

State Registration  
Number  
B2647

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
MI-ROP-B2647-2018b

**Lansing Board of Water and Light – Eckert Station and REO Town Plant**

SRN: B2647

Located at

601 Island Drive and 1201 South Washington Avenue, Lansing, Michigan 48910

Permit Number: MI-ROP-B2647-2018b

Staff Report Date: December 11, 2017

Amended Dates: March 24, 2021  
September 29, 2021

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) 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

|   |           |
|---|-----------|
| <b>STAFF REPORT</b>   | <b>3</b>  |
| <b>January 17, 2018 - STAFF REPORT ADDENDUM</b>                             | <b>8</b>  |
| <b>March 24, 2021 - STAFF REPORT FOR RULE 216(2) MINOR MODIFICATION</b>     | <b>9</b>  |
| <b>September 29, 2021 - STAFF REPORT FOR RULE 216(2) MINOR MODIFICATION</b> | <b>11</b> |

**RENEWABLE OPERATING PERMIT**

**STAFF REPORT**

**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 of 1990 and Michigan's Administrative Rules for Air Pollution Control pursuant to 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<br>P.O. Box 13007<br>Lansing, Michigan 48901 |
| 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:   | 201600165   |
| Responsible Official:                                       | Lori Myott, Manager, Environmental Services<br>Department<br>517-702-6639     |
| AQD Contact:  | Julie Brunner, Senior Environmental Engineer<br>517-284-6789                  |
| Date Application Received:                                  | October 17, 2016  |
| Date Application Was Administratively Complete:             | October 17, 2016  |
| Is Application Shield In Effect?                            | Yes   |
| Date Public Comment Begins:                                 | December 11, 2017   |
| Deadline for Public Comment:                                | January 10, 2018  |

## Source Description

The Lansing Board of Water and Light - Eckert Station and REO Town Plant are two (2) electric and steam generating facilities that are one stationary source. The REO Town Plant is located diagonally to the northeast of Eckert Station, and the two plants share a steam distribution line to nearby industry and downtown Lansing. The Eckert Station is located between the Grand River and the General Motors Lansing Grand River assembly plant in central Lansing. The REO Town Plant is located on South Washington Avenue in central Lansing. Eckert Station was co-located with Moores Park Steam Station. Moores Park Steam Station was shut down as part of the project to build the REO Town Plant. The Moores Park Steam Station consisted of four (4) coal-fired boilers that have been decommissioned. The permit conditions for the Moores Park Station are being removed in this ROP renewal. The permit conditions for the project to build REO Town Plant are also being removed with this ROP renewal as the project is complete.

Eckert Station consists of three (3) coal-fired boilers generating electric power, two of which also provide back-up steam to the Lansing Central Steam District, coal and fly ash handling systems, four (4) diesel fuel-fired emergency generators, and five (5) banks of mechanical draft cooling towers. Eckert Station originally consisted of six (6) pulverized coal-fired boilers. Only Boiler Units 4, 5, and 6 are still operating. Boiler Unit 2 has been decommissioned. Boiler Units 1 and 3 have been cleaned out and will not be operated again. Eckert Station is scheduled to be taken out of service and decommissioned in 2020.

Emissions from combustion of the solid fuels in the boilers at Eckert Station are controlled by low NO<sub>x</sub> burners (LBN), overfire air (OFA), dry electrostatic precipitators (ESPs) and emissions of mercury are controlled by activated carbon injection (ACI). Emissions of carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), mercury, and opacity are monitored using continuous emission monitoring systems (CEMS).

Coal is delivered by rail. It is unloaded and conveyed to storage bunkers in the building. A small coal holding area is located on the east side of Eckert Station. This area is mainly used when the storage bunkers in the building need to be emptied. Fly ash from the ESPs is pneumatically conveyed to a silo located on the east side of the plant. There are two redundant fly ash handling systems with two (2) pulse jet fabric filter baghouses, two (2) mechanical vacuum producers, one (1) wetted ash rotary unloader, and two (2) telescopic discharge chutes. A two bay truck load out is located below the ash silo.

Bottom ash from the boilers is dewatered and dropped into open top roll off boxes in a covered bay located on the west side of the plant. The roll off boxes are trucked to a landfill for disposal.

REO Town Plant is a combined-cycle, cogeneration facility consisting of two (2) natural gas-fired turbines, two (2) heat recovery steam generators with duct burners, steam turbines, a natural gas-fired auxiliary boiler, a natural gas-fired emergency engine, and a four (4) cell mechanical draft cooling tower. Emissions of NO<sub>x</sub> are monitored using CEMS on the turbines and auxiliary boiler.

The following table lists stationary source emission information as reported to and/or calculated by the Michigan Air Emissions Reporting System (MAERS) for the year **2016**.

### **TOTAL STATIONARY SOURCE EMISSIONS**

| <b>Pollutant</b>                 | <b>Tons per Year (tpy) or Pounds per Year (ppy)</b> |
|----------------------------------|---|
| CO                               | 256 tpy   |
| Lead (Pb)                        | 78.4 ppy  |
| NO <sub>x</sub>                  | 858 tpy   |
| PM10*                            | 62 tpy  |
| PM2.5**                          | 36 tpy  |
| SO <sub>2</sub>                  | 1859 tpy  |
| Volatile Organic Compounds (VOC) | 17 tpy  |

| Pollutant                              | Tons per Year (tpy) or Pounds per Year (ppy) |
|--|--|
| Mercury (Hg) <sup>***</sup>            | 16 ppy                                       |
| Hydrogen Chloride (HCl) <sup>***</sup> | 2.8 tpy                                      |

- \* Particulate matter (PM) that has an aerodynamic diameter less than or equal to a nominal 10 micrometers.
- \*\* Particulate matter (PM) that has an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
- \*\*\* Hazardous air pollutant (HAP) as listed pursuant to Section 112(b) of the federal Clean Air Act. HAP emissions are based on 2016 stack testing and the 2016 Toxic Release Inventory reporting.

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 located in Ingham County, which is currently designated by the U.S. 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 CO, NO<sub>x</sub>, PM, SO<sub>2</sub>, and VOC exceeds 100 tons per year. And, the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, is equal to or more than 10 tons per year and/or the potential to emit of all HAPs combined is equal to or more than 25 tons per year.

Emission units at Eckert Station have not been subject to Prevention of Significant Deterioration (PSD) permitting according to the Michigan Air Pollution Control Rules Part 18, Prevention of Significant Deterioration of Air Quality or 40 CFR 52.21 because the process equipment was constructed/installed prior to June 19, 1978, the promulgation date of the PSD regulations. Any future modifications at Eckert Station and REO Town Plant may be subject to New Source Review (NSR) which could include a PSD review.

Backup steam capabilities have been installed on EUBOILER4 and EUBOILER5 at Eckert Station. The installation was exempt from permitting pursuant to Rule 285(2)(b) and did not trigger NSR.

EUAUXBOILER at the REO Town Plant is subject to the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Db.

EUACOAL at Eckert Station is subject to the Standards of Performance for Coal Preparation and Processing Plants promulgated in 40 CFR Part 60, Subparts A and Y.

EUNGINE at the REO Town Plant is subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and JJJJ.

EUTURBINE1 and EUTURBINE2 at the REO Town Plant are subject to the Standards of Performance for Stationary Spark Combustion Turbines promulgated in 40 CFR Part 60, Subparts A and KKKK.

EUENGINE1, EUENGINE2, EUENGINE3, and EUENGINE4 at Eckert Station, and EUNGINE at the REO Town Plant are 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.

EUAUXBOILER at the REO Town Plant is subject to the National Emission Standard for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters promulgated in 40 CFR Part 63, Subparts A and DDDDD.

EUBOILER1, EUBOILER3, EUBOILER4, EUBOILER5, and EUBOILER6 at Eckert Station are subject to the National Emission Standard for Hazardous Air Pollutants for Coal- and Oil-Fired Electric Utility Steam Generating Units promulgated in 40 CFR Part 63, Subparts A and UUUUU. Mercury control (ACI) was installed on EUBOILER4, EUBOILER5, and EUBOILER6 in order to comply with 40 CFR Part 63, Subpart UUUUU. The installation was exempt from permitting pursuant to Rule 285(2)(e) and did not trigger NSR.

EUBOILER1, EUBOILER3, EUBOILER4, EUBOILER5, and EUBOILER6 at Eckert Station, and EUTURBINE1 and EUTURBINE2 at the REO Town Plant are subject to the federal Acid Rain program promulgated in 40 CFR Part 72.

EUBOILER1, EUBOILER3, EUBOILER4, EUBOILER5, and EUBOILER6 at Eckert Station, and EUTURBINE1 and EUTURBINE2 at the REO Town Plant are subject to the Cross State Air Pollution Rule NO<sub>x</sub> Annual Trading Program pursuant to 40 CFR Part 97, Subpart AAAAA and NO<sub>x</sub> Ozone Season Group 2 Trading Program pursuant to 40 CFR Part 97, Subpart EEEEE.

EUBOILER1, EUBOILER3, EUBOILER4, EUBOILER5, and EUBOILER6 at Eckert Station, and EUTURBINE1 and EUTURBINE2 at the REO Town Plant are 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 for particulate matter from EUBOILER1, EUBOILER3, EUBOILER4, EUBOILER5, and EUBOILER6 at Eckert Station are subject to the federal Compliance Assurance Monitoring (CAM) rule under 40 CFR Part 64. These emission units have a control device and potential pre-control emissions greater than the major source threshold level. The CAM plan for emissions of particulate matter from EUBOILER1, EUBOILER3, EUBOILER4, EUBOILER5, and EUBOILER6 at Eckert Station includes periodic compliance testing and continuous opacity monitoring as an indicator of PM emissions. Monitoring for CAM is included in FGECKERT.

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-PTI-B2647-2012c 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 |

### **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 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 MDEQ, 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 Ms. Heidi Hollenbach, Grand Rapids 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.

Michigan Department of Environmental Quality  
Air Quality Division

State Registration Number

**RENEWABLE OPERATING PERMIT**

ROP Number

B2647

**January 17, 2018 - STAFF REPORT ADDENDUM**

MI-ROP-B2647-2018

**Purpose**

A Staff Report dated December 11, 2017, was developed in order to set forth the applicable requirements and factual basis for the draft Renewable Operating Permit (ROP) terms and conditions as required by R 336.1214(1). 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 R 336.1214(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<br>Department<br>517-702-6639 |
| AQD Contact:          | Julie Brunner, Senior Environmental Engineer<br>517-284-6789              |

**Summary of Pertinent Comments**

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

**Changes to the December 11, 2017 Draft ROP**

No changes were made to the draft ROP.



State Registration Number

B2647

## RENEWABLE OPERATING PERMIT

March 24, 2021 - STAFF REPORT FOR RULE 216(2)  
MINOR MODIFICATION

ROP Number

MI-ROP-B2647-2018a

### Purpose

On March 6, 2018, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B2647-2018 to Lansing Board of Water and Light - Eckert Station and 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<br>Department<br>517-702-6639 |
| AQD Contact:   | Caryn Owens, Environmental Engineer<br>231-878-6688                       |
| Application Number:                                    | 202100031   |
| Date Application for Minor Modification was Submitted: | February 8, 2021  |

### 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 No. 202100031 was to incorporate PTI No. 88-19 which modified special conditions for EUNGENGINE. Specifically, the emission limits for NO<sub>x</sub>, CO, VOC, PM<sub>10</sub>, and PM<sub>2.5</sub> were increased. The emission limit for PM was removed.

Additionally, it should be noted, Boilers 4, 5, and 6 are offline yet one unit remains available only for emergency operation status through May 31, 2021 at which point the entire plant will be permanently taken offline.

### 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-B2647-2018, 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.

State Registration Number  
B2647

**RENEWABLE OPERATING PERMIT**  
**September 29, 2021 - STAFF REPORT FOR RULE**  
**216(2) MINOR MODIFICATION**

ROP Number  
MI-ROP-B2647-2018b

**Purpose**

On May 11, 2021, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B2647-2018a to Lansing Board of Water and Light - Eckert Station and 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<br>Department<br>517-702-6639 |
| AQD Contact:   | Caryn Owens, Senior Environmental Engineer<br>231-878-6688                |
| Application Number:                                    | 202100138   |
| Date Application for Minor Modification was Submitted: | August 18, 2021   |

**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**

This Minor Modification was to remove the obsolete Conditions from the retirement of equipment at the Lansing Board of Water and Light Eckert Station. On July 28, 2021 the Acid Rain Permit was voided for the Lansing Board of Water and Light Eckert Station, due to the official retirement of the associated equipment. The specific emission units and flexible groups removed from the ROP were: EUBOILER6, EUASHECKERT, EUCOAL, EUENGINE1, EUENGINE2, EUENGINE3, EUENGINE4, FGENGINE5, FGMATS, and Appendix 9: Acid Rain Permit No. MI-AR-1831-2018.

**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-B2647-2018a, 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.