

Oregon Clean Energy Center

Application for Third Amendment of a Certificate of Environmental Compatibility and Public Need



Submitted by:
Oregon Clean Energy, LLC

CASE NO. 15-853-EL-BGA

May 1, 2015



Oregon Clean Energy, LLC
Natural Gas Energy for Ohio's Future



COLUMBUS | CLEVELAND
CINCINNATI-DAYTON
MARIETTA

BRICKER & ECKLER LLP
100 South Third Street
Columbus, OH 43215-4291
MAIN: 614.227.2300
FAX: 614.227.2390

www.bricker.com
info@bricker.com

Sally W. Bloomfield
614.227.2368
sbloomfield@bricker.com

May 1, 2015

Ms. Barcy McNeal
Administration/Docketing
Ohio Power Siting Board
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3793

**Re: Oregon Clean Energy, LLC,
OPSB Case No. 15-853-EL-BGA**

Dear Ms. McNeal:

Enclosed, please find an original and four copies of the Application for a Third Amendment of a Certificate of Environmental Compatibility and Public Need submitted by Oregon Clean Energy, LLC, for its electric generating facility in Oregon, Ohio, Lucas County under Chapter 4906-13 of the Ohio Administrative Code (OAC).

The only change from the initial application and prior two amendments is found in Sections 4906-13-01(A)(5), 4906-13-02(B)(1), 4906-13-04(A)(5)(a), and 4906-13-04(C)(1)(c).

Pursuant to OAC Rules 4906-5-10(A) and 4906-5-03(A)(3), the applicant makes the following declarations:

Name of Applicant: Oregon Clean Energy, LLC
whose Project Director is
Peter Rigney
816 N. Lallendorf Road
Oregon, OH 43616

**Name/Location of
Proposed Facility:** Oregon Clean Energy Center
Municipality of Oregon, Ohio

**Authorized Representatives
Technical:** Peter E. Rigney
Project Director
Power Plant Management Services, LLC
816 N. Lallendorf Road
Oregon, OH 43616
Telephone: (814) 673-1128
Email: PRigney@ppmsllc.com

May 1, 2015

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Kellee C. Fletcher, CHMM, CSP
EHS Manager
816 N. Lallendorf Road
Oregon, OH 43616
Telephone: (870) 882-4653
Email: kfletcher@ppmsllc.com

Authorized Representative

Legal:

Sally W. Bloomfield
Dylan F. Borchers
Bricker & Eckler LLP
100 South Third Street
Columbus, OH 43215
Telephone: (614) 227-2368; (614) 227-4914
Facsimile: (614) 227-2390
E-Mail: sbloomfield@bricker.com
dborchers@bricker.com

Notarized Statement:

See Attached Affidavit of Peter Rigney,
on behalf of Oregon Clean Energy, LLC

Sincerely on behalf of
OREGON CLEAN ENERGY, LLC



Sally W. Bloomfield

Attachment

**BEFORE
THE OHIO POWER SITING BOARD**

In the Matter of the Application of **OREGON CLEAN ENERGY, LLC** for a Third Amendment to its Certificate of Environmental Compatibility and Public Need for an Electric Generating Facility in Oregon, Ohio, Lucas County)
Case No. 15-853-EL-BGA

AFFIDAVIT OF PETER E. RIGNEY, OREGON CLEAN ENERGY, LLC

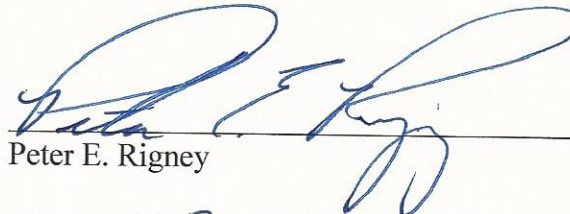
STATE OF OHIO :

: ss.

COUNTY OF LUCAS :

I, Peter E. Rigney, being duly sworn and cautioned, state that I am over 18 years of age and competent to testify to the matters stated in this affidavit and further state the following based upon my personal knowledge:

1. I am executing this affidavit on behalf of Oregon Clean Energy, LLC as its project manager.
2. I have reviewed Oregon Clean Energy LLC's Application to the Ohio Power Siting Board for a Third Amendment to its Certificate of Environmental Compatibility and Public Need for the Oregon Clean Energy Center project.
3. To the best of my knowledge, information, and belief, the information and materials contained in the above-referenced Application are true and accurate.
4. To the best of my knowledge, information, and belief, the above-referenced Application is complete.


Peter E. Rigney

Sworn to before and signed in my presence this 30 day of April 2015.



ROSEMARY V. KERR
NOTARY PUBLIC - OHIO
MY COMMISSION EXPIRES 02-23-2018


Notary

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LIST OF ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
%	percent
°F	degrees Fahrenheit
µg/m ³	micrograms per cubic meter
BACT	Best Available Control Technology
BAT	Best Available Technology
C-I	Commercial-Industrial
CO	carbon monoxide
CSAPR	Cross-State Air Pollution Rule
dba	A-weighted decibel
FuA	Fulton silty clay loam
GHG	greenhouse gas
HIH	highest first highest
H ₂ SO ₄	sulfuric acid
kV	kilovolt
lb/hr	pounds per hour
Lc	Latty silty clay
MW	megawatt
NAAQS	National Ambient Air Quality Standards
NO ₂	nitrogen dioxide
NO _x	nitrogen oxides
OCE	Oregon Clean Energy, LLC
Ohio EPA	Ohio Environmental Protection Agency
OPSB	Ohio Power Siting Board
PJM	the regional electric transmission Independent System Operator
PM ₁₀	particulate matter with a diameter less than or equal to 10 microns
PM _{2.5}	particulate matter with a diameter less than or equal to 2.5 microns
the Project	Oregon Clean Energy Center
Project Site	30-acre parcel proposed for the location of the Oregon Clean Energy Center
PSD	Prevention of Significant Deterioration
PTI	Permit-to-Install
R1	nearest noise sensitive receptor
R2	next nearest noise sensitive receptor
SIL	Significant Impact Level
SO ₂	sulfur dioxide
Switchyard Parcel	An approximately 7.5-acre parcel, adjacent to the Project Site, proposed for the location of the Project switchyard
tpy	tons per year
USEPA	United States Environmental Protection Agency
VOC	volatile organic compounds

(A) PROJECT SUMMARY AND OVERVIEW

No change from Application.

(1) General Purpose of the Facility

No change from Application.

(2) Description of the Facility

No change from the First Amendment.

(3) Site Selection Process

No change from Application.

**TABLE 01-1
Proposed Site Characteristics**

No change from the First Amendment.

(4) Principal Environmental and Socioeconomic Considerations

No change from the First Amendment.

(a) Potential Construction Impacts

No change from Application.

(b) Potential Operational Impacts

No change from the Second Amendment.

(5) Project Schedule

As stated in the First Amendment, initiation of construction activities was scheduled for October 2014 to reach commercial operation by May 1, 2017. As a clarification, commercial operation is expected to be reached sometime between March and July 2017.

(A) DETAILED DESCRIPTION OF PROPOSED GENERATION AND ASSOCIATED FACILITIES

No change from Application.

(1) Project Details

(a) *Generating Units*

No change from the First Amendment.

(b) *Land Area Requirements*

No change from the First Amendment.

(c) *Fuel Quantity and Quality*

No change from Application.

**TABLE 02-1
Fuel Characteristics**

No change from Application.

(d) *Plant Emissions*

No change from Application.

(e) *Water Requirements*

No change from Application.

(2) Description of Major Equipment

No change from the Second Amendment.

- *Gas Fuel Handling* – No change from Application.
- *Steam System* – No change from Application.

- *Condensate System* – No change from Application.
- *Feedwater System* – No change from Application.
- *Cooling Water System/Steam Condensing* – No change from Application.
- *Closed Loop Auxiliary/Cooling Water System* – No change from Application.
- *Fire Protection System* – No change from the Second Amendment.
- *Stand-by Diesel Generator* – No change from the Second Amendment.
- *Water System* – No change from Application.
- *Demineralizer* – No change from Application.
- *Wastewater System* – No change from Application.

(3) Transmission Line Interconnect

No change from the Second Amendment.

(4) New Gas Transmission Line

No change from Application.

(B) DETAILED PROJECT SCHEDULE

(5) Schedule

Figure 02-8 was updated in the Second Amendment to indicate a commercial operation date of May 1, 2017. Figure 02-8 should be revised to clarify the commercial operation date between March and July 2017.

(6) Delays

No change from Application.

(C) SITE SELECTION STUDY

(7) Site Selection Process

(f) *Description of Study Area*

No change from Application.

(g) *Study Area and Site Map*

No change from Application.

(h) *Siting Criteria*

No change from Application.

(i) *Process for Identifying the Proposed Site*

No change from Application.

(e) *Factors in Selecting the Proposed Site*

No change from Application.

(8) Constraint Map

No change from Application.

(B) SUMMARY TABLE OF EVALUATED SITES

No change from Application.

(C) ADDITIONAL SITE SELECTION STUDIES

No change from Application.

(D) SITE

(9) Geography and Topography

No change from Application.

(10) Aerial Photograph

No change from the First Amendment.

(11) Site Mapping

No change from Application.

(12) Geology and Seismology

(j) Geological Issues

No change from Application.

(k) Soils and Soil Suitability

No change from the First Amendment.

TABLE 04-1

Soil Properties and Characteristics

No change from Application.

TABLE 04-2

General Boring Information

No change from Application.

(13) Hydrology and Wind

(l) Characteristics of Directly Affected Waterbodies

The original application stated, “Project access will be from North Lallendorf Road and will require an access road to cross Driftmeyer Ditch”. Since that time, FirstEnergy has directed OCE to build a separate access to the switchyard from North Lallendorf Road necessitating an additional crossing of

Driftmeyer Ditch. On February 21, 2015, the U.S. Army Corps of Engineers (USACE) issued a Nationwide Permit No. 39 for approximately 60.7 LF of permanent and approximately 140.8 LF of temporary impacts to Driftmeyer Ditch as well as 16.4 LF of permanent and 4.7 LF of temporary impact to Johlin Ditch in conjunction with the construction of the generating facility. The permit was further modified and issued on April 8, 2015, incorporating the necessary changes to support the new crossing and stormwater discharge structures associated with the switchyard. Specifically, Driftmeyer Ditch will be impacted by the placement of a 121" x 77" horizontal elliptical concrete pipe to facilitate the proposed gravel access drive; the impact to Johlin Ditch is associated with the proposed detention basin outfall structure. Design changes were coordinated with FirstEnergy, the City of Oregon to meet their expectations and those of the United States Army Corps of Engineers.

(m) Potential for Flooding or High Wind Conditions

No change from Application.

(n) Aquifer Mapping

No change from Application.

(E) LAYOUT AND CONSTRUCTION

No change from Application.

(14) Site Activities

(o) Test Borings

No change from Application.

(p) Removal of Vegetation

No change from Application.

(q) Grading and Drainage

No change from Application.

(r) Access Roads

No change from Application.

(s) Removal and Disposal of Debris

No change from Application.

(t) Post-Construction Reclamation

No change from Application.

(15) Layout

No change from the First Amendment.

(16) Structures

(u) Dimensions

No change from the Second Amendment.

(v) Construction Materials

No change from Application.

(w) Color and Texture

No change from Application.

(x) Pictorial Sketches

No change from Application.

(y) Unusual Features

No change from Application.

(17) Plans for Construction

No change from Application.

(18) Future Plans

No change from Application.

(F) EQUIPMENT

(19) Description of Major Generating Equipment

No change from the Second Amendment

(z) *Combustion Turbine Generators*

No change from Application.

(aa) *Steam Turbine Generator*

No change from Application.

(bb) *Heat Recovery Steam Generators*

The original application states that “[e]ach HRSG will be equipped with an ammonia injection grid and associated aqueous ammonia storage tank.” Initially the on-site ammonia tank storage system was to consist of a 40 foot long, 9-foot diameter double-walled tank allowing for a maximum of 18,600 gallons of 19% aqueous ammonia to be stored on-site, given a maximum volumetric tank capacity of 85%. In order to ensure high plant availability, the contents of the tank would not have been allowed to drop below 20% capacity. Therefore, a minimum of 4,400 gallons would have been stored on-site at all times.

The design basis of each tank has been modified, and will instead be 25,500 gallons net, each, or 26,800 gallons gross. This equates to a total gross volume of 53,600 gallons. The size is driven by the desire to have 10 days of storage for inclement weather conditions that can impact delivery. The single-

walled tanks are inside a curbed containment area (including the forwarding pumps). A release is contained and is not allowed to flow into the waste water stream from the facility, rather it will be contained locally and disposed in accordance with governmental regulations and requirements. The facility will still use 19% ammonia solution and therefore would not trigger thresholds quantities subjecting the facility to Clean Air Act §112(r)'s Risk Management Program nor OSHA's Process Safety Management Program.

The planned ammonia system is comprised of stainless steel, single-walled tanks and associated pumps that are placed inside a concrete containment basin. The original double-walled tank design was comprised of two carbon steel walls without a containment basin. Additionally the associated pumps were not located within containment. The concrete basin provides at least as much liquid release security as a double walled ammonia tank. Co-locating the tanks and associated pumps within a concrete containment is considered a superior design. The planned system is designed with proper handling, safety, and alarming equipment to minimize risk of release and exposure to ammonia. The system proposed is typical for combined cycle power plants utilizing a 19% aqueous ammonia system for NO_x control. The professional engineering firm contracted by OCE also concurs with the position that for an aboveground ammonia tank, a single wall tank with its associated pump located inside a concrete containment is a better arrangement than a double wall tank.

Additional security for the single walled ammonia storage tanks is provided by concrete containment walls to prevent an accidental release of liquid

from spreading to uncontrolled areas and vehicle contact. The bottom of the containment is also constructed from concrete. The containment area will be designed to contain 110 percent of the gross volume of one of the tanks with additional allowances for volume displaced by rainfall and 5,000 gallons of fire water. The containment system would ensure that no aqueous ammonia would come in contact with the ground. The area of the ammonia containment is also protected by yard fire hydrants.

A transfer line from the containment is routed to the plant wastewater system. After a rain event, and the water is confirmed to be clean, the contents of the containment area can be transferred via a portable temporary pump to the wastewater system. In the event of an ammonia spill, the spill would be pumped into a truck or appropriately sized container for proper disposal. The ammonia truck unloading pad is also sloped into the containment to contain any spills during offloading.

The design includes ammonia gas detectors around the tank system to rapidly alert operators of any problems and warning of ammonia gas release. Operators will be trained in accordance with safe process design and operations. Proper maintenance, inspection and testing procedures will also be utilized to ensure employees working on and around the process are aware of hazards and proper response. Safety showers, eyewash stations and personal protective equipment will be provided to personnel working in and around the storage area. Oregon Clean Energy Center will also work with local responders to ensure

proper emergency response procedures are in place should an offsite response ever be required.

There is no further change to this section.

(cc) Fuel Gas System

No change from Application.

(dd) Steam System

No change from Application.

(ee) Condensate System

No change from Application.

(ff) Feedwater System

No change from Application.

(gg) Cooling Water System/Steam Condensing

No change from Application.

(hh) Closed Loop Auxiliary/Cooling Water System

No change from Application.

(ii) Fire Protection System

No change from Application.

(jj) Water System

No change from Application.

(kk) Demineralizer

No change from Application.

(ll) Wastewater System

No change from Application.

(mm) Backup Generator

No change from Application.

(nn) Transformers

No change from Application.

(20) Emissions Control and Safety Equipment

(oo) Flue Gas Emissions Control

No change from Application.

(pp) Equipment Reliability and Efficiency Reduction

No change from Application.

(qq) Effluent Control Equipment

No change from Application.

(rr) Public Safety Equipment

No change from Application.

(21) Other Major Equipment

No change from Application.

(ss) Combustion Turbine Air Inlet Coolers

No change from Application.

(tt) Auxiliary Boiler

No change from Application.

(uu) Fuel Gas Preheaters

No change from the Second Amendment

(vv) *Fire Water Pump – Diesel Engine Driven*

No changes from the Second Amendment

(ww) *Oil/Water Separator*

No change from Application.

(G) OWNERSHIP

No change from the First Amendment.

(H) CAPITAL AND INTANGIBLE COSTS

(22) Estimated Capital and Intangible Costs

No change from Application.

TABLE 05-1

Estimated Capital and Intangible Costs (\$1,000)

No change from Application.

(23) Capital Cost Comparison

No change from Application.

(24) Present Worth and Annualized Capital Costs

No change from Application.

(I) OPERATION AND MAINTENANCE EXPENSES

(25) Estimated Annual Operation and Maintenance Expenses

No change from Application.

(26) Operation and Maintenance Expenses Comparison

No change from Application.

(27) Present Worth and Annualized Operation and Maintenance Expenses

No change from Application.

(J) DELAYS

No change from Application.

(K) General

No change from Application.

(L) Air

(28) Preconstruction

(xx) *Description of Ambient Air Quality*

No change from Application.

TABLE 06-1

Background Air Quality Monitoring Stations

No change from Application.

TABLE 06-2

Background Air Quality Data

No change from Application.

The following subsections summarize background air quality by pollutant.

Ozone – No change from Application.

Sulfur Dioxide – No change from Application.

Particulates – No change from Application.

Nitrogen Dioxide –

No change from Application.

Carbon Monoxide – No change from Application.

Lead – No change from Application.

(yy) *Description of Pollution Control Equipment*

No change from Application.

Nitrogen Oxides

No change from Application.

Sulfur Dioxide

No change from Application.

Particulate Matter

No change from Application.

Carbon Monoxide

No change from Application.

Volatile Organic Compounds

No change from Application.

(zz) *Description of Regulatory Applicability*

No change from First Amendment.

Prevention of Significant Deterioration Review and New Source Review

No change from Application.

OAC Rule 3745-31-06 - Completeness determinations, processing requirements, public participation, public notice, and issuance – No change from Application.

OAC Rule 3745-31-11 - Ambient Air Ceilings and Increments – No change from Application.

OAC Rule 3745-31-13/OAC Rule 3745-31-14 - Ambient Monitoring Requirements – No change from Application.

OAC Rule 3745-31-15 - Control Technology Review – No change from Application.

OAC Rule 3734-31-16 - Impact Analysis – No change from Application.

OAC Rule 3745-31-17 - Additional Impact Analysis – No change from Application.

Other Regulatory Requirements

(aaa) Required Permits to Install and Operate Air Pollution Sources

No change from Application.

The following list of air permits is applicable to the proposed Project:

- *Ohio EPA Permit to Install (PTI)*: No change from Application.
- *Title V Permits*: No change from Application.
- *Title IV*: No change from Application.

(bbb) Air Monitoring Stations and Major Source Mapping

No change from Application.

(ccc) Demonstration of Regulatory Compliance

No change from First Amendment.

(29) Construction

No change from Application.

(30) Operation

(ddd) Description of Air Quality Monitoring Plans

No change from Application.

(eee) Estimated Air Concentration Isopleths

No change from First Amendment.

TABLE 06-3

Maximum Calculated Project Impacts for Criteria Pollutants

No change from Application.

(fff) Potential Failure of Air Pollution Control Equipment

No change from Application.

(M) Water

No change from Application.

(31) Preconstruction

(ggg) List of Permits

No change from Application.

(hhh) Location of Survey Data Sources

No change from Application.

(iii) Description of Data Sampling Stations

No change from Application.

(jii) Water Quality of Receiving Stream

No change from Application.

(kkk) Water Discharge Permit Information

No change from Application.

(32) Construction

No change from Application.

(33) Operation

No change from Application.

**TABLE 06-4
Project Consistency with POTW Standards**

No change from Application.

(N) Solid Waste

(34) Preconstruction

No change from Application.

(35) Construction

No change from Application.

(36) Operation

No change from Application.

(37) Licenses and Permits

No change from Application.

4906-13-07 Social and Ecological Data

No change from Application.

(O) Health and Safety

(38) Demographic Characteristics

No change from Application.

TABLE 07-1

Existing and Projected Populations

No change from Application.

(39) Atmospheric Emissions

No change from Application.

(40) Noise

Metric Descriptions

No change from Application.

Applicable Noise Level Regulations

No change from Application.

TABLE 07-2

City of Oregon Fixed Source Noise Threshold Limits

No change from Application.

Ambient Noise Level Survey

No change from Application.

TABLE 07-3

**Existing Ambient Noise Levels at Measurement Location 1 – October 2012
Noise Monitoring Data Summary**

No change from Application.

TABLE 07-5

**Measured Existing 15-minute Noise Levels at Sensitive Receptors on
October 16, 2012**

No change from Application.

(III) Construction Noise Levels

No change from Application.

TABLE 07-6

Proposed Construction Equipment Sound Levels

No change from Application.

TABLE 07-7

Oregon Clean Energy Construction Noise Impacts

No change from Application.

(mmm) Operational Noise Levels

No change from Application.

Operational Noise Impact Assessment

No change from Application.

(nnn) Identification of Noise-Sensitive Areas

No change from Application.

(ooo) Description of Equipment and Noise Mitigation Measures

Construction Noise

No change from Application.

Operational Noise

No change from the Second Amendment.

(41) Water

No change from Application.

(ppp) Construction and Operation Impact to Public and Private Water Supplies

No change from Application.

(qqq) Impact of Pollution Control Equipment Failures on Public and Private Water Supplies

No change from Application.

(P) ECOLOGICAL IMPACT

(42) Site Information

(rrr) Mapping

No change from First Amendment.

(sss) Vegetation Survey

No change from First Amendment.

TABLE 07-9

Vegetation Recorded On and Adjacent to the Site

No change from Application.

(ttt) Species Survey

No change from the First Amendment.

(uuu) Ecological Study

Wetland Assessment

No change from the First Amendment.

Ecological Impact Study Summary

No change from the First Amendment.

(vvv) List of Major Species

Endangered or Threatened Species

No change from Application.

Recreational or Commercial Species

No change from Application.

(43) Construction

(www) Impact of Construction on Undeveloped Areas

No change from the First Amendment.

(xxx) Impact of Construction on Major Species

No change from Application.

(yyy) Mitigation for Short-Term and Long-Term Construction Impacts

No change from Application.

(44) Operation

(zzz) Impact of Operation on Undeveloped Areas

No change from Application.

(aaaa) Impact of Operation on Major Species

No change from Application.

(Q) Economics, Land Use and Community Development

(45) Land Uses

(bbbb) Land Use Mapping

No change from Application.

(cccc) Residential Structures

No change from Application.

(dddd) Land Use Impact

No change from Application.

TABLE 07-10

Land Use within a One-Mile Radius of the Site

No change from Application.

(eeee) Structures to be Removed or Relocated

No change from Application.

(ffff) Formally Adopted Plans for Future Use of the Site and Surrounding Lands

No change from Application.

(gggg) Applicant Plans for Concurrent or Secondary Uses of the Site

No change from Application.

(46) Economics

(hhhh) Annual Total and Present Worth of Construction and Operation Payroll

No change from Application.

(iiii) Construction and Operation Employment

No change from Application.

(jjjj) Increase in Local Revenue

No change from Application.

(kkkk) Economic Impact on Local Commercial and Industrial Activities

No change from Application.

(47) Public Services and Facilities

No change from Application.

(48) Impact on Regional Development

(III) Impact on Regional Development

No change from Application.

(mmmm) Compatibility with Regional Plans

No change from Application.

(R) Cultural Impact

No change from the First Amendment.

(49) Cultural Resource Mapping

No change from Application.

(50) Cultural Resource Impacts

No change from Application.

(51) Cultural Resource Landmarks

No change from Application.

(52) Land and Water Recreation Areas

No change from Application.

(53) Recreational Areas and Potential Impacts

No change from Application.

(54) Measures to Minimize Visual Impacts

No change from Application.

(S) Public Responsibility

(55) Public Interaction Program

No change from Application.

(56) Liability Compensation Plans

No change from Application.

(T) Agricultural District Impact

(57) Agricultural Land Mapping

No change from Application.

(58) Potential Impact to Agricultural Lands

(nnnn) Potential Construction, Operation and Maintenance Impacts

No change from Application.

(oooo) Agricultural Mitigation Practices

No change from Application.

(59) Potential Impact on Agricultural Viability

No change from Application.

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Summary: Application of Oregon Clean Energy, LLC for a Third Amendment to its Certificate of Environmental Compatibility and Public Need electronically filed by Teresa Orahod on behalf of Sally Bloomfield