

State Registration Number
B2647

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-B2647-2023a

Lansing Board of Water and Light - REO Town Plant

State Registration Number (SRN): B2647

Located at

1201 South Washington Avenue, Lansing, Ingham County, Michigan 48910

Permit Number: MI-ROP-B2647-2023a

Staff Report Date: June 5, 2023

Amended Date: January 29, 2024

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).

TABLE OF CONTENTS

JUNE 5, 2023 -STAFF REPORT	3
JULY 13, 2023 - STAFF REPORT ADDENDUM	8
JANUARY 29, 2024 - STAFF REPORT FOR RULE 216(2) MINOR MODIFICATION	9

State Registration Number

B2647

RENEWABLE OPERATING PERMIT

JUNE 5, 2023 -STAFF REPORT

ROP Number

MI-ROP-B2647-2023

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:	Lansing Board of Water and Light - REO Town Plant 1201 South Washington Avenue Lansing, Michigan 48910
Source Registration Number (SRN):	B2647
North American Industry Classification System (NAICS) Code:	221112
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	202200094
Responsible Official:	Lori Myott, Manager, Environmental Services and Reliability Compliance Department 517-702-6639
AQD Contact:	Julie Brunner, P.E. Environmental Quality Specialist 517-275-0415
Date Application Received:	April 18, 2022
Date Application Was Administratively Complete:	April 18, 2022
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	June 5, 2023
Deadline for Public Comment:	July 5, 2023

Source Description

The stationary source consists of one utility power plant that generates electricity and steam. The Lansing Board of Water and Light (LBWL) - REO Town Plant is a combined-cycle, cogeneration facility consisting of two natural gas-fired turbines, two heat recovery steam generators (HRSG) with natural gas-fired duct burners, steam turbines, a natural gas-fired auxiliary boiler, two (2) natural gas-fired stand-by boilers, a natural gas-fired emergency engine, and a four-cell mechanical draft cooling tower. REO Town Plant was co-located with coal-fired Eckert and Moores Park Steam Stations. Moores Park Steam Station was shut down as part of the project to build the REO Town Plant. Eckert Station was permanently shut down on December 31, 2020. One unit remained available only for emergency operations status through May 31, 2021, at which point the entire plant was permanently taken offline. The permit conditions for Eckert Station were removed in a minor modification to the ROP.

The REO Town Plant is located diagonally to the northeast of Eckert Station, and the two plants shared a steam distribution line to GM and downtown Lansing. The facility is in central Lansing and the surrounding area is a mix of residential, commercial, and industrial properties.

REO Town Plant is a major source subject to Prevention of Significant Deterioration regulations due to the potential to emit of greater than 100 tons per year (tpy) of carbon monoxide (CO) and nitrogen oxides (NO_x). It was demonstrated in the renewal application that the facility is now a minor (area) source of hazardous air pollutants (HAPs) with the retirement of the coal-fired Eckert Station.

Changes to the facility since the last renewal include the installation of two (2) natural gas-fired stand-by boilers as allowed under Permit to Install (PTI) No. 36-20. PTI 156-22 was issued December 2, 2022 for the replacement of one natural gas-fired turbine (EUTURBINE2) with a like-kind turbine that is functionally equivalent. The requirements for PTI 156-22 are incorporated into this renewal.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2022**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	167.5
Lead (Pb)	0.02
Nitrogen Oxides (NO _x)	162.4
PM10*	13.8
Sulfur Dioxide (SO ₂)	0.3
Volatile Organic Compounds (VOCs)	6.6

* Particulate matter (PM) that has an aerodynamic diameter less than or equal to a nominal 10 micrometers.

The following table lists potential Hazardous Air Pollutant (HAP) emissions calculated by the source:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Hexane	4.2
Formaldehyde	3.0
Toluene	0.4
Total Hazardous Air Pollutants (HAPs)	8.5

**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 Ingham 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 carbon monoxide (CO) and nitrogen oxides (NOx) exceeds 100 tons per year.

The stationary source is an area 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.

The owner/operator of LBWL - REO Town Plant has requested removal of the provisions of the National Emission Standard for Hazardous Air Pollutants for Stationary Combustion Turbines promulgated in 40 CFR Part 63, Subpart YYYY and for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters promulgated in 40 CFR Part 63, Subpart DDDDD with this ROP renewal. The stationary source is now an area source of HAPs due to the retirement of Eckert Station, and not subject to regulations for major sources of HAPs.

No emission units at the stationary source were subject to review under the Prevention of Significant Deterioration regulations of the Michigan Air Pollution Control Rules Part 18, Prevention of Significant Deterioration of Air Quality or 40 CFR 52.21 at the time of New Source Review permitting. To build REO Town, emissions from the shutdown of Moores Park Steam Station were used to "net" out of major New Source Review permitting. Emission units at the stationary source have been subject to minor New Source Review permitting.

The natural gas-fired auxiliary boiler designated as EUAUXBOILER is subject to the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Db. The provisions of this subpart apply to each steam generating unit that commences construction, modification, or reconstruction after June 19, 1984, and that has a heat input capacity from fuels combusted in the steam generating unit of greater than 29 megawatts (100 million British thermal units per hour (MMBTU/hr)).

The natural gas-fired stand-by boilers designated as EUSBBOILER1 and EUSBBOILER2 are subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Dc. The provisions of this subpart apply to each steam generating unit that commences construction, modification, or reconstruction after June 9, 1989, and that has a heat input capacity from fuels combusted in the steam generating unit of 29 megawatts (100 MMBTU/hr) or less, but greater than or equal to 2.9 megawatts (10 MMBTU/hr).

The natural gas-fired emergency engine designated as EUNGINE is subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and JJJJ. The provisions of this subpart apply to spark ignition internal combustion engines that commence construction (ordered) after June 12, 2006.

The natural gas-fired turbines designated as EUTURBINE1 and EUTURBINE2 are subject to the Standards of Performance for Stationary Spark Combustion Turbines promulgated in 40 CFR Part 60, Subparts A and KKKK. The provisions of this subpart apply to stationary combustion turbines with a heat input at peak load equal to or greater than 10 MMBTU/hr, based on the higher heating value of the fuel, which commenced construction, modification, or reconstruction after February 18, 2005.

The natural gas-fired emergency engine designated as EUNGINE is subject to the National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subparts A and ZZZZ. For EUNGINE, compliance with 40 CFR Part 63, Subpart ZZZZ is demonstrated through compliance with 40 CFR Part 60, Subpart JJJJ.

The natural gas-fired turbines designated as EUTURBINE1 and EUTURBINE2 at the stationary source are subject to the federal Acid Rain program promulgated in 40 CFR Part 72.

The natural gas-fired turbines designated as EUTURBINE1 and EUTURBINE2 at the stationary source are subject to the Cross-State Air Pollution Rule NOx Annual Trading Program pursuant to 40 CFR Part 97, Subpart AAAAA.

The natural gas-fired turbines designated as EUTURBINE1 and EUTURBINE2 at the stationary source are subject to the Cross-State Air Pollution Rule NOx Ozone Season Group 3 Trading Program pursuant to 40 CFR Part 97, Subpart GGGGG.

The natural gas-fired turbines designated as EUTURBINE1 and EUTURBINE2 at the stationary source are subject to the Cross-State Air Pollution Rule SO₂ 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."

No emission units have emission limitations or standards that are subject to the federal Compliance Assurance Monitoring rule pursuant to 40 CFR Part 64, because all emission units at the stationary source either do not have a control device or those with a control device do not have potential pre-control emissions over the major source thresholds.

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-B2647-2018 are identified in Appendix 6 of the ROP.

PTI Number			
435-75*	109-89*	382-73*	383-73*
317-73*	98-88*	112-76*	130-79*
336-89*	59-90*	966-78*	932-80*
434-75*	433-75*	132-05B*	149-10A, B & C

* Process/equipment discontinued and/or dismantled. PTI not in the draft ROP.

Streamlined/Subsumed Requirements

This ROP does not include any streamlined/subsumed requirements pursuant to Rules 213(2) and 213(6).

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 Not in the Draft ROP

There were no PTI exempt processes listed in the ROP Application pursuant to Rule 212(4) that were not included in the Draft ROP.

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 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 Robert Byrnes, Lansing 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.

State Registration Number
B2647

RENEWABLE OPERATING PERMIT
JULY 13, 2023 - STAFF REPORT ADDENDUM

ROP Number
MI-ROP-B2647-2023

Purpose

A Staff Report dated May 29, 2023, 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:	Lori Myott, Manager, Environmental Services and Reliability Compliance Department 517-702-6639
AQD Contact:	Julie Brunner, P.E. Environmental Quality Specialist 517-275-0415

Summary of Pertinent Comments

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

Changes to the June 5, 2023 Draft ROP

No changes were made to the draft ROP.

State Registration Number
B2647

RENEWABLE OPERATING PERMIT
JANUARY 29, 2024 - STAFF REPORT FOR RULE
216(2) MINOR MODIFICATION

ROP Number
MI-ROP-B2647-2023a

Purpose

On September 5, 2023, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B2647-2023 to Lansing Board of Water and Light - REO Town Plant pursuant to Rule 214 of the administrative rules promulgated under Act 451. Once issued, a company is required to submit an application for changes to the ROP as described in Rule 216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to Rule 216(2).

General Information

Responsible Official:	Lori Myott, Manager, Environmental Services and Reliability Compliance Department 517-702-6639
AQD Contact:	Caryn Owens, Senior Environmental Engineer 231-878-6688
Application Number:	202400005
Date Application for Minor Modification was Submitted:	January 10, 2024

Regulatory Analysis

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to Rule 216(2).

Description of Changes to the ROP

Minor Modification Number 202400005 was to remove obsolete Conditions due to removal of EUTURBINE2, and replacing it with EUTURBINE2A, which began operating on June 10, 2023.

Compliance Status

The AQD finds that the stationary source is expected to be in compliance with all applicable requirements associated with the emission unit(s) involved with the change as of the date of approval of the Minor Modification to the ROP.

Action Taken by EGLE

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-B2647-2023, as requested by the stationary source. A final decision on the Minor Modification to the ROP will not be made until any affected states and the United States Environmental Protection Agency (USEPA) has been allowed 45 days to review the proposed changes to the ROP. The delegated decision maker for the AQD is the District Supervisor. The final determination for approval of the Minor Modification will be based on the contents of the permit application, a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by any affected states or the USEPA.