Michigan Department of Environment, Great Lakes, and Energy
Air Quality Division

State Registration Number		ROP Number
N3570	**RENEWABLE OPERATING PERMIT STAFF REPORT**	MI-ROP-N3570-2023

Genesee Power Station Limited Partnership

State Registration Number (SRN): N3570

Located at

G-5310 North Dort Highway Flint, Genesee County, Michigan 48505

Permit Number: MI-ROP-N3570-2023

Staff Report Date: October 2, 2023

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

State Registration Number

N3570

RENEWABLE OPERATING PERMIT

OCTOBER 2, 2023 - STAFF REPORT

ROP Number

MI-ROP-N3570-2023

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:	Genesee Power Station Limited Partnership G-5310 N Dort Highway Flint, Michigan 48505
Source Registration Number (SRN):	N3570
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:	202200127
Responsible Official:	Thomas Clift, Plant Manager 810-785-4144 Ext. 222
AQD Contact:	Julie Brunner, Environmental Quality Specialist 517-275-0415
Date Application Received:	June 15, 2022
Date Application Was Administratively Complete:	June 15, 2022
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	October 2, 2023
Deadline for Public Comment:	November 1, 2023

Source Description

The Genesee Power Station (GPS) is a 40-Megawatt (MW) gross, approximately 35 MW net, electric generating facility which consists of one spreader-stoker boiler with a maximum heat input rating of 523 million British thermal units per hour (MMBTU/hr), a steam turbine, and associated ancillary equipment. The boiler is permitted to firewood-waste including demolition wood, natural gas (for startup), and tire-derived fuel (TDF). The plant generates steam with the single boiler for conversion to electricity using a condensing turbine coupled with an electric generator. Electric output from GPS is sold pursuant to a long-term power purchase agreement.

The facility is located in the Dort Carpenter Industrial Park, Genesee Township, Flint. The industrial park is joined by commercial and industrial property on the western boundary. To the north and east is agricultural and residential property. The southern boundary begins the city of Flint, which is urban residential. The now closed Carpenter Elementary School is located 3500 feet directly south of the plant.

Emissions from combustion of the solid fuels in the spreader-stoker boiler designated as EUBOILER are controlled by a multi-cyclone separator, a dry electrostatic precipitator (ESP), and a selective non-catalytic reduction system (SNCR). Emissions of carbon monoxide (CO), nitrogen oxides (NO_x), sulfur dioxide (SO_2), and opacity are monitored using continuous emission monitoring systems (CEMS) and a continuous opacity monitoring system (COMS).

The wood-waste fuel which primarily consists of brush and tree trimmings is stored uncovered on a six-foot clay platform. The fuel covers seven acres at the site and is managed in a two-pile system to minimize any potential odors. Odor control includes immediate mixing of the material into larger piles and an ongoing monitoring program to detect whether strong odors may be occurring in certain parts of the storage area. Bulldozers are used to move the pile of fuel to be processed and fed to the boiler.

Ancillary equipment at GPS includes fuel and fly-ash handling systems and storage, a diesel fuel-fired emergency generator (EUEMERGGEN), and a diesel fuel-fired emergency fire pump (EUFIREPUMP).

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)	304.6
Lead (Pb)	0.0018
Nitrogen Oxides (NO_x)	210.5
PM10*	4.3
Sulfur Dioxide (SO_2)	57.8
Volatile Organic Compounds (VOCs)	14.5

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

The following table lists Hazardous Air Pollutant emissions as reported for the year **2022**:

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Hydrogen Chloride (HCl)	9.3
Mercury	0.00059

**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 Genesee 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 CO, NOx, PM10, and SO_2 exceeds 100 tons per year. Additionally, the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act 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.

EUBOILER at the stationary source was 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 and 40 CFR 52.21 because at the time of New Source Review permitting the potential to emit of CO, NOx, Pb and PM was greater than 250 tons per year.

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

EUBOILER at the stationary source 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.

EUEMERGGEN and EUFIREPUMP at the stationary source 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.

EUBOILER at the stationary source is subject to the Cross-State Air Pollution Rule NO_x Annual Trading Program pursuant to 40 CFR Part 97, Subpart AAAAA.

EUBOILER at the stationary source is subject to the Cross-State Air Pollution Rule NO_x Ozone Season Group 3 Trading Program pursuant to 40 CFR Part 97, Subpart GGGGG.

EUBOILER at the stationary source is subject to the Cross-State Air Pollution Rule SO_2 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 limitation(s) or standard(s) for filterable PM at the stationary source with the underlying applicable requirement of 40 CFR Part 63, Subpart DDDDD from FGMACTDDDDD are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(i) because the filterable PM emission limit of 3.7×10^{-2} lb/MMBTU heat input meets the CAM exemption for NSPS or MACT proposed after November 15, 1990.

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? *
EUBOILER	PM / 0.03 lb/MMBTU heat input	R 336.1331(1)(c), R 336.2810, 40 CFR 52.21(j)	Multi-cyclone separator and dry ESP	Opacity less than or equal to 10 percent based on a daily block average	EUBOILER	YES
	PM / 15.7 pph	R 336.2810, 40 CFR 52.21(j)				

* Presumptively Acceptable Monitoring (PAM)

EUBOILER has PM emission limits of 0.03 lb/MMBTU heat input and 15.7 pounds per hour (pph), and a visible emissions limit of 10% opacity (6-minute average) except one 6-minute average per hour of not more than 20%) which is a surrogate indicator for PM emissions assessed as Best Available Control Technology (BACT).

EUBOILER is subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters under 40 CFR Part 63, Subpart DDDDD. The Maximum Achievable Control Technology (MACT) standard under this NESHAP for PM is 0.037 lb/MMBTU heat input. The NESHAP designates an operating limit of 10% opacity based on a daily block average to assure compliance with the PM emission limit.

According to Table 4 of 40 CFR 63, Subpart DDDDD, the permittee is required to demonstrate continuous compliance with the emission limit by collecting opacity monitoring system data according to 40 CFR 63.7525(c) and 63.7535. An emission unit such as EUBOILER equipped with an ESP may use continuous opacity monitoring to demonstrate compliance with an operating limit of less than or equal to 10% opacity determined on a daily block average. The facility opted to use a Continuous opacity monitoring system (COMS), installed and operated in accordance with 40 CFR 63.7435 to comply with the CAM requirements.

The facility is also required to perform annual performance test for PM according to 40 CFR 63.7520 or less frequently as specified in 40 CFR 63.7515.

The facility has determined that sufficient monitoring is being performed pursuant to 40 CFR Part 63, Subpart DDDDD and 40 CFR Part 64.4(b)(4), to assure compliance with the PM limits. Therefore, the monitoring included in 40 CFR Part 63, Subpart DDDDD is considered to be presumptively acceptable monitoring for the PM emission rate and mass emission limit and is included in the ROP in EUBOILER and FGMACTDDDDD.

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-N3570-2018 are identified in Appendix 6 of the ROP.

PTI Number			
579-92A	265-06	265-06C	

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
EUBOILER	SC I.1	10% Opacity (6-minute average) except one 6-minute average per hour of not more than 20% / R 336.1301(1)(c), R 336.2810, 40 CFR 52.21(i)	20% Opacity (6-minute average) except one 6-minute average per hour of not more than 27% / 40 CFR 60.43b(f)	The visible emissions opacity limit determined through NSR and listed in special condition I.1 is more stringent than the opacity limit in 40 CFR Part 60, Subpart Db.
EUBOILER	SC I.2	PM - 0.03 lb/MMBTU heat input / R 336.1331(1)(c), R 336.2810, 40 CFR 52.21j	PM – 0.10 lb/MMBTU heat input / 40 CFR 60.43b(c)	The PM limit determined through NSR and listed in special condition I.2 is more stringent than the PM limit in 40 CFR Part 60, Subpart Db.

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

The following table lists PTI exempt processes that were not included in the Draft ROP pursuant to Rule 212(4). These processes are not subject to any process-specific emission limits or standards.

Emission Unit ID	Description of Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EUBLGHEATER	Office Building heater (0.12 MMBTU/hr)	R 336.1214(4)(b)	R 336.1282(2)(b)(i)
EUGASWTRHEATER	Gas water heater (main plant) - no steam generated for heat (50 gallons/0.05 MMBTU/hr)	R 336.1214(4)(b)	R 336.1282(2)(b)(i)
EUGASHEATER	Up to 10 small natural gas space heaters - 180,000 BTU/hr each	R 336.1214(4)(b)	R 336.1282(2)(b)(i)

Emission Unit ID	Description of Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EULPTANKS	Small liquid propane tanks used to fill mobile forklift tanks (maximum 100 pounds per tank)	R 336.1214(4)(c)	R 336.1284(2)(b)

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	RENEWABLE OPERATING PERMIT	ROP Number
N3570	NOVEMBER 3, 2023 - STAFF REPORT ADDENDUM	MI-ROP-N3570-2023

Purpose

A Staff Report dated October 2, 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:	Thomas Clift, Plant Manager 810-785-4144 Ext. 222
AQD Contact:	Julie L. Brunner, 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 October 2, 2023 Draft ROP

No changes were made to the draft ROP.