

State Registration Number

K2460

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number

MI-ROP-K2460-20XX

Central Michigan University

State Registration Number (SRN): K2460

Located at

1720 South East Campus Drive, Mount Pleasant, Isabella County, Michigan 48859

Permit Number: MI-ROP-K2460-2020

Staff Report Date: December 7, 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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DECEMBER 7, 2020 - STAFF REPORT

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2020

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:	Central Michigan University 1720 South East Campus Drive Mount Pleasant, Michigan 48859
Source Registration Number (SRN):	K2460
North American Industry Classification System (NAICS) Code:	611310
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201900101
Responsible Official:	Jonathan Webb, Associate Vice President / Facilities Management 989-774-7473
AQD Contact:	Ben Witkopp, Environmental Engineer 989-894-6219
Date Application Received:	June 5, 2019
Date Application Was Administratively Complete:	June 5, 2019
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	December 7, 2020
Deadline for Public Comment:	January 6, 2021

Source Description

Central Michigan University is located in the City of Mount Pleasant in Isabella County, Michigan. The campus is bound to the north by Bellows Road, to the east by US 127 Business Loop, to the south by Deerfield Road, and to the west by West Campus Drive. The surrounding area is predominantly commercial and residential. The university owns and operates a power plant to provide steam for heat and electricity for the institution's campus. The power plant is comprised of two natural gas or fuel oil fired Wickes boilers, a natural gas or wood fired boiler and turbine set, and a natural gas fired boiler and turbine set. The university also operates emergency spark and compression ignition generators, in various buildings on campus. Other air pollution sources on campus include a maintenance paint spray booth, campus printing operations, as well as a cold cleaner. Grounds South also has a two compartment above ground fuel tank with a diesel compartment and a gasoline compartment.

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

Pollutant	Tons per Year
Carbon Monoxide (CO)	33.18
Lead (Pb)	1.00x10 ⁻⁴
Nitrogen Oxides (NO _x)	95.48
Particulate Matter (PM)	3.38
Sulfur Dioxide (SO ₂)	0.39
Volatile Organic Compounds (VOCs)	2.15
Ammonia (NH ₃)	0.10

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 Isabella 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 (NO_x) exceeds 100 tons per year.

The stationary source is a "synthetic minor" source regarding hazardous air pollutants (HAP) emissions because the stationary source accepted a legally enforceable permit condition limiting the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act, to less than 10 tons per year and the potential to emit of all HAPs combined to less than 25 tons per year.

The stationary source is considered a "synthetic minor" source in regard to the Prevention of Significant Deterioration regulations of 40 CFR 52.21 because the stationary source accepted legally enforceable permit conditions limiting the powerplant steam production rate to 175,000 pounds per hour based on a 12 month rolling average (FGPOWERPLANT SC III.2). This limit restricts the source below the 250 MMBTU/hr heat input delineation for fossil fuel fired steam electric plants to meet the definition of a major stationary source.

Although EUFUELTANK2018, EUKOHLER1, EUKOHLER2, , EUKOHLER3, EUKATOLIGHT, EUCAT1, EUCAT2, EUCUMMINS1, EUCUMMINS2, EUCUMMINS3, EUCUMMINS4, EUCUMMINS5, EUCUMMINS6, EUCUMMINS7, EUCUMMINS8, EUONAN, and EUCOLDCLEANER were installed after August 15, 1967, this equipment was exempt from New Source Review (NSR) permitting requirements at the time it was installed. However, future modifications of this equipment may be subject to NSR.

EUBLR5 at the stationary source is subject to the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Db.

EUGASTURBINE at the stationary source is subject to the Standards of Performance for Stationary Gas Turbines promulgated in 40 CFR Part 60, Subparts A and GG.

EUBIOSCIENCES, EUKOHLER1, EUKOHLER2, EUKOHLER3, EUKATOLIGHT, EUCAT1, and EUCAT2 at the stationary source are subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and IIII.

EUCUMMINS1, EUCUMMINS2, EUCUMMINS3, EUCUMMINS4, EUCUMMINS5, EUCUMMINS6, EUCUMMINS7, EUCUMMINS8, and EUONAN, at the stationary source are subject to the Standards of Performance for Stationary Spark Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and JJJJ.

EUBIOSCIENCES at the stationary source 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.

EUBLR1, EUBLR2, and EUBLR4 at the stationary source are subject to the National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers (Area Source MACT) promulgated in 40 CFR Part 63, Subparts A and JJJJJJ. The ROP contains special conditions provided by Central Michigan University 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. EUBLR5 is restricted to using natural gas fuel only and therefore, it is not an affected boiler subject to the requirements of 40 CFR Part 63, Subparts A and JJJJJJ.

EUFUELTANK2018 at the stationary source is comprised of a two-compartment above ground fuel tank. It consists of a 4,000-gallon exempt (Rule 284(2)(d) or 284(2)(g)(ii)) diesel compartment and an 8,000-gallon exempt (Rule 284(2)(g)(ii)) gasoline compartment for dispensing fuel. Only the gasoline compartment is subject to the National Emissions Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities promulgated in 40 CFR Part 63, Subparts A and CCCCCC. The ROP contains special conditions provided by Central Michigan University in their application for applicable requirements from 40 CFR Part 63, Subparts A and CCCCCC. The AQD is not delegated the regulatory authority for this area source MACT.

Changes Since Last ROP Renewal

The facility has not had any compliance issues since the last ROP issuance. There have been no Violation Notices issued or escalated enforcement actions, and the facility is not under a compliance schedule.

Since the last ROP renewal, two Permits to Install (PTI) have been issued. PTI No. 190-15 was approved on November 3, 2015 and allowed the installation of a 1500 KW diesel-fueled emergency generator for back-up power supply for the new Biosciences Building on campus (EUBIOSCIENCES). It was subject to review under R 336.1225 (Health-based screening level requirements for new or modified sources of air toxics) and R 336.1702(a) (New sources of volatile organic compound emissions generally).

PTI No. 218-15 was approved on March 10, 2016 and allowed the installation of natural gas burners (low NOx burners) in EUBLR4. Additionally, a removable floor was installed in EUBLR4, which separates the wood firing grates from the boiler, restricting the boiler from burning any wood while it is burning gas. The removable floor minimizes excess air from the bottom of the boiler, to maximize efficiency while the boiler burns gas. The boiler can operate using either wood or natural gas, though not simultaneously.

Activities not requiring a PTI include the removal of EUGASTANK1, and the installation of EUGASTANK2018.

Periodic Monitoring and Compliance Assurance Monitoring (CAM)

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."

All of the emission units at the source except for EUBLR4 do not have emission limitations or standards that are subject to the federal Compliance Assurance Monitoring rule pursuant to 40 CFR Part 64, because the units do not have control devices.

EUBLR4 is subject to CAM:

Emission Unit ID	Pollutant/ Emission Limit	UAR(s)	Control Equipment	Monitoring (Include Monitoring Range)	PAM? *
EUBLR4	PM / 0.15 lb/1,000 lb of exhaust gas, corrected to 50% excess air	R 336.1331(1)(a)	Multi-cyclone collector	Pressure drop – 1 to 4 inches water column	No
			Wet scrubber	Pressure drop – 3 to 6 inches water column Liquid flow rate – 15 gallons per minute or greater	

*Presumptively Acceptable Monitoring (PAM)

The CAM plan for the multi-cyclone collector involves monitoring the pressure drop across the multi-cyclone collector once every four operating hours and recording the Magnehelic gauge reading on the daily operating log. A change in the pressure drop outside the normal operating range could be an indicator of a multi-cyclone collector malfunction. A pressure reading below one-inch water column would indicate possible inlet air leakage, and a pressure reading above four inches water column would indicate a possible plug in the system. A reading outside of this range would result in corrective action being taken.

The CAM plan for the wet scrubber involves monitoring the pressure drop and water flow rate for the wet scrubber once every four operating hours and recording the Magnehelic gauge and flow meter readings on the daily operating log. A change in the pressure drop outside of the range of two to seven inches of water column will trigger repair activities. If the water flow rate falls below 15 gallons per minute, corrective actions will be initiated to restore flow to the wet scrubber.

The other PM limit that is applicable to EUBLR4 (SC I.2 – 0.10 lb/1,000 lb of exhaust gas, calculated on a dry gas basis) for the material handling and ash conveying systems (when burning wood) is not subject to CAM because those emissions are controlled by three individual baghouses which do not have pre-control emissions over major source thresholds. The pre-control emissions were calculated during NSR permitting using manufacturer data provided by Central Michigan University.

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-K2460-2015 are identified in Appendix 6 of the ROP.

PTI Number			
967-85	12-91	80-99	32-05
69-13	102-13	190-15	218-15

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

The following table lists processes that were included in the ROP Application as exempt devices under Rule 212(4). These processes are not subject to any process-specific emission limits or standards in any applicable requirement.

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EUARTKILNS	4-5 Ceramic kilns in Art Department used for course work.	R 336.1212(4)(c)	R 336.1282(2)(a)(iii)
EUFOUNDRY	Small foundry in Engineering & Technology used for course work.	R 336.1212(4)(c)	R 336.1282(2)(a)(iv)
EUKITCHENS	Bakery ovens and convection cookers located in 5 kitchens throughout campus.	R 336.1212(4)(c)	R 336.1282(2)(a)(v)
EUNATGASBOILERS	Small facility boilers less than 5.0 MMBTU/hr used for building heat and hot water.	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
EUNATGASHEATERS	Small heaters throughout campus less than 0.28 MMBTU/hr used for building hot water.	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
EU285(l)(vi)	Baghouses at Woodshop, Engineering & Technology, Art Building, Maintenance.	R 336.1212(4)(e)	R 336.1285(2)(l)(vi)

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EUDISTILLATION	Small distillation column in Engineering & Technology used for course work.	R 336.1212(4)(e)	R 336.1285(2)(u)

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 Chris Hare, Bay City 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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JANUARY 7, 2021 - STAFF REPORT ADDENDUM

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Purpose

A Staff Report dated December 7, 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:	Jonathan Webb, Associate Vice President / Facilities Management 989-774-7473
AQD Contact:	Ben Witkopp, Environmental Engineer 989-894-6219

Summary of Pertinent Comments

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

Changes to the December 7, 2020 Draft ROP

No changes were made to the draft ROP.