Ohio | Public Utilities Commission

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

Case No.: 09-1940-EL-REN

A. Name of Renewable Generating Facility: R.E. Burger Units 4 & 5
The name specified will appear on the facility's certificate of eligibility issued by the Public Utilities Commission of Ohio.

Facility Location Belmont County, Ohio
Street Address: 57246 Ferry Landing Road
City: Shadyside State: OH Zip Code: 43947

Facility Latitude and Longitude
Latitude: 39 54 51.9192 Longitude: -80 45 41.0436
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: R.E. Burger Plant

EIA Plant Code: 2864

B. Name of the Facility Owner FirstEnergy Generation Corp.
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): David L. Plusquellic
Title: Manager of Renewable Energy Portfolio
Organization: FirstEnergy Solutions Corp.
Street Address: 341 White Pond Drive
City: Akron State: OH Zip Code: 44320
Country: USA
Phone: 330-315-7225 Fax: 330-315-6749
Email Address: plusquellicd@firstenergycorp.com
Web Site Address (if applicable): www.firstenergysolutions.com

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

Applicant's Legal Name: David L. Plusquellic
Title: Manager of Renewable Energy Portfolio
Organization: FirstEnergy Solutions Corp.
Street Address: 341 White Pond Drive
City: Akron State: OH Zip Code: 44320
Country: USA
Phone: 330-315-7225 Fax: 330-315-6749
Email Address: plusquellicd@firstenergycorp.com
Web Site Address (if applicable): www.firstenergysolutions.com

D. Name of Generation Facility Operating Company: FirstEnergy Generation
Legal Name of Contact Person (First Name, MI, Last Name): David L. Plusquellic
Title: Manager of Renewable Energy Portfolio
Organization: FirstEnergy Solutions Corp.
Street Address: 341 White Pond Drive
City: Akron State: OH Zip Code: 44320
Country: USA
Phone: 330-315-7225 Fax: 330-315-6749
Email Address: plusquellicd@firstenergycorp.com
Web Site Address (if applicable): www.firstenergysolutions.com

E. Contact person for regulatory or emergency matters
Legal Name of Contact Person (First Name, MI, Last Name): David L. Plusquellic
Title: Manager of Renewable Energy Portfolio
Organization: FirstEnergy Solutions Corp.
Street Address: 341 White Pond Drive
City: Akron State: OH Zip Code: 44320
Country: USA
Phone: 330-315-7225 Fax: 330-315-6749
Email Address: plusquellicd@firstenergycorp.com
Web Site Address (if applicable): www.firstenergysolutions.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:

_X_ 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.

See Attachment 2 for a description of the Test Co-Firing for Burger Units 4 and 5 and Attachment 4 for a description of the Full Biomass/Co Firing Burger Units 4 and 5

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 net generation from each unit is measured using the meters identified in Section N. Please see Attachments 1 and 3 for the requested descriptions.

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.

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 kW or MW) times (8760 hours—annual)

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.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_X_ BIOMASS (includes biologically-derived methane gas, such as landfill gas)

Identify the fuel type used by the facility: Wood Pellet/Briquette/Chips and/or agricultural biomass fuels in pellets, briquettes or bales.

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):

TEST PHASE:

Sub-Bituminous/Bituminous coal	80% - 100%
Biomass Pellet/Briquette	0% - 20%
Fuel oil for flame stabilization and startup	<10%

REPOWER TO COMBUST PRINCIPALLY BIOMASS FUELS:

Sub-Bituminous/Bituminous coal	0% - 49%
Biomass Pellet/Briquette/chips/bales	51% - 100%
Fuel oil for flame stabilization and startup	<10%

G.10b Please attach the formula for computing the proportions of output per fuel type by MWh or kWh generated. Please see Attachments 1 and 3 for the calculations and Attachments 2 and 4 for a description of the projects.

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):

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):

__X__ 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.

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

The modifications required to co-fire are expected to be complete to allow co-firing to begin on or around February 1, 2010. See Attachment 1 and 2 for detailed description of co-firing

The full repower to combust principally biomass fuels will be complete prior to December 31, 2012. Please see attachments 3, 4 or the attached Modified Consent Decree for detailed descriptions of the repower

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.

X_ 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?

_X_ 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): See table below.

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

Historically, these units have operated at a heat rate in the range of 10,000 to 12,000. Future heat rates are expected to be in the range of 9,800 to 11,500

Number of Generating Units: 2

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

In-Service date of each unit	The nameplate capacity of each unit in megawatts (MW)	Projected Annual Generation (10E6 MWH/yr)	Expected Annual Capacity Factor %
Unit #4	156 MWs	0.4 to 1.3	30% to 90%
Unit #5	156 MWs	0.4 to 1.3	30% to 90%

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

J. Regional Transmission Organization Information

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

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

X Within Geographic Area of Midwest ISO

__ Other (specify):

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

_X_ Yes; specify which one: Mid-west ISO and PJM, LLC

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

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

__ PJM

_X Midwest ISO

_X_Other (specify): American Transmission Systems, Incorporated, local balancing authority

K. Attribute Tracking System Information

Are you currently registered with an attribute tracking system: __ Yes _X_ 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):***

_X_ 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).

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

_X_ 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).

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

_X_ 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

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

Please see Attachment 5 for Meter Specifications

Manufacturer:
Serial Number:
Type:
Date of Last Certification:

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

Total kWh shown on meter at time of photograph: Unit #4 – 18,216.8 MWH, and
Unit #5 – 119,077.5 MWH

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

INSERT PHOTOGRAPH(S)

Please see Attachment 5 for a photograph of the meters

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.

Attachment 1–Formula for calculation of Renewable Energy Credits for Test Co-Firing

Formula to calculate RECs:

$$MWH_{REC} = \left(\frac{m_b \bullet HHV_b}{m_b \bullet HHV_b + m_c \bullet HHV_c} \right) \bullet MWH_{NET,MEASURED}$$

Where,

MWH_{REC} = renewable energy credits

m_b = biomass mass

m_c = coal mass

HHV_b = biomass heating value

HHV_c = coal heating value

$MWH_{NET,MEASURED}$ = actual net megawatt hours measured for a given time period

Notes:

1. In the case of multiple biomass fuels this formula would be expanded to include $m_{b,1}$…$m_{b,x}$ and $HHV_{b,1}$…$HHV_{b,x}$ where x is the number of biofuels in use

Example Calculation:

During a 24 hour period, Burger Unit 4 generated steadily at 100 MWe based on its net meter. During the same 24 hour period 1,200 tons of coal was burned along with 60 tons of biomass. Lab analysis has shown the coal to have a HHV of 10,000 Btu/Lb and the biomass to have a HHV of 8,000. Btu/Lb

$$MWH_{REC} = \left(\frac{60tons \bullet 2{,}000lb/ton \bullet 8{,}000Btu/lb}{60tons \bullet 2{,}000lb/ton \bullet 8{,}000Btu/lb + 1{,}200tons \bullet 2{,}000lb/ton \bullet 10{,}000Btu/lb} \right) \ldots$$

$$\ldots \bullet 100MWe \bullet 24Hours$$

$$MWH_{REC} = 92$$

The number of Renewable Energy Credits generated during the 24 hour period is 92.

Attachment 2–Description of Test Co-fire Burger Units 4 and 5

OVERVIEW OF CURRENT OPERATIONS

Currently coal is transported by barge to the plant yard for fuel for Units 3, 4 & 5. Coal is stored in a stockpile and is reclaimed by underground equipment for use in the Plant. The reclaimed coal is subsequently conveyed above ground in the coal handling system and supplied to the plant bunkers. Coal is ground to fine particles in mills and then blown into the boiler where it is combusted and the heat is used to generate high pressure steam to run the turbine. Dust collection and mitigation sprays are installed at various points along the coal handling system. A deluge system protects the coal handling system from fire. All coal unloaded at the facility is accounted for using the FE Digital Fuel Tracking System.

RETROFITS FOR BIOMASS CO-FIRING TESTS

Biomass Transportation

Biomass will be transported using semi-tractor covered trailers with dump capability. Trucks will be weighed on site and the values will be logged on a physical printed ticket so that at any given time the delivered mass of biomass is known. This data will be entered manually into the Fuel Works database. Trucks will be routed to the plant yard operation through the existing main gate. Trucks will dump the biomass load into covered storage and then exit the plant site through the same gate.

Biomass may also be delivered by rail. This requires a shallow rail unloader to be retrofit to an existing plant rail spur. Biomass will be transported from the rail cars either by conveyor or truck to the covered storage.

Biomass Storage

A temporary indoor storage facility will be erected to minimize the absorption of moisture into the biomass from rainfall. This facility must be of sufficient size to hold about 100 tons of biomass and allow trucks to dump their loads. The differential between the mass of biomass delivered and mass of biomass burned will equal the mass of biomass in inventory.

Biomass Handling

A front end loader will be used to transport biomass from the temporary storage facility to a temporary fuel conveyor, which conveys the fuel to the units 4 and 5 bunkers. The biomass will flow from the bunker to a gravimetric feeder that will meter the biomass into the existing coal mill. The gravimetric feeder controls will track the amount of biomass burned and the data will be entered into the Fuel Works database. The weight log will allow the plant to determine the mass of biomass that has been

Attachment 2 (continued)

burned during a given time period. Biomass will be fed 100% through one mill providing up to 20% heat input on units 4 and/or 5.

Safety Measures

Biomass dust is more volatile than coal and its dust, in the specific concentration range in air, creates a risk of explosion given an ignition source. With this in mind, mechanical dust collectors and/or sprays may be added at significant dust points. In general, transfer points create dust more so than other points in the coal handling system. Therefore dust mitigation technology may be placed at the following locations:

1. Temporary storage facility where trucks are unloading
2. Temporary fuel conveyor where front-end loader dumps
3. First transfer point in the temporary fuel conveyor.

In addition to engineering controls, housekeeping will be a significant focus to prevent dust settling on horizontal surfaces where it can build up over time. Existing fire suppression systems will be used to protect areas of the coal handling system affected. Additionally administrative controls will be enforced including fire hoses placed strategically along with fire extinguishers.

On October 23, 2009, FirstEnergy Generation Corp. requested from the Ohio EPA a six month research and development permit exemption under O.A.C. Section 3745-31-03 (3) (d) to test co-firing of biomass fuels at Burger Units 4 and 5. The PTI exemtion letter was received by FirstEnergy Generation Corp. on 11/25/09, which permits FirstEnergy to test burn biomass co-firing with coal. FirstEnergy Generation Corp. will commence test burn of biomass at these units on or aound Feberuary 1, 2010. A copy of the acceptance letter from OEPA is attached with this application.

Attachment 3 -Formula for Calculation of Renewable Energy Credits for Full Biomass/Co-Firing

Formula to calculate RECS:

$$MWH_{REC} = \left(\frac{m_b \bullet HHV_b}{m_b \bullet HHV_b + m_c \bullet HHV_c} \right) \bullet MWH_{NET,MEASURED} \bullet ACF$$

Where,

MWH_{REC} = renewable energy credits

m_b = biomass mass

m_c = coal mass

HHV_b = biomass heating value

HHV_c = coal heating value

$MWH_{NET,MEASURED}$ = actual net megawatt hours measured for a given time period

ACF= Alternative Compliance Factor

If RECMARKET PRICE > or = ACP, ACF= 1.0

If RECMARKET PRICE < ACP, $ACF = \left(\frac{ACP}{RECMARKET\_PRICE} \right)$

ACP = Alternative Compliance Payment (In 2009, ACP = $45/MWH)

RECMARKET PRICE = Market value of one REC

Example Calculation

During a 24 hour period, Burger Unit 4 generated steadily at 100 MW based on its net meter. During the same 24 hour period 1,200 tons of coal was burned along with 60 tons of biomass. Lab analysis has shown the coal to have a HHV of 10,000 Btu/Lb and the biomass to have a HHV of 8,000 BTU/lb. Assume the ACP = $45/MWH and the RECMARKET PRICE = $10/MWH.

$$MWH_{REC} = \left(\frac{60tons \bullet 2{,}000lb/ton \bullet 8{,}000Btu/lb}{60tons \bullet 2{,}000lb/ton \bullet 8{,}000Btu/lb + 1{,}200tons \bullet 2{,}000lb/ton \bullet 10{,}000Btu/lb} \right) \ldots$$

$$\ldots \bullet 100MWe \bullet 24Hours \bullet \left(\frac{\$45}{\$10} \right)$$

$$MWH_{REC} = 92.5 \bullet 4.5 = 415$$

Attachment 4 – Description of Full Biomass/Co-Firing at Burger Units 4 and 5

REGULATORY

As required by R.C. Section 4928.65, please see attached commitment letter and *Joint Motion To Modify Consent Decree With Order Modifying Consent Decree*, which serve as the necessary commitment to modify the R.E. Burger Plant - a generating facility of greater than seventy-five megawatts situated in this state - to enable the facility to generate principally from biomass energy by June 30, 2013.

On October 23, 2009, FirstEnergy Generation Corp. requested from the Ohio EPA a six month research and development permit exemption under O.A.C. Section 3745-31-03 (3) (d) to test co-firing of biomass fuels at Burger Units 4 and 5. The PTI exemtion letter was received by FirstEnergy Generation Corp. on 11/25/09, which permits FirstEnergy to test burn biomass co-firing with coal. FirstEnergy Generation Corp. will commence test burn of biomass at these units on or aound Feberuary 1, 2010. A copy of the acceptance letter from OEPA is attached with this application.

OVERVIEW OF CURRENT OPERATIONS

Currently coal is transported by barge to the plant yard for fuel for Units 3 , 4 & 5. Coal is stored in a stockpile and is reclaimed by underground equipment for use in the Plant. The reclaimed coal is subsequently conveyed above ground in the coal handling system and supplied to in plant bunkers. Coal is ground to fine particles in mills and then blown into the boiler where it is combusted and the heat is used to generate high pressure steam to run the turbine. Dust collection and mitigation sprays are installed at various points along the coal handling system. A deluge system protects the coal handling system from fire. All coal unloaded at the facility is weighed by belt meters which is used to determine the quantities that are burned by each unit or placed into reserve. The data are entered into the FE Digital Fuel Tracking System.

RETROFITS FOR BIOMASS

FirstEnergy is in the early engineering phase for the changes required on site for handling and burning biomass, so the concepts presented below are preliminary design plans.

Biomass Transportation

Biomass will be transported using barge, rail and semi-tractor covered trailers. Biomass being unloaded from the barges, rail cars and trucks will be tracked through the FE Digital Fuel Tracking System.

The biomass that has been processed into pellets or briquettes will be unloaded from the barges, rail cars and trucks and conveyed to a storage facility. The conveyors will be enclosed to keep the biomass dry and prevent fugitive dust issues. All of the necessary safety systems will be installed in the biomass handling system.

If biomass wood chips or agricultural crop bales are burned in the boilers, they will be unloaded primarily by truck and conveyed to an outdoor storage area.

Attachment 4 (continued)

Biomass Storage

A storage facility will be erected to minimize the absorption of moisture into the processed biomass from rainfall. This facility will store 26,000-30,000 tons of biomass. All of the necessary safety systems will be installed in the storage facility.

If biomass wood chips or agricultural crop bales are burned in the boilers, separate storage facilities would be installed for outdoor storage.

The differential between the mass of biomass delivered and mass of biomass burned will equal the mass of biomass in inventory. All of the necessary safety systems will be installed into the storage facility.

Biomass Handling

The processed biomass will be reclaimed from the storage facility through existing reclaim hoppers and be conveyed to the Plant bunkers by an enclosed conveyor system. The conveyors will feed both units 4 and 5 with up to 100% biomass. The capability to reclaim and convey up to 20% coal will be designed into the system for co-firing with the biomass.

The chipped or baled biomass, if used, will be reclaimed through new equipment specifically designed to properly handle this material.

Safety Measures for Handling of Biomass

Biomass dust is more volatile than coal and its dust, in the specific concentration ranges in air, creates a risk of explosion given an ignition source. Dust collection equipment will be added at significant dust points. In general, transfer points create dust more so than other points in the biomass handling system. Therefore dust mitigation technology will be placed throughout the system.

In addition to engineering controls, housekeeping will be a significant focus to prevent dust settling on horizontal surfaces where it can build up over time. Fire detection and suppression systems will be used to protect the biomass handling system. Additionally administrative controls will be enforced including fire hoses placed strategically along with fire extinguishers.

Expected Changes to Powerhouse

Equipment in the powerhouse is expected to be changed to handle and combust the biomass. Existing coal mills and burner systems will be changed to combust the biomass.

Supplemental firing systems may be added to meet the current boiler steaming rates while firing processed biomass due to the lower heat content of biomass compared to coal. The equipment added may include silos, hammer mills, pneumatic conveying systems, new burner systems and the proper safety equipment.

Equipment may also be added to allow the use of wood chips and baled biomass. The equipment may include a stoker, stoker feed system, stoker ash handling system, bale grinders, pneumatic conveying systems, biomass injection systems and proper safety equipment.

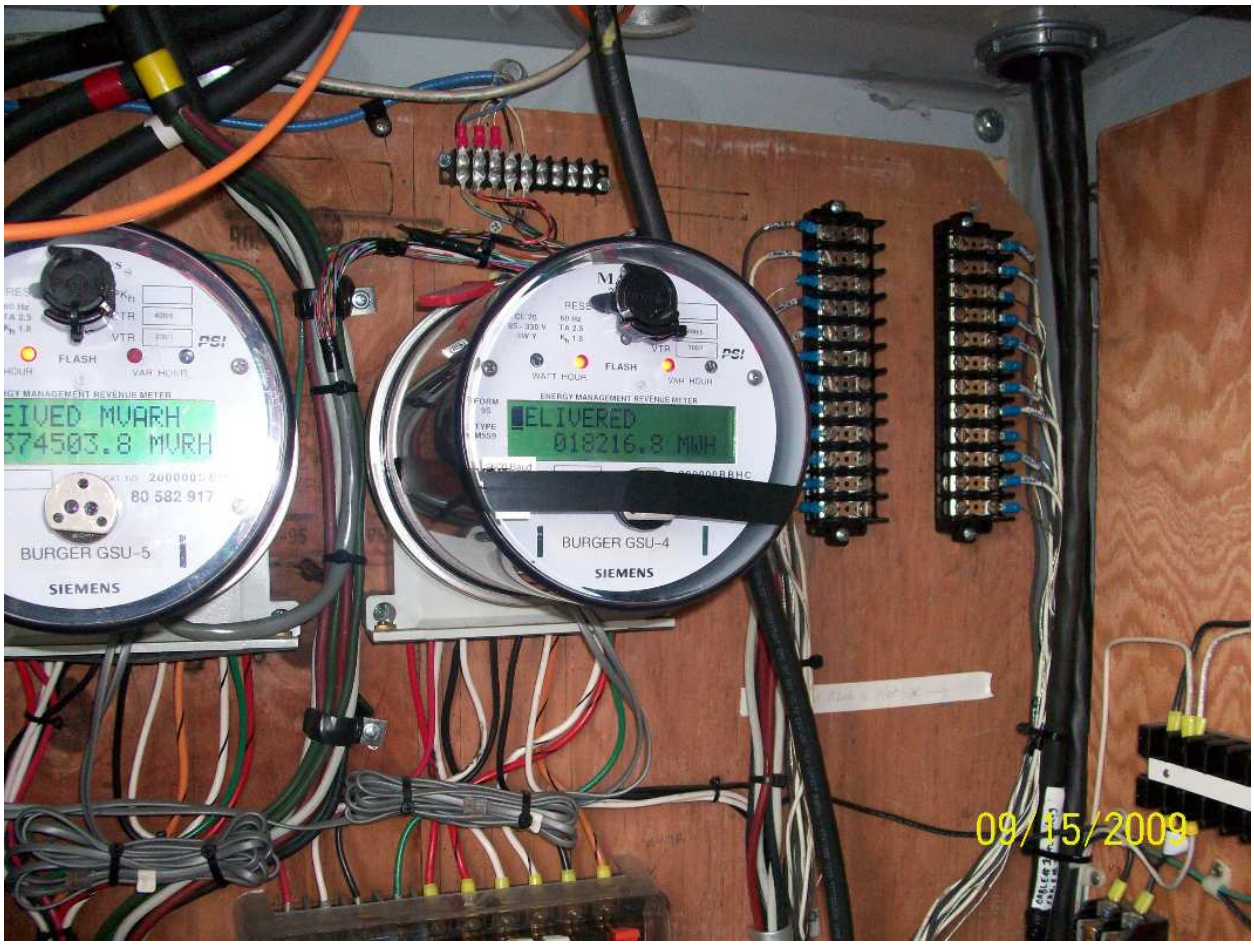
Attachment 5 – Meter Specifications and Photographs

Meter Specifications

Bay Shore Plant **Utility Grade Meter (Revenue Meter)**

Generating Units	Manufacturer	Serial Number	Type	Date of Last Certification	Next Certification Date
Bu-4	Siemens	680-582-916	2510	October 15, 2008	October 2010
Bu-5	Siemens	680-582-917	2510	October 15, 2008	October 2010

Burger Unit #4 - Meter



Attachment 5 (continued)

Burger Unit #5 - Meter

Summary: Application Application for Certification as an Eligible Ohio Renewable Energy Resource Generating Facility electronically filed by Mr. Daniel R. Conway on behalf of FirstEnergy Generation Corp.