

State Registration Number
B2840

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-B2840-2022a

**CONSUMERS ENERGY COMPANY
Consumers Energy - Karn Facility**

State Registration Number (SRN): B2840

Located at

2680 North Weadock Highway, Essexville, Bay County, Michigan 48732

Permit Number: MI-ROP-B2840-2022a

Staff Report Date: April 25, 2022

Amended Date: November 26, 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

APRIL 25, 2022 - STAFF REPORT	3
JUNE 9, 2022 - STAFF REPORT ADDENDUM	13
NOVEMBER 26, 2024 - STAFF REPORT FOR RULE 216(2) MINOR MODIFICATION	17

State Registration Number

B2840

RENEWABLE OPERATING PERMIT

APRIL 25, 2022 - STAFF REPORT

ROP Number

MI-ROP-B2840-
2022

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:	Consumers Energy Company Consumers Energy - Karn Facility 2742 North Weadock Highway Essexville, Michigan 48732
Source Registration Number (SRN):	B2840
North American Industry Classification System (NAICS) Code:	221112
Number of Stationary Source Sections:	2
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201900073
Responsible Official:	Norman Kapala, VP of Generation Operations 616-738-3200 Sean Kelly, Plant Business Manager 989-891-3136 Cresencio Hernandez III, Site Production Manager 989-891-3407
AQD ROP Contact:	Kaitlyn DeVries, Senior Environmental Quality Analyst 616-558-0552
AQD Facility Contact	Benjamin Witkopp, Environmental Engineer 989-295-1612
Date Application Received:	April 16, 2019
Date Application Was Administratively Complete:	April 16, 2019
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	April 25, 2022
Deadline for Public Comment:	May 25, 2022

Source Description

The Consumers Energy Company, Consumers Energy – Karn Facility (Consumers Energy) (B2840), located at 2742 and 2680 North Weadock Highway, Essexville, Michigan, is engaged in the generation and transmission of electricity for sale. The facility is located immediately to the east of the mouth of the Saginaw River, and Saginaw Bay/Lake Huron is immediately north. The surrounding area is predominantly agricultural/coastal. Two large marinas and some residences are located on the west side of the Saginaw River directly across from the facility. Additionally, a few residences are situated approximately one and a half miles southeast of the facility.

Section 1

The Karn 1 and 2 Plant houses Karn boiler #1 (EU-KARN1) and Karn boiler #2 (EU-KARN2). EU-KARN1 is a 2,500 million BTU per hour, dry bottom tangential coal fired boiler with fuel oil startup capabilities and supplemental co-firing for flame stabilization and mill outages. EU-KARN1 and EU-KARN2 are each equipped with the following control devices: a pulse jet fabric filter (PJFF) for particulate matter (PM) control, a selective catalytic reduction unit (SCR) for control of nitrogen oxides (NO_x), a spray dry absorber (SDA) for acid gas control (SO₂, and HCl), and sorbent injection for mercury control. EU-KARN2 is a 2,540 million BTU per hour, dry bottom wall coal fired boiler with fuel oil startup capabilities and supplemental co-firing for flame stabilization and mill outages. It is equipped with low NO_x burners and the same control technology as EU-KARN1. Emission units associated with the SDAs include EU-LIMEPREP, EU-BPRECYCLE, EU-BPDISPOSAL, and EU-SORBENT. EU-KARN1 and EU-KARN2 are supported by DC and AC emergency diesel generators (EU-KARN12DCGEN and EU-KARN12ACGEN). Several other emergency generators are also used at various locations throughout the Karn Plant.

Additional emission sources at the Karn 1 and 2 Plant include coal handling activities and cold cleaners.

Section 2

The Karn 3 and 4 Plant houses Karn boiler #3 (EU-KARN3) and Karn boiler #4 (EU-KARN4). EU-KARN3 is a 7,290 million BTU per hour natural gas and fuel oil-fired boiler (i.e., dual fuel). EU-KARN4 is an 8,030 million BTU per hour natural gas and fuel-oil fired boiler. Both boilers are equipped with low NO_x burners and utilize fuel blending for the control of sulfur dioxide. Also, at the Karn 3 and 4 Plant are auxiliary boilers A and B (EU-AUXBLRA and EU-AUXBLRB). They are both natural gas-fired each with a maximum rated capacity of 300 million BTU per hour. These boilers are also equipped with low NO_x burners. EU-KARN3 and EU-KARN4 are supplied by a fuel oil storage tank (EU-FOTANKA), which is equipped with an internal floating roof and polyurethane vapor seal. Two (2) 5.23 million BTU per hour, natural gas-fired tank farm boilers (EU-TANKFARMBLR1 and EU-TANKFARMBLR2) for heating fuel transmission lines are also components of the Karn 3 and 4 Plant. Additional emission sources at Karn 3 and 4 Plant include two (2) emergency diesel generators, a paint room, and cold cleaner.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System (MAERS) for the year **2020**.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	285.97
Lead (Pb)	0.005
Nitrogen Oxides (NO _x)	663.02
Particulate Matter (PM ₁₀ *)	416.9
Sulfur Dioxide (SO ₂)	629
Volatile Organic Compounds (VOCs)	2.67

Pollutant	Tons per Year
Ammonia	3.46

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

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

Individual Hazardous Air Pollutants (HAPs) **	Tons per Year
Acrolein	0.032
Arsenic	0.0025
Chromium	0.0090
Hydrochloric Acid (HCl)	0.92
Hydrogen Fluoride (HF)	1.07
Manganese	0.014
Mercury	0.0061
Nickel	0.037
Selenium	0.002
Total Hazardous Air Pollutants (HAPs)	2.09

**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 Bay 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 sulfur dioxide, nitrogen oxides, and carbon monoxide exceeds 100 tons per year; and the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act (specifically hydrochloric acid and hydrogen fluoride), 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. The potential to emit of greenhouse gases (GHG) is 100,000 tons per year or more calculated as carbon dioxide equivalents (CO₂e) and 100 tons per year or more on a mass basis.

EU-KARN1, EU-KARN2, EU-LIMEPREP, EU-BPRECYCLE, EU-BPDISPOSAL, EU-KARN3, and EU-KARN4 at the stationary source were 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 sulfur dioxide, nitrogen oxides, and carbon monoxide were greater than 100 tons per year.

EU-KARN12DCGEN and EU-KARN12ACGEN were installed prior to August 15, 1967. As a result, this equipment is considered "grandfathered" and is not subject to New Source Review (NSR) permitting requirements. However, future modifications of this equipment may be subject to NSR.

Although, EU-PARTSCLEANER12, EU-GUARDHSEGEN1, EU-GUARDHSEGEN2, EU-FISHBARGEN, EU-FOTANKA, EU-KARN3GEN, EU-KARN4GEN, EU-TANKFARMBLR1, EU-TANKFARMBLR2, EU-PARTSCLEANER34 and EU-PAINTROOM34 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.

Permit to Install (PTI) No. 40-15 was approved on April 30, 2015 and incorporated the Conditions of the Federal Consent Decree (U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014). This was to meet Paragraph 235 of the Consent Decree that requires certain parts from the consent decree to be incorporated into a construction permit (PTI). The following must be included in the permit: a schedule for all unit-specific, plant-specific, and system-specific performance, operational, maintenance, and control technology requirements established by this Consent Decree including, but not limited to, any (a) 30-Day, 90-Day, and 365-Day Rolling Average Emission Rates, (b) System-Wide Annual NO_x and SO₂ Tonnage Limitations, (c) the requirements pertaining to the Surrender of NO_x and SO₂ Allowances, (d) PM Emission Rate and annual stack test requirements, and (e) PM CEMS monitoring requirements. There was no New Source Review (NSR) associated with the PTI application review.

PTI No. 40-15A was approved on August 17, 2021 and updated some of the Conditions of the Federal Consent Decree (U.S. V CONSUMERS ENERGY COMPANY, CIVIL ACTION 14-13580, E.D. MICH., 2014) that was incorporated into the ROP. The changes were due to the termination of the Federal Consent decree on September 2, 2020. The termination of the Consent Decree also coincided with the approval of the use of PM CEMS for demonstrating compliance with the filterable PM emission limits.

Additionally, the JC Weadock facility and the Natural Gas Fired Combustion Turbine are no longer in operation and have been permanently removed from the Stationary Source, therefore AQD removed Section 3 - JC Weadock and Section 4 - Natural Gas Fired Combustion Turbine from the ROP. Consumers Energy also requested to remove emission units EU-ASHKARN1&2, EU-ASHSILO-1, and FG-ASHMAP-1, since these emission units and flexible group were replaced with the new ash handling system covered under EU-BPRECYCLE and EU-DISPOSAL to accommodate adding air pollution control systems to the existing coal-fired boilers. EU-COALHAND was moved from Section 3 to Section 1 of the ROP. EU-PARTSCLEANERCH has been dismantled and the emission unit has been removed from the ROP.

EU-FOTANKB, EU-SUBKTANKE, and EU-SUBKTANKF were removed from the ROP during this renewal.

EU-FHPUMP-1 at the stationary source is subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and IIII and to the National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subpart ZZZZ. This emission unit was added to the ROP during this renewal and is a USEPA Certified diesel-fired compressor-assisted pump used on site for water management.

A minor modification was submitted on November 5, 2021, to incorporate two (2) new portable Tier IV EPA Certified diesel-fired engines which are subject to the Standards of Performance for Stationary Compression Ignition Internal Combustion Engines promulgated in 40 CFR Part 60 Subparts A and IIII and to the National Emissions Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines promulgated in 40 CFR Part 63, Subpart ZZZZ. These two (2) engines were not subject to Rule 201 permitting since they are less than 10 MMBTU and are exempt from Rule 201 permitting pursuant to R. 336 1285(2)(g). These engines are identified as EU-WDKMPM(5765)-1 and EU-WDKPMP(6284)-1 and are housed in FG-NONEMERGENCYCIENG-1.

EU-KARN1, EU-KARN2, EU-KARN3, and EU-KARN4 at the stationary source 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. The source has not elected and will not elect to pursue Low Emitting Electric Generating Unit for any of these emission units.

EU-AUXBLRA, EU-AUXBLRB, EU-TANKFARMBLR1, and EU-TANKFARMBLR2 at the stationary source are 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.

EU-KARN12DCGEN, EU-KARN12ACGEN, EU-GUARDHSEGEN1-1, EU-GUARDHSEGEN2-1 and EUFISHBARGEN 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.

EU-KARN1, EU-KARN2, EU-KARN3, and EU-KARN4 at the stationary source are subject to the federal Acid Rain program promulgated in 40 CFR Part 72.

EU-KARN1, EU-KARN2, EU-KARN3, and EU-KARN4 at the stationary source are subject to the Cross-State Air Pollution Rule NO_x Annual Trading Program pursuant to 40 CFR Part 97, Subpart AAAAA.

EU-KARN1, EU-KARN2, EU-KARN3, and EU-KARN4 at the stationary source are subject to the Cross-State Air Pollution Rule NO_x Ozone Season Group 3 Trading Program pursuant to 40 CFR Part 97, Subpart GGGGG.

EU-KARN1, EU-KARN2, EU-KARN3, and EU-KARN4 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 AQD's Rules 287 was revised on December 20, 2016. FG-PAINTROOM34 is a flexible group table created for emission units subject to these rules. Emission units installed before December 20, 2016, can comply with the requirements of Rule 287 in effect at the time of installation or modification as identified in the table. However, emission units installed or modified on or after December 20, 2016, must comply with the requirements of the current rules as outlined in the table.

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."

EU-SORBENT does not have emission limitations or standards that are subject to the federal Compliance Assurance Monitoring rule pursuant to 40 CFR Part 64, because the unit does not have potential pre-control emissions over the major source thresholds.

The emission limitations or standards for Nitrogen Oxides and Sulfur Dioxides at the stationary source with the underlying applicable requirements of 40 CFR Part 75, Acid Rain Program, from EUKARN1-1 and EU-KARN2-1 (FGKARN12-1) are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(iii), because the continuous monitoring of Nitrogen Oxides and Sulfur Dioxides through the use of a continuous emissions monitoring system (CEMS) as required by Special Condition VI.3 and 4 of FG-KARN12-1 meet the CAM exemption for Acid Rain monitoring requirements. The units are also equipped with a gas flow monitor, allowing them to directly calculate the nitrogen oxide and sulfur dioxide emissions.

The emission limitation or standards for particulate matter (PM) from EU-KARN1-1 and EU-KARN2-1 (FG-KARN12-1) at the stationary source are exempt from the federal Compliance Assurance Monitoring (CAM) regulation pursuant to 40 CFR 64.2(b)(1)(vi), because the continuous monitoring of the PM as through the use of a continuous emissions monitoring system (CEMS) as required by Special Condition VI-5 of FG-KARN12-1, thus meeting the CAM exemption for a continuous compliance determination method.

The emission limitations for particulate matter (PM), specifically PM₁₀, from EU-LIMEPREP-1 (LSABV-1, LSBBV-2, LSADVS-5, and LSBDVS-6), EU-BPREPCYCLE-1 (R1BV-8, R2BV-10, R1ADVS-15, R1ADVS-16, R2ADVS-17, and R2ADVS-18), EU-BPDISPOSAL-1 (K1ABPFSA-23, K1BBPFSA-24, K2ABPFSA-25, K2BBPFSA-26, K1BPV-19 and K2BPBV-20), and the dumper building dust collector for EU-COALHAND-1 at the stationary source are subject to the federal Compliance Assurance Monitoring (CAM) rule under 40 CFR Part 64. These emission units have a control device and the potential pre-control emissions of PM are greater than the major source threshold level. The table below outlines the emission units that are subject to CAM, including their emission limitation and the associated control device and monitoring methods.

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)	PAM? *
EU-LIMEPREP-1 (LSABV-1 and LSBBV-2)	PM _{2.5} /0.0 4 pph	R 336.2804, 40 CFR 52.21(d)	Bin Vent Filter (LSABV-1 and LSBBV-2)	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-LIMEPREP-1 (LSADVS-5 and LSBDVS-6)	PM _{2.5} /0.0 5 pph	R 336.2804, 40 CFR 52.21(d)	Spray Scrubber	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-LIMEPREP-1 (LSADVS-5 and LSBDVS-6)	PM ₁₀ /0.0 5 pph	R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)	Spray Scrubber	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-LIMEPREP-1 (LSABV-1 and LSBBV-2)	PM ₁₀ /0.0 4 pph	R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)	Bin Vent Filter	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-LIMEPREP-1 (LSABV-1 and LSBBV-2)	PM/0.004 gr/dscf exhaust gas	R 336.1331 (1)(c)	Bin Vent Filter	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-LIMEPREP-1 (LSADVS-5 and LSBDVS-6)	PM/0.01 gr/dscf exhaust gas	R 336.1331 (1)(c)	Spray Scrubber	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No

Emission Unit/Flexible group ID	Pollutant/ Emission Limit	UAR(s)	Control Equipment	Monitoring (Include Monitoring Range)	PAM? *
EU-BPRECYCLE (R1BV-8 and R2BV-10)	PM/0.01 gr/dscf of exhaust gases	R 336.1331 (1)(c)	Bin Vent Filter	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-BPRECYCLE (R1BV-8 and R2BV-10)	PM2.5/0.0 3 pph	R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)	Bin Vent Filter	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-BPRECYCLE-1 (R1BV-8 and R2BV-10)	PM10/0.0 3 pph	R 336.2804, 40 CFR 52.21(c) and (d)	Bin Vent Filter	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-BPRECYCLE-1 (R1ADVS-15, R1ADVS-16, R2ADVS-17, and R2ADVS-18)	PM/0.01 gr/dscf of exhaust gases	R 336.1331 (1)(c)	Spray Scrubber	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-BPRECYCLE-1 (R1ADVS-15, R1ADVS-16, R2ADVS-17, and R2ADVS-18)	PM2.5/0.0 5 pph	R 336.2804, 40 CFR 52.21(c) and (d)	Spray Scrubber	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-BPRECYCLE-1 (R1ADVS-15, R1ADVS-16, R2ADVS-17, and R2ADVS-18)	PM10/0.0 5 pph	R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)	Spray Scrubber	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-BPDISPOSAL -1 (K1ABPFSA-23, K1BBPFSA-24, K2ABPFSA-25, and K2BBPFSA-26)	PM 0.004 gr/dscf of exhaust gases	R 336.1331 (1)(c)	Filter separator	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-BPDISPOSAL-1 (K1ABPFSA-23, K1BBPFSA-24, K2ABPFSA-25, and K2BBPFSA-26)	PM2.5/0.2 5 pph	R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)	Filter Separator	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-BPDISPOSAL-1 (K1ABPFSA-23, K1BBPFSA-24,	PM10/0.2 5 pph	R 336.2803, R 336.2804, 40 CFR	Filter Separator	No visible emissions. Daily non-certified Visible Emissions	No

Emission Unit/Flexible group ID	Pollutant/ Emission Limit	UAR(s)	Control Equipment	Monitoring (Include Monitoring Range)	PAM? *
K2ABPFSA-25, and K2BBPFSA-26)		52.21(c) and (d)		Observations (visible emissions in excess of 1-hour duration)	
EU-BPDISPOSAL-1 (K1BPV-19 and K2BPBV-20)	PM 0.004 gr/dscf of exhaust gases	R 336.1331 (1)(c)	Bin Vent Filter	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-BPDISPOSAL-1 (K1BPV-19 and K2BPBV-20)	PM 2.5/0.15 pph	R 336.2804, 40 CFR 52.21(c) and (d)	Bin Vent Filter	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-BPDISPOSAL-1 (K1BPV-19 and K2BPBV-20)	PM 10/0.15 pph	R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)	Bin Vent Filter	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No
EU-COALHAND-1 (Dumper Building Dust Collector)	PM/0.1 pounds per 1000 pounds of exhaust gases	R.336.1331 (1)(a)	Dust collector	No visible emissions. Daily non-certified Visible Emissions Observations (visible emissions in excess of 1-hour duration)	No

*Presumptively Acceptable Monitoring (PAM)

All of the emission units identified in the table above utilize visible emissions as the primary indicator for proper operations and the primary indicator for compliance regarding excursions. There should be no visible emissions when the bin vent filters, and other control devices are properly operating, thus any presence of visible emissions would require a corrective action. The source will conduct daily non-certified visible emissions (VE) observations. If visible emissions are observed, the source will conduct VE observations continuously until there are no visible emissions. If there is a break in in the observations, it will be assumed that the visible emissions are continuing up until the observations are continued or there are no visible emissions.

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-B2840-2015 are identified in Appendix 6 of the ROP.

PTI Number			
224-10A	40-15	354-99	102-06
1144-91	843-84	158-01	145-91
41-83	62-72	766-90B	154-82
152-71	362-97	935-87	221-81
151-71	424-94A	482-86	300-76
150-71A	1465-91	689-85A	455-74
390-08	1211-91	157-85	344-73A

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
FG-HEATERS	Natural gas fired space & service water heaters, ratings <50 MMBTU/hr	R 336.1212(4)(c)	R 336.1282(2)(b)(i)
EU-GASOLINE	Exempt unleaded gasoline tank	R 336.1212(4)(d)	R 336.1284(2)(g)(ii)
FG-PROPANE,LPG	Exempt tanks <40,000 gal	R 336.1212(4)(d)	R 336.1284(2)(b)
FG-HYDROGEN	Exempt hydrogen cylinders	R 336.1212(4)(d)	R 336.1284(2)(i)
FG-DUSTSUPPRESS	Exempt noncarcinogenic liquid dust suppressant in vessels <40,000 gal	R 336.1212(4)(d)	R 336.1284(2)(i)

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.

State Registration Number

B2840

RENEWABLE OPERATING PERMIT

JUNE 9, 2022 - STAFF REPORT ADDENDUM

ROP Number

MI-ROP-B2840-2022

Purpose

A Staff Report dated April 25, 2022, 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:	Norman Kapala, VP of Generation Operations 616-738-3200 Sean Kelly, Plant Business Manager 989-891-3136 Cresencio Hernandez III, Site Production Manager 989-891-3407
AQD Contact:	Kaitlyn DeVries, Senior Environmental Quality Analyst 616-558-0552}

Summary of Pertinent Comments

The following comments were received from Consumers Energy Company. No other comments were received during the comment period.

Consumers Energy Comment 1:

In the ROP Section 1 under the Emission Unit Summary Table on page 17, change "EU-PARTSCLEANER12-1" singular to "EU-PARTSCLEANERS12-2" plural. This change is necessary since there are two parts cleaners located at the Karn Plant 1&2. This change would be consistent with how Karn 1&2 parts cleaners are handled in the existing Karn Generating Complex ROP MI-ROP-B2840-2014c. This same change needs to occur in the Flexible Group ID summary table on page 45. This same change needs occur in the special conditions table FG-PARTSCLEANERS-1 on page 61.

AQD Response:

The AQD agrees with this comment and the in Section 1 under the Emission Unit Summary table, that EU-PARTSCLEANER12-1 singular should be changed to plural, as there are two parts cleaners. This will also be updated in the Flexible Group Summary Table.

Consumers Energy Comment 2:

In the ROP Section 1 under the emission unit special conditions table for EU-GUARDHSEGEN2-1 specifically, in the section titled "III. PROCESS/OPERATIONAL RESTRICTION(S)" on page 42 there is repeat numbering of the special conditions.

AQD Response:

The AQD agrees that the numbering in Section 1 EU-GUARDHSEGEN2-1 under Special Condition III. Process/Operational Restrictions, on Page 42 there was repeat numbering, and the numbering will be corrected.

Consumers Energy Comment 3:

In the ROP Section 1 under the flexible group special conditions table FG-KARN12-1 in the section titled "IV. DESIGN/EQUIPMENT PARAMETER(S)" on page 49 there is an extra dash in the reference to EU-Karn1-1.

AQD Response:

The AQD agrees that the extra dash in this flexible group should be removed. This change in Section 1, FG-KARN12-1, on page 49 in Section IV. DESIGN/EQUIPMENT PARAMETER(S) SC IV.1, the extra dash will be removed for EU-KARN1-1 in Special Condition IV.1.

Consumers Energy Comment 4:

In the ROP Section 1 under the flexible group special conditions table FG-NON-EMERGENCYCIENG-1 under Pollution Control Equipment the pollution device currently listed as "Ammonia Slip" should be listed as "Ammonia Slip Catalyst".

AQD Response:

The request to update the Pollution Control Equipment device list under Section 1 FG-NONEMERGENCYCIENG-1 is acceptable. This change will be made.

Consumers Energy Comment 5:

In the ROP Section 1 under the flexible group summary table on page 125 flexible group "FG--KARN34-2" has an extra dash and should be "FG-KARN34-2".

AQD Response:

The AQD agrees that the extra dash in this flexible group should be removed, this is for Section 2 though, as that is where FG-KARN34-2 is housed, and not in Section 1. This change will be made in Section 2.

Consumers Energy Comment 6:

In the ROP Section 2 under the flexible group special conditions table FG-KARN34-2 section titled "VII. REPORTING" special condition 5. (f) states

If there is any process or control equipment malfunction(s) during the reporting period, the permittee must include the number, duration, and a brief description for each type of malfunction which occurred during the semiannual reporting period which caused or may have caused any applicable emission limitation to be exceeded. (40 CFR 63.10031(c)(10))

The language in flexible group special conditions table FG-KARN34-2 section titled “VII. REPORTING” special condition 5. Bullet (f) should be deleted as it is not applicable to FG-KARN34-2. FG-KARN34-2 does not have any applicable emission limits under 40 CFR 63 Subpart UUUUU a.k.a. the MATS Rule since the FG-KARN34-2 meets the definition of a limited use liquid oil-fired subcategory per 40 CFR 63.10042 since 40 CFR 63.10000(c)(2)(iv) states that

If your unit qualifies as a limited-use liquid oil-fired as defined in § 63.10042, then you are not subject to the emission limits in Tables 1 and 2, but you must comply with the performance tune-up work practice requirements in Table 3.

AQD Response:

The AQD acknowledges that the emission units in the flexible group FG-KARN32-2 that are subject to the provisions of 40 CFR Part 63, Subpart UUUUU, are not subject to any emission limits pursuant to this regulation. The Special Condition in question is regarding the reporting of any process or control equipment malfunction that may have caused any applicable emission limitation to be exceeded. Since there are no applicable emission limitations, FG-KARN34-2 Special Condition VII.5 will be deleted.

Consumers Energy Comment 7:

In the ROP Section 2 under the table E. NON-APPLICABLE REQUIREMENTS table should be updated to acknowledge there is a single emergency generator at the Karn 3 and 4 plant.

AQD Response:

The AQD agrees that this is only one (1) emission unit and should be referenced as EU-KARN34GEN-2 in the Emission Unit/Flexible Group ID column of the non-applicable requirements for Section 2. Additionally, the justification was updated to read singularly instead of plural.

Changes to the April 25, 2022 Draft ROP

In response to Consumers Energy Comment 1, in Section 1, the Emission Unit Summary table and the Flexible Group Summary table had EU-PARTSCLEANER12-1 updated from singular to plural EU-PARTSCLEANERS12-1.

In response to Consumers Energy Comment 2, the numbering under ROP Section 1 EU-GUARDHSEGEN2-1 the Special Conditions Under III. for Process/Operational Restrictions was re-numbered to remove the repeat numbering.

In response to Consumers Energy Comment 3, the extra dash was taken out of EU-KARN1-1 in FG-KARN12-1 Special Condition IV.1.

In response to Consumers Energy Comment 4, in Section 1 under FG-NON-EMERGENCYCIENG-1, the Pollution Control Equipment list was updated from Ammonia Slip to Ammonia Slip Catalyst.

In response to Consumers Energy Comment 5, in Section 2 under the flexible group summary table on page 123, the name of the flexible group was changed to FG-KARN34-2 with the extra dash removed.

In response to Consumers Energy Comment 6, in Section 2, FG-KARN34-2 Special Condition VII.5.f. was deleted.

In response to Consumers Energy Comment 7, in Section 2, the table under part E the non-applicable requirements were updated to reflect a single engine. The Emission Unit/flexible Group ID column was updated from FG-KARN34GEN-2 to EU-KARN34GEN-2 and the justification was changed to singular instead of plural.

State Registration Number

B2840

RENEWABLE OPERATING PERMIT

ROP Number

MI-ROP-B2840-2022a

NOVEMBER 26, 2024 - STAFF REPORT FOR RULE 216(2) MINOR MODIFICATION

Purpose

On April 25, 2022, the Department of Environment, Great Lakes, and Energy (EGLE), Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B2840-2022 to Consumers Energy Company, Consumers Energy - Karn Facility 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:	Sean P. Kelly, Senior Manager of Plant Operations 989-891-3136
AQD Contact:	Caryn Owens, Senior Environmental Engineer 231-878-6688
Application Number:	202400146
Date Application for Minor Modification was Submitted:	August 30, 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 202400146 was to remove emissions units and flexible groups from existing Section 1 of the Karn ROP: EU-KARN1-1, EU-KARN2-1, EU-SORBENT-1, EU-LIMEPREP-1, EU-BPRECYCLE-1, EU-BPDISPOSAL-1, EU-COALHAND-1, EU-KARN12DCGEN-1, EU-KARN12ACGEN-1, EU-PARTSCLEANERS, FG-KARN12-1, FG-MATS-1, and FG-EMERGENCYCIGEN-1.

The emission units and flexible groups that were left in Section 1 of were as follows: EUGUARDHSEGEN1, EU-FISHBARGEN, EUGUARDHSEGEN2, EU-FHPUMP, EU-WDKPMP(5765), and EU-WDKPMP(6284), FG-EMERGENCYSIGEN, and FG-NON-EMERGENCYCIGEN. The emission units, flexible groups, and applicable requirements that were in Section 2 were combined with emission units and flexible groups from Section 1 that were not removed nor retired and or physically disabled. Therefore, the ROP is no longer a sectioned ROP.

Also, with this ROP modification, various minor administrative changes were made such as typos, numbering issues, and references were corrected as follows: In table FG-TANKFARMBLRS-2 updated numbering errors in Section III. Corrected the material limit in EU-GUARDHSEGEN2 since the emergency engine only burns liquified petroleum gas (LPG/Propane). Also, updated FG-KARN34 in SC VII. 7 to include the approved alternative electronic submittal format. All references to sections in the nomenclature of emission units and flexible groups throughout the ROP were removed since the permit will no longer be a sectioned ROP. Additionally, Karn 1 and 2 Acid Rain Permit and CSAPR Conditions have been removed.

AQD did not make the following changes based on the request in the Company's mark-up at this time because they are not changes that can be made during a Minor Modification and will need to be made during the next ROP Renewal:

- AQD did not add exempt emission units EUK34HEAT1 and EUK34HEAT2, and FG-34HEAT1&2.

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-B2840-2022, 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.