

State Registration Number

N1395

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number

MI-ROP-N1395-2021

**Cadillac Renewable Energy**

State Registration Number (SRN): N1395

Located at:

1525 Miltner Street, Cadillac, Wexford County, Michigan 49601

Permit Number: MI-ROP-N1395-2021

Staff Report Date: October 19, 2020

This Staff Report is published in accordance with Sections 5506 and 5511 of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Specifically, Rule 214(1) of the administrative rules promulgated under Act 451, requires that the Michigan Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), prepare a report that sets forth the factual basis for the terms and conditions of the Renewable Operating Permit (ROP).

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Michigan Department of Environmental Quality  
Air Quality Division

State Registration Number

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**OCTOBER 19, 2020 - STAFF REPORT**

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**Purpose**

Major stationary sources of air pollutants, and some non-major sources, are required to obtain and operate in compliance with an ROP pursuant to Title V of the federal Clean Air Act; and Michigan's Administrative Rules for Air Pollution Control promulgated under Section 5506(1) of Act 451. Sources subject to the ROP program are defined by criteria in Rule 211(1). The ROP is intended to simplify and clarify a stationary source's applicable requirements and compliance with them by consolidating all state and federal air quality requirements into one document.

This Staff Report, as required by Rule 214(1), sets forth the applicable requirements and factual basis for the draft ROP terms and conditions including citations of the underlying applicable requirements, an explanation of any equivalent requirements included in the draft ROP pursuant to Rule 212(5), and any determination made pursuant to Rule 213(6)(a)(ii) regarding requirements that are not applicable to the stationary source.

**General Information**

Stationary Source Mailing Address:	Cadillac Renewable Energy 1525 Miltner Street Cadillac, Michigan 49601
Source Registration Number (SRN):	N1395
North American Industry Classification System (NAICS) Code:	221119
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201800134
Responsible Official:	Mr. Chase Shepherd, Plant Manager 231-779-8609
AQD Contact:	Mr. Rob Dickman, Environmental Quality Analyst 231-878-4697
Date Application Received:	October 25, 2018
Date Application Was Administratively Complete:	October 25, 2018
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	October 19, 2020
Deadline for Public Comment:	November 18, 2020

## Source Description

Cadillac Renewable Energy is a wood-fired electric utility plant located within an industrial park inside the City of Cadillac. It is located on the west edge of the industrial park with several industries to the east, west, and north including a foundry and an automotive hose manufacturer. There are some residences to the south of the facility with the closest being approximately one half a mile away.

The facility receives chipped wood by truck and uses it to fuel a single spreader-stoker boiler to produce steam. The steam is used by the associated generator to produce up to 41 megawatts of electricity at full capacity. Natural gas is used as a startup fuel for the boiler. The facility is equipped with Selective Non-Catalytic Reduction (SNCR) for NO<sub>x</sub> control and a Multi-clone and Electrostatic Precipitator (ESP) for particulate control. The fly ash and bottom ash are collected, treated with water, and transported to a landfill or recycled for agricultural uses.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2019**.

### **TOTAL STATIONARY SOURCE EMISSIONS**

<b>Pollutant</b>	<b>Tons per Year</b>
Carbon Monoxide (CO)	228
Lead (Pb)	0
Nitrogen Oxides (NO <sub>x</sub> )	200
Particulate Matter (PM)	5.6
Sulfur Dioxide (SO <sub>2</sub> )	66
Volatile Organic Compounds (VOCs)	1.4

The following table lists Hazardous Air Pollutant emissions as calculated for the year 2019 by Cadillac Renewable Energy:

<b>Individual Hazardous Air Pollutants (HAPs) **</b>	<b>Tons per Year</b>
Formaldehyde	0.5
Hydrogen Chloride	2.6
<b>Total Hazardous Air Pollutants (HAPs)</b>	<b>3.1</b>

\*\*As listed pursuant to Section 112(b) of the federal Clean Air Act.

See Parts C and D in the ROP for summary tables of all processes at the stationary source that are subject to process-specific emission limits or standards.

## Regulatory Analysis

The following is a general description and history of the source. Any determinations of regulatory non-applicability for this source are explained below in the Non-Applicable Requirement part of the Staff Report and identified in Part E of the ROP.

The stationary source is in Wexford County, which is currently designated by the United States Environmental Protection Agency (USEPA) as attainment/unclassified for all criteria pollutants.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit of nitrogen oxides and carbon monoxide exceeds 100 tons per year.

The stationary source is a minor source of HAP emissions because the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act, is less than 10 tons per year and the potential to emit of all HAPs combined are less than 25 tons per year.

EUBLR at the stationary source was subject to review under the Prevention of Significant Deterioration regulations of 40 CFR 52.21 because at the time of New Source Review permitting the potential to emit of nitrogen oxides and carbon monoxide was greater than 250 tons per year.

EUBLR at the stationary source is subject to the of Performance for Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Db.

EUBLR at the stationary source is subject to the National Emissions Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters promulgated in 40 CFR Part 63, Subparts A and JJJJJJ (Boiler Area Source MACT). The ROP contains special conditions provided by Cadillac Renewable Energy in their application for applicable requirements from 40 CFR Part 63, Subparts A and JJJJJJ. The AQD is not delegated the regulatory authority for this area source MACT.

EUFIREFUMP and EUEMERGEN at the stationary source is subject to the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subparts A and ZZZZ (RICE Area Source MACT). The ROP contains special conditions provided by Cadillac Renewable Energy in their application for applicable requirements from 40 CFR Part 63, Subparts A and ZZZZ. The AQD is not delegated the regulatory authority for this area source MACT.

EUBLR at the stationary source is subject to the Cross-State Air Pollution Rule NO<sub>x</sub> Annual Trading Program pursuant to 40 CFR Part 97, Subpart AAAAA.

EUBLR at the stationary source is subject to the Cross-State Air Pollution Rule NO<sub>x</sub> Ozone Season Group 2 Trading Program pursuant to 40 CFR Part 97, Subpart EEEEE.

EUBLR at the stationary source is subject to the Cross-State Air Pollution Rule SO<sub>2</sub> Group 1 Trading Program pursuant to 40 CFR Part 97, Subpart CCCCC.

The monitoring conditions contained in the ROP are necessary to demonstrate compliance with all applicable requirements and are consistent with the "Procedure for Evaluating Periodic Monitoring Submittals."

The emission limitations or standards for nitrogen oxides (NO<sub>x</sub>) emissions, 0.15 pounds per million BTU and 78.5 pounds per hour from EUBLR at the stationary source are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(vi), because EUBLR has a required Continuous Emission Rate Monitoring System (CERMS) for NO<sub>x</sub> and meets the CAM exemption for a continuous compliance determination method.

The following Emission Units/Flexible Groups are subject to CAM:

Emission Unit/Flexible group ID	Pollutant/ Emission Limit	UAR(s)	Control Equipment	Monitoring (Include Monitoring Range)	Emission Unit/Flexible Group for CAM	PAM?*
EUBLR	PM/0.03 pounds per MMBTU	R 336.1331	ESP	Opacity/0-10%	EUBLR	No
EUBLR	PM/15.7 pounds per hour	40 CFR 52.21(j)	ESP	Opacity/0-10%	EUBLR	No

\*Presumptively Acceptable Monitoring (PAM)

This emission unit has a control device and potential pre-control emissions of particulate matter greater than the major source threshold level. The monitoring for the control device is a continuous opacity monitoring system (COMS). The opacity limit for the facility is 10%. The target trigger for CAM is two one-hour block averages of greater than 7% opacity. Readings for opacity greater than 7% but less than 10% could indicate an issue with the electrostatic precipitator.

Please refer to Parts B, C and D in the draft ROP for detailed regulatory citations for the stationary source. Part A contains regulatory citations for general conditions.

**Source-Wide Permit to Install (PTI)**

Rule 214a requires the issuance of a Source-Wide PTI within the ROP for conditions established pursuant to Rule 201. All terms and conditions that were initially established in a PTI are identified with a footnote designation in the integrated ROP/PTI document.

The following table lists all individual PTIs that were incorporated into previous ROPs. PTIs issued after the effective date of ROP No. MI-ROP-N1395-2014a are identified in Appendix 6 of the ROP.

PTI Number			
219-07	356-06	373-86C	

**Streamlined/Subsumed Requirements**

The following table lists explanations of any streamlined/subsumed requirements included in the ROP pursuant to Rules 213(2) and 213(6). All subsumed requirements are enforceable under the streamlined requirement that subsumes them.

Emission Unit/Flexible Group ID	Condition Number	Streamlined Limit/ Requirement	Subsumed Limit/ Requirement	Stringency Analysis
EUBLR	I.3	10% opacity/ R 336.1301(c)	20% opacity/ 40 CFR 60.43b(f)	State limitation is more stringent.
EUBLR	I.2	0.03 #PM/MMBTU heat input/ R 336.1331	0.10#PM/MMBTU heat input/ 40 CFR 60.43b(c)	State limitation is more stringent.

**Non-applicable Requirements**

Part E of the ROP lists requirements that are not applicable to this source as determined by the AQD, if any were proposed in the ROP Application. These determinations are incorporated into the permit shield provision set forth in Part A (General Conditions 26 through 29) of the ROP pursuant to Rule 213(6)(a)(ii).

**Processes in Application Not Identified in Draft ROP**

There were no processes listed in the ROP Application as exempt devices under Rule 212(4). Exempt devices are not subject to any process-specific emission limits or standards in any applicable requirement.

### **Draft ROP Terms/Conditions Not Agreed to by Applicant**

This draft ROP does not contain any terms and/or conditions that the AQD and the applicant did not agree upon pursuant to Rule 214(2).

### **Compliance Status**

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements as of the effective date of this ROP.

### **Action taken by the EGLE, AQD**

The AQD proposes to approve this ROP. A final decision on the ROP will not be made until the public and affected states have had an opportunity to comment on the AQD's proposed action and draft permit. In addition, the USEPA is allowed up to 45 days to review the draft ROP and related material. The AQD is not required to accept recommendations that are not based on applicable requirements. The delegated decision maker for the AQD is Shane Nixon, Cadillac District Supervisor. The final determination for ROP approval/disapproval will be based on the contents of the ROP Application, a judgment that the stationary source will be able to comply with applicable emission limits and other terms and conditions, and resolution of any objections by the USEPA.

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### NOVEMBER 23, 2020 - STAFF REPORT ADDENDUM

#### **Purpose**

A Staff Report dated October 19, 2020, was developed to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (ROP) terms and conditions as required by Rule 214(1) of the administrative rules promulgated under Act 451. The purpose of this Staff Report Addendum is to summarize any significant comments received on the draft ROP during the 30-day public comment period as described in Rule 214(3). In addition, this addendum describes any changes to the draft ROP resulting from these pertinent comments.

#### **General Information**

Responsible Official:	Mr. Chase Shepherd, Plant Manager 231-779-8609
AQD Contact:	Mr. Rob Dickman, Environmental Quality Analyst 231-878-4697

#### **Summary of Pertinent Comments**

No pertinent comments were received during the 30-day public comment period.

#### **Changes to the October 19, 2020 Draft ROP**

No changes were made to the draft ROP.