

State Registration Number
K1271

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-K1271-2021

Henry Ford Hospital

State Registration Number (SRN): K1271

Located at

2799 West Grand Boulevard, Detroit, Wayne County, Michigan 48202

Permit Number: MI-ROP-K1271-2021

Staff Report Date: May 31, 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) 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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RENEWABLE OPERATING PERMIT

May 31, 2021 - STAFF REPORT

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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:	Henry Ford Hospital 2799 West Grand Boulevard Detroit, Michigan 48202
Source Registration Number (SRN):	K1271
North American Industry Classification System (NAICS) Code:	622110
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201700056
Responsible Official:	Mr. Dan Murakami, System Facility Director 313-916-2202
AQD Contact(s):	Mr. Stephen Weis, Senior Environmental Engineer Inspector 313-720-5831 Ms. Julie Brunner, P.E., Environmental Quality Specialist ROP Writer 517-275-0415
Date Application Received:	April 12, 2017
Date Application Was Administratively Complete:	April 12, 2017
Is Application Shield in Effect?	Yes
Date Public Comment Begins:	May 31, 2021
Deadline for Public Comment:	June 30, 2021

Source Description

The Henry Ford Hospital on West Grand Boulevard is the original hospital in the Henry Ford Health System. The facility is a medical care facility, as well as a medical education and research complex. The hospital facility is located on approximately 38 acres of land that is bounded by West Grand Boulevard to the south, Pallister Avenue to the north, the John C. Lodge Freeway/southbound Lodge Service Drive to the east, and Poe Avenue to the west. The area around the Henry Ford Hospital consists of residential and commercial properties.

The Henry Ford Hospital currently consists of 15 buildings, which contain 3.22 million gross square feet of space; this includes all of the floors of the buildings, and the facility's parking garage. The last additions of buildings at the facility involved the construction of the West Pavilion Building in 1998, and the addition of two floors in 2008. Construction was finished in November 2020 on the Brigitte Harris Cancer Pavilion located on the south side of West Grand Boulevard, directly across the street from the main hospital building. The building is a six story structure with 187,000 square feet of building space.

Henry Ford Hospital operates boilers that supply steam to the facility for use in hospital equipment. The powerhouse includes three boilers that are capable of producing 70,000 pounds of steam per hour. The three (3) Nebraska boilers are designated EUBOILER1, EUBOILER2 and EUBOILER3. Each have a maximum rated heat input capacity of 86.4 MMBTU/hour and are capable of firing natural gas with diesel fuel for back up.

Henry Ford Hospital currently has ten (10) diesel fuel-fired emergency back-up engine generators at the facility to ensure that the facility can function in the case of an interruption of electrical power from the local utility.

Equipment that has been removed from the facility include the ethylene oxide (ETO) sterilizers which sterilized hospital equipment. The last sterilizer was removed in October of 2019. There are no plans for any future ETO sterilization at the hospital. Three (3) diesel fuel-fired peak shaver engines for power generation were permanently taken out of service in April of 2013. A Cleaver Brooks natural gas-fired boiler rated at 16.3 MMBTU/hour was permanently shut down and removed from the facility in April of 2013. Two (2) diesel fuel-fired emergency back-up engine generators have been dismantled and removed from service.

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)	18.7
Lead (Pb)	0.00011
Nitrogen Oxides (NO _x)	24.1
PM10*	1.6
Sulfur Dioxide (SO ₂)	0.29
Volatile Organic Compounds (VOCs)	1.4

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

Henry Ford Hospital is a true minor source of Hazardous Air Pollutant (HAP) emissions as listed pursuant to Section 112(b) of the federal Clean Air Act thus no HAP emissions data is listed.

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 Wayne County, which is currently designated by the United States Environmental Protection Agency (USEPA) as a non-attainment area with respect to the 8-hour ozone standard.

A portion of Wayne County is currently designated by the USEPA as a non-attainment area with respect to the SO₂ standard.

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR) Part 70, because the potential to emit of NO_x exceeds 100 tons per year.

The stationary source is a minor source of HAP emissions because the potential to emit of any single HAP regulated by Section 112 of the federal Clean Air Act, is less than 10 tons per year and the potential to emit of all HAPs combined are less than 25 tons per year.

Emission units at the stationary source have not been subject to the Prevention of Significant Deterioration regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451 or 40 CFR 52.21, because at the time of New Source Review (NSR) permitting the potential to emit of each criteria pollutant was less than 250 tons per year. Emission units at Henry Ford Hospital have been subject to minor NSR.

Diesel fuel-fired engine generators EUENGINE12, EUENGINE15, EUENGINE16, EUENGINE17, and EUCCEngine1 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.

EUBOILER1, EUBOILER2, and EUBOILER3 at the stationary source are subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Dc.

Diesel fuel-fired engine generators identified as EUENGINE12, EUENGINE15, EUENGINE16, EUENGINE17, and EUCCEngine1 at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) promulgated in 40 CFR Part 63, Subparts A and ZZZZ. EUENGINE12, EUENGINE15, EUENGINE16, EUENGINE17, and EUCCEngine1 are new stationary RICE subject to regulation under 40 CFR Part 60, Subpart IIII. Diesel fuel-fired engine generators identified as EUWCLINICGEN6, EUWCLINICGEN7, EUWPAVGEN8, EUBUNITGEN, and EUENGINE10 are not subject because they meet the requirements in 40 CFR 63.6585(f)(3) for existing institutional emergency stationary RICE located at an area source of HAP emissions.

EUBOILER1, EUBOILER2, and EUBOILER3 at the stationary source are not subject to the National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources promulgated in 40 CFR Part 63, Subparts A and JJJJJ because they meet the definition of a gas-fired boiler. *Gas-fired boiler* includes any boiler that burns gaseous fuels not combined with any solid fuels and burns liquid fuel only during periods of gas curtailment, gas supply interruption, startups, or for periodic testing, maintenance, or operator training on liquid fuel. Periodic testing, maintenance, or operator training on liquid fuel shall not exceed a combined total of 48 hours during any calendar year. The AQD is not delegated the regulatory authority for this area source regulation.

The monitoring conditions contained in the ROP are necessary to demonstrate compliance with all applicable requirements and are consistent with the "Procedure for Evaluating Periodic Monitoring Submittals."

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

Please refer to Parts B, C and D in the draft ROP for detailed regulatory citations for the stationary source. Part A contains regulatory citations for general conditions.

Source-Wide Permit to Install (PTI)

Rule 214a requires the issuance of a Source-Wide PTI within the ROP for conditions established pursuant to Rule 201. All terms and conditions that were initially established in a PTI are identified with a footnote designation in the integrated ROP/PTI document.

The following table lists all individual PTIs that were incorporated into previous ROPs. PTIs issued after the effective date of ROP No. MI-ROP-K1271-2012 are identified in Appendix 6 of the ROP.

PTI Number			
186-06B	307-99	355-98	
220-02*	202-02*	287-01*	

* PTIs for equipment removed from service and the ROP.

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
EUBUNITGEN	II.1	Maximum sulfur content of 15 ppm (0.0015 percent) by weight / 40 CFR 1090.305	Not to exceed a sulfur content of 0.30 percent by weight / R 336.1402(3)	The maximum sulfur content of 15 ppm (0.0015 percent) by weight per 40 CFR 1090.305 is more stringent than the permitted limit of 0.30 percent by weight.
EUENGINE10	II.1	Maximum sulfur content of 15 ppm (0.0015 percent) by weight / 40 CFR 1090.305	Maximum sulfur content of 500 ppm (0.05 percent) by weight / R 336.1205(1)(a), R 336.1402, R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)	The maximum sulfur content of 15 ppm (0.0015 percent) by weight per 40 CFR 1090.305 is more stringent than the permitted limit of 500 ppm (0.05 percent) by weight.

Emission Unit/Flexible Group ID	Condition Number	Streamlined Limit/ Requirement	Subsumed Limit/ Requirement	Stringency Analysis
EUENGINE12	II.1	Maximum sulfur content of 15 ppm (0.0015 percent) by weight / 40 CFR 1090.305	Maximum sulfur content of 15 ppm by weight / R 336.1205(1)(a), R 336.1402, 40 CFR 60.4207	The maximum sulfur content of 15 ppm (0.0015 percent) by weight per 40 CFR 1090.305 is as stringent as the permitted limit of 15 ppm by weight.
FGBOILERS	II.2	Maximum sulfur content of 15 ppm (0.0015 percent) by weight / 40 CFR 1090.305	Not to exceed a sulfur content of 0.03 percent by weight / R 336.1205, 40 CFR 60.42c(d)	The maximum sulfur content of 15 ppm (0.0015 percent) by weight per 40 CFR 1090.305 is more stringent than the permitted limit of 0.03 percent by weight.

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
EUSOLVDIST	Solvent distillation unit (capacity <20 gal)	R 336.1212(4)(e)	R 336.1285(2)(u)
EUWCLINICGEN6	620 kW emergency generator in West Clinic	R 336.1212(4)(e)	R 336.1285(2)(g)
EUWCLINICGEN7	620 kW emergency generator in West Clinic	R 336.1212(4)(e)	R 336.1285(2)(g)
EUBOILER4STER	1.67 MMBtu/hr boiler serving the steam sterilization process	R 336.1212(4)(d)	R 336.1282(2)(b)(i)
EUBOILER5STER	1.67 MMBtu/hr boiler serving the steam sterilization process	R 336.1212(4)(d)	R 336.1282(2)(b)(i)
EUBOILER6STER	1.67 MMBtu/hr boiler serving the steam sterilization process	R 336.1212(4)(d)	R 336.1282(2)(b)(i)
EUCCHotwatboiler1	3 MMBtu/hr hot water boiler (Lochinvar Crest)	R 336.1212(4)(d)	R 336.1282(2)(b)(i)
EUCCHotwatboiler2	3 MMBtu/hr hot water boiler (Lochinvar Crest)	R 336.1212(4)(d)	R 336.1282(2)(b)(i)
EUCCHotwatboiler3	3 MMBtu/hr hot water boiler (Lochinvar Crest)	R 336.1212(4)(d)	R 336.1282(2)(b)(i)

PTI Exempt Emission Unit ID	Description of PTI Exempt Emission Unit	Rule 212(4) Citation	PTI Exemption Rule Citation
EUCCHotwaterheater1	999,000 Btu/hr hot water heater (Aquaplex Power VTX)	R 336.1212(4)(d)	R 336.1282(2)(b)(i)
EUCCHotwaterheater2	999,000 Btu/hr hot water heater (Aquaplex Power VTX)	R 336.1212(4)(d)	R 336.1282(2)(b)(i)
EUCChumid1	600,000 Btu/hr gas-to-steam humidifiers (Dri-Steem GTS)	R 336.1212(4)(d)	R 336.1282(2)(b)(i)
EUCChumid2	600,000 Btu/hr gas-to-steam humidifiers (Dri-Steem GTS)	R 336.1212(4)(d)	R 336.1282(2)(b)(i)
EUCChumid3	600,000 Btu/hr gas-to-steam humidifiers (Dri-Steem GTS)	R 336.1212(4)(d)	R 336.1282(2)(b)(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 Dr. April Wendling, Detroit 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
K1271

RENEWABLE OPERATING PERMIT
July 2, 2021 - STAFF REPORT ADDENDUM

ROP Number
MI-ROP-K1271-2021

Purpose

A Staff Report dated May 31, 2021, 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:	Mr. Dan Murakami, System Facility Director 313-916-2202
AQD Contact:	Ms. Julie Brunner, P.E., Environmental Quality Specialist 517-275-0415

Summary of Pertinent Comments

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

Changes to the May 31, 2021 Draft ROP

No changes were made to the draft ROP.