regulatory & Finance

Organization: American Electric Power Service Corporation

Street Address: 850 Tech Center Drive

City: Gahanna State: Ohio Zip Code: 43230

Country: USA

Phone: 614.883.6701 Fax: Email Address: sjdias@aep.com

Web Site Address (if applicable): www.aep.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

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 technology Picway plant will be using is primary firing and/or co-firing of biomass. There are two different fuel switches the plant is testing:

- 1) Picway plant currently consumes coal. The goal moving forward is to fire the unit primarily with solid biomass. If testing shows that 100% biomass causes technical issues the plant will then co-fire coal and biomass. Picway plant has previous experience testing cabinet residue (sawdust) co-fired with coal. During the previous test, the plant was able to co-fire up to 17% by mass and maintain full load of the unit. In summary, the proposed renewable resource for this unit is solid biomass fuel which may be burned at a 100% level or blended with coal as outlined in Section G10a. The new resource or technology in this case is the integration of biomass as a renewable fuel into the fuel supply.
- 2) Picway plant currently uses No. 2 fuel oil for unit startup and flame stabilization. After a technical review it is believed that biodiesel or a blend can be a direct replacement for No. 2 fuel oil.

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).

With respect to the fuel supply, the fuel will be sampled at the suppliers location prior to being transported. The fuel will also be sampled, in compliance with ASTM standards, when it is offloaded from the delivery trucks. The fuel will again be sampled when it is loaded into the fuel bunkers at the plant. Both received and consumed tonnage data will be recorded and tracked. This is consistent with the current process for coal. The samples will be sent to the AEP Central Coal Lab for analysis including the heat content of the fuel.

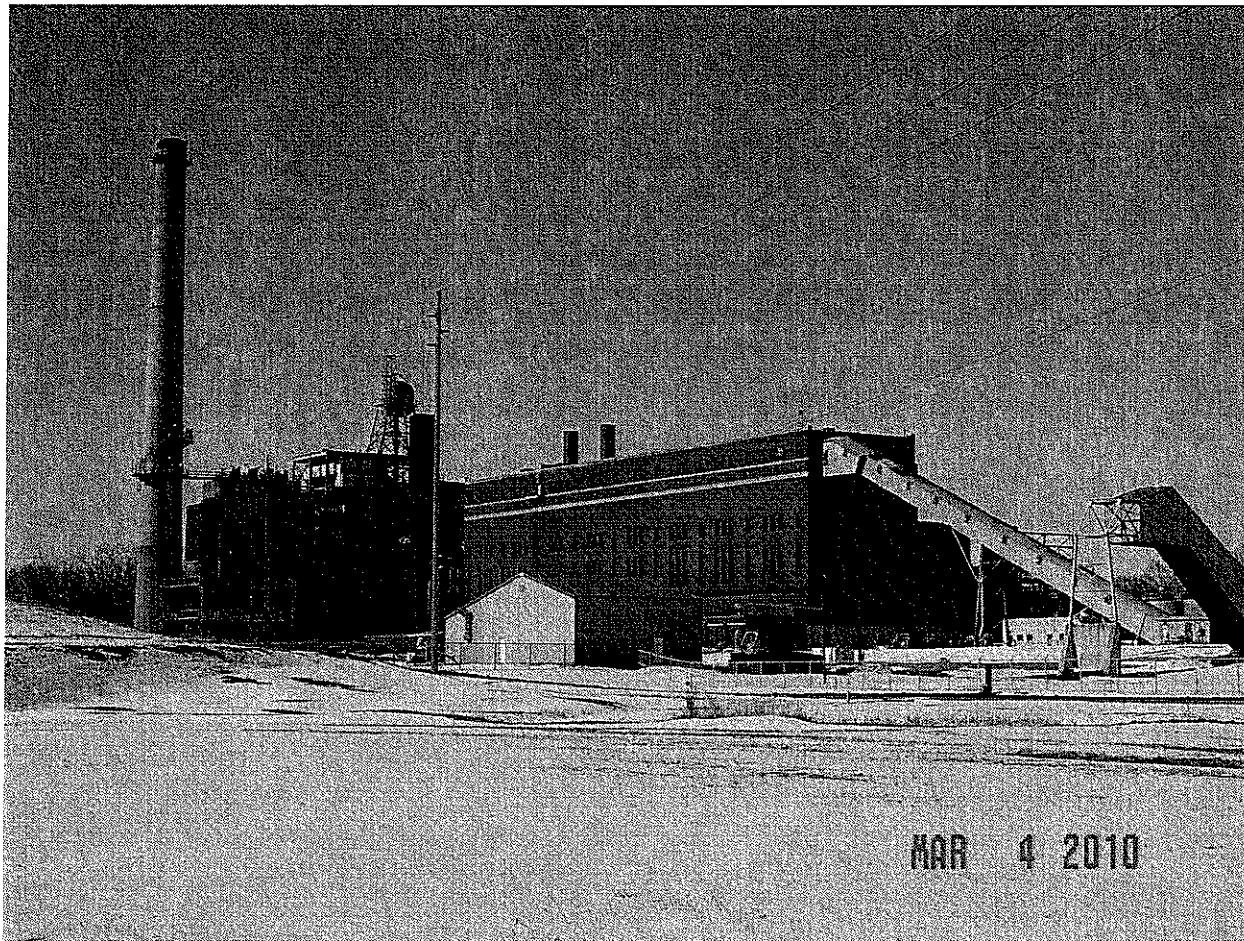
The processes for sampling the biofuels will mirror the process for sampling coal and No. 2 fuel oil.

The net generation from the unit is measured using the meters identified in Section N and will follow the current processes used at the plant.

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: 03/04/2010

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 __ SOLAR PHOTOVOLTAIC

Total PV Capacity (DC):

Total PV Capacity (AC):

Expected Capacity Factor:

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:

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

of Modules and/or size of the array:

G.4a PV Modules

For each PV module, provide the following information:

Manufacturer:

Model and Rating:

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:

1) Solid Biomass

The primary solid biomass fuel will be a biomass pellet made from primarily woody sources. Supplementary biomass such as sawdust, wood chips, herbaceous crops, agricultural waste, as well as other fuels compliant with the statute may be utilized.

2) Biodiesel

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):

Biomass: 5 - 100% with the goal being 100% biomass – NEW FUEL

Coal 0 – 95% with the goal being 0% coal

Biodiesel: 0 – 5% (startup and stabilization) – NEW FUEL

No. 2 fuel oil 0 – 5% (startup and stabilization)

Historically, No. 2 fuel oil has comprised on < 1% of heat input

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

Ohio Administrative Code (O.A.C) § 4901:1-40-01(G) defines a “renewable energy resource” in connection with “co-firing” as follows:

“Co-firing means simultaneously using multiple fuels in the generation of electricity. In the event of co-firing, the proportion of energy input comprised of a renewable energy resource shall dictate the proportion of electricity output from the facility that can be considered a renewable energy resource.”

Output in MWh will be calculated in the same proportion as the Btu input.

$$MWh_{REC} = \left(\frac{m_{bd} * HHV_{bd} + m_{bm} * HHV_{bm}}{m_{bd} * HHV_{bd} + m_{fo} * HHV_{fo} + m_{bm} * HHV_{bm} + m_c * HHV_c} \right) * MWh_{NET MEASURED}$$

Where:

MWh_{REC} = Renewable energy produced

m_{bd} = measured mass of biodiesel consumed

m_{bm} = measured mass of biomass (solid) consumed

m_{fo} = measured mass of fuel oil consumed

m_c = measured mass of coal consumed

HHV_{bd} = biodiesel heating value

HHV_{bm} = biomass (solid) heating value

HHV_{fo} = fuel oil heating value

HHV_c = coal heating value

$MWh_{NET MEASURED}$ = measured net megawatt-hours

Biodiesel and/or fuel oil are used for startup and flame stabilization purposes, which are required to generate.
Coal and/or biomass are used for on-going generation.

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

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):

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

As required, the date in which the renewable fuel will begin to be consumed is after January 1, 1998.

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.

Please see Appendix A

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

The facility has not used renewable fuel to date. The current projection is to test as early as May 2010.

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 4928.64(A)(1), O.R.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): 100MW for coal

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

10,100 – 12,500 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 %
Unit 5 In service 1955	100MW	166 - 490	15 – 55 %

(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

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):

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-REIS (Midwest Renewable Energy Tracking System)

☐ Other (specify):

K.1 Enter the generation ID number you have been assigned by the tracking system:
MSET89340105.

On March 4, 2010 the GATS Administrator approved the facility as a Multi-Fuel Generating Facility.

The following fuels have been added to the above mentioned Picway Plant GATS ID number:

- 1) Biomass - Agriculture Crops
- 2) Biomass - Other Biomass Liquids
- 3) Biomass - Other Biomass Solids

The renewable generation will be submitted into GATS once per month and will meet the documentation and reporting requirements for Multi-Fuel Generating Units in Section 6.5 and Appendix C of the GATS Operating Rules on an ongoing basis. The MWh_{NET MEASURED} will be calculated as outlined in section G.10b.

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:

N.A.

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).

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:

☐ 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

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: SCIENTIFIC COLUMBUS

Serial Number: 89091223

Type: WATT HOUR / LAG / LEAD VARh METER

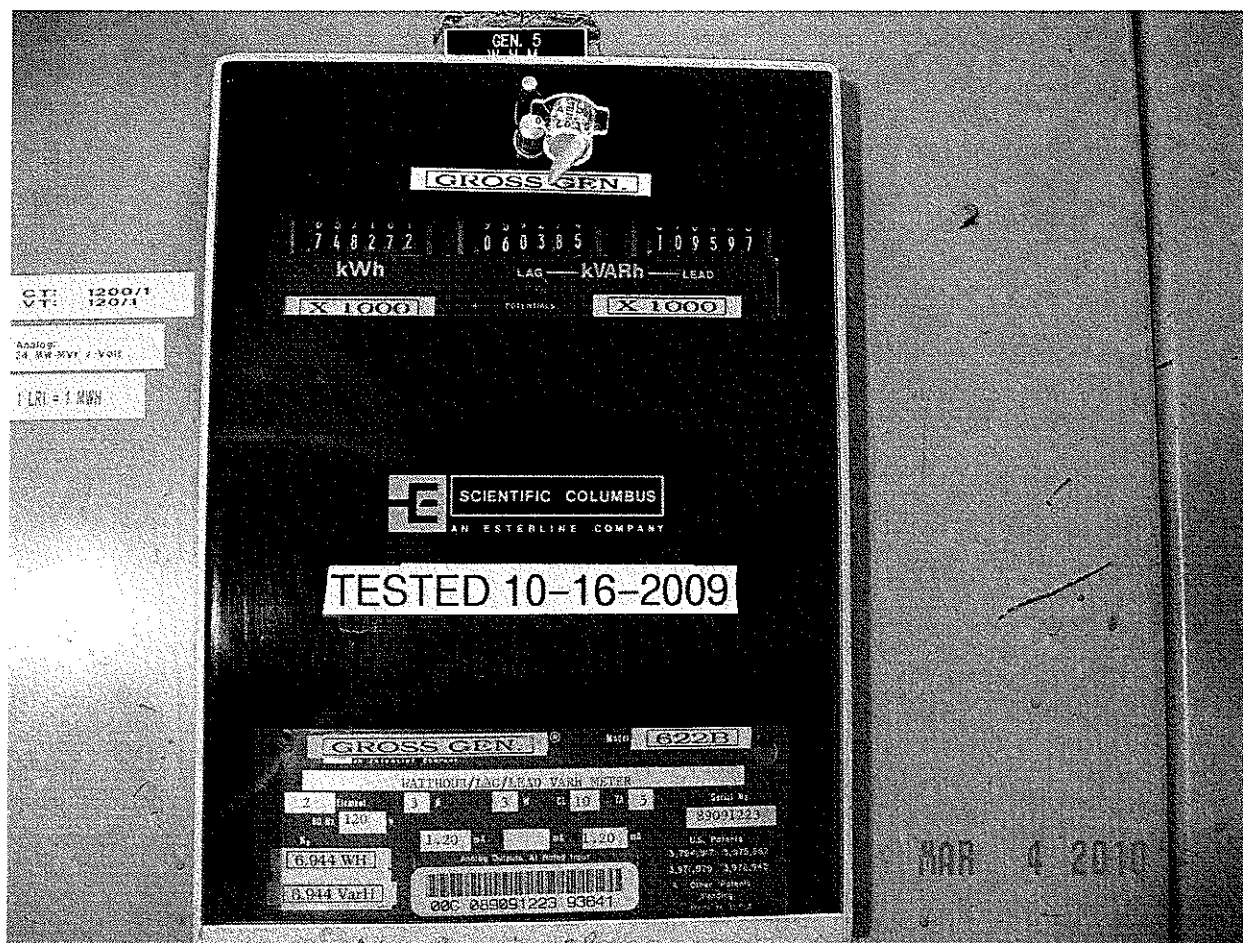
Date of Last Certification: 10.16.2009

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): 748272 MWh

Date photograph taken: 03.03.2010

INSERT PHOTOGRAPH(S)



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: December 10, 2009

Appendix A

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.**

Solid Biomass

The plan is to have the biomass fuel delivered via truck from the supplier(s). The fuel will then be contained and stored within the existing permitted coal pile area, but segregated from the existing coal pile itself. The goal is to minimize the onsite storage of the fuel to approximately 3-5 days. This storage duration may change after initial testing.

The biomass will be metered at an appropriate concentration and then sent to the boiler for consumption. The goal is to be able to burn 100% biomass. Due to the heat and moisture content of biomass fuel, it is expected that the unit will be able to produce 50MW at full load. This is a 50% derate of the unit.

The modifications at the plant include, but are not limited to the following:

1. Delivery philosophy – since biomass is very hygroscopic, it must be kept dry and onsite storage will be limited. For the test, the biomass will be covered with a tarp or tent. The goal is to minimize cost for the test and this method will achieve the desired results, but on an ongoing basis is likely not optimal. It is expected that a fixed roof structure will be required for on-going operation.
2. Housekeeping – Due to expected additional dusting from the biomass fuel, as compared to coal, additional measures will be taken to keep dust at acceptable levels. The current plan is to have a vacuum truck on-site as needed to keep areas inside the plant clean where the dust will accumulate. The additional housekeeping will be required due to the anticipated increased fire hazards associated with the biomass fuel as compared to coal.
3. Operation of the plant – as previously discussed it is not possible to achieve 100MW while consuming 100% biomass. It is expected that 50MW will be the maximum capacity rating in this scenario. Due to this the balance of plant operations will be adjusted appropriately to support this amount of generation.

Prior to long term ongoing operation of biomass at Picway plant there is a detailed test burn planned. In support of the test burn new operating procedures will be put in place to handle the biomass fuel. Below is a summary of the five phases of the test:

- Phase I will be Designed to determine the flowability of this biomass in the existing material handling equipment. This phase will consist of placing varying amounts of material in the bunker and evaluating its flow characteristics. The material will then be removed before the pulverizer.
- Phase II will consist of loading the biomass in the silo of one pulverizer and the other three will be operated on coal. The biomass pulverizer will be operated with increasing loading. The main purpose of this phase will be evaluation of the pulverizer and the

associated burners when operating on biomass. System limits will be determined, and the maximum achievable firing rate on biomass will be estimated.

- Phase III will consist of a single (8 hour minimum) day full load achievable burn of 100% biomass (estimated to be at 50 MW).
- Phase IV will be a test burn of 3 continuous weeks of operation on biomass. The main goal of this test phase is to determine how the daily operation of the unit is effected by the combustion of biomass.
- Phase V will be a long term test. During this phase, updated operational procedures, safety procedures and equipment adjustments may be implemented and tested at the chosen biomass blend of 100% or co-fire percentage. Results from the previous tests will dictate required changes.
- Continuous Operation would follow the above outlined testing phases. Should the test prove technically successful, and the economics support firing biomass at Picway to address the REC compliance, operation would continue. Obtain the necessary permit modifications and approval for any potential new required permits.

Biodiesel

Biodiesel is expected to be a direct replacement of No. 2 fuel oil in the current system. Prior to introducing biodiesel into the system, the system will be cleaned to remove sludge and build up from the No. 2 fuel oil. The solvency of biodiesel is much greater than No. 2 fuel oil and cleaning is required so the system does not have pluggage issues. In addition to the cleaning, gaskets in the system will be changed out to support the higher solvency fuel.

Schedule

As noted within the application in Section H these projects are not yet on-line. The Biomass and Biodiesel fuels will begin to be introduced into the fuel supply following approval from the OEPA (PTI Exemption). This approval is expected to occur in the May time frame of this year. The above mentioned modifications will be in place prior to introduction of the biomass and biodiesel.

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

3/23/2010 3:16:05 PM

in

Case No(s). 10-0387-EL-REN

Summary: Application REN Application for Picway Generating Station electronically filed by Mr. Steven T Nourse on behalf of American Electric Power Company, Inc.