

Michigan Department of Natural Resources & Environment  
Air Quality Division

State Registration Number  
B1792

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
MI-ROP-B1792-2011

WARREN WASTE WATER TREATMENT PLANT

SRN: B1792

Located at

32360 WARKOP, WARREN, MACOMB COUNTY, Michigan 48093

Permit Number: MI-ROP-B1792-2011

Staff Report Date: September 13, 2010

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 Natural Resources and Environment (MDNRE), 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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**September 13, 2010 STAFF REPORT**

**Purpose**

Major stationary sources of air pollutants, and some non-major sources, are required to obtain and operate in compliance with a 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 report, as required by Rule 214(1), sets forth the applicable requirements and factual basis for the draft permit terms and conditions including citations of the underlying applicable requirements, an explanation of any equivalent requirements included in the draft permit 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:	WARREN WASTE WATER TREATMENT PLANT 32360 WARKOP WARREN, Michigan 48093
Source Registration Number (SRN):	B1792
North American Industry Classification System (NAICS) Code:	221320
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	201000012
Responsible Official:	DAVID M. MONETTE, DIVISION HEAD (586) 264 2530 x103
AQD Contact:	Sebastian G. Kallumkal, Sr. Env. Engineer (586) 753 3738
Date Permit Application Received:	2/10/2010
Date Application Was Administratively Complete:	3/15/2010
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	September 13, 2010
Deadline for Public Comment:	October 13, 2010

## Source Description

Warren Wastewater Treatment Plant consists of a Liquid Processing section and a Solid Processing section. The raw sewage is first treated and clarified in the Liquid Processing section of the plant. The semi-solid by-product is sent to the Solid Processing Section where the wet sewage sludge passes through one of two belt presses to produce dewatered (20% solids/80% water) sewage sludge. This dewatered sewage sludge is combusted in a multiple hearth sewage sludge incinerator.

The Liquid Processing section consists primarily of large storage chambers and processing tanks with a capacity to treat 1,128,310 gallons per hour. The air pollutants generated from the Liquid Processing operation are primarily fugitive volatile organic compounds (VOC). Other sources of air pollution from the Liquid Processing operation include the wet well which has a dedicated odor control, a diesel fuel-fired emergency generator used for supplemental power generation and a small diesel fired emergency generator to supply power to the emergency generator in case of a total blackout. Any odors from the grit chamber and split box for the primary tanks are controlled by a carbon adsorption unit.

The facility has a fifty million gallon retention basin that is equipped with an ozonation chamber. The ozonation equipment has not been used since 1975. The basin is covered to minimize odor emissions.

The Solids Processing unit includes two belt presses, one multiple hearth solid sludge incinerator, and a dedicated odor control scrubber system. Facility has installed a new odor control (carbon adsorber) for the belt press room exhaust. These emissions were previously exhausted through either the incinerator or the oxidizing scrubber which controls odor emissions from the incinerator. The facility started using the new scrubber control for the belt press room in 2007. It also has one natural gas fired hot water boilers located in the Solid Processing section.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System in the **2009** submittal.

### **TOTAL STATIONARY SOURCE EMISSIONS**

<b>Pollutant</b>	<b>Tons per Year</b>
Carbon Monoxide (CO)	83.96
Lead (Pb)	0.005
Nitrogen Oxides (NO <sub>x</sub> )	17.36
Particulate Matter (PM)	0.57
Sulfur Dioxide (SO <sub>2</sub> )	1.69
Volatile Organic Compounds (VOCs)	42.08
<b>Individual Hazardous Air Pollutants (HAPs) **</b>	<b>NA</b>
<b>Total Hazardous Air Pollutants (HAPs)</b>	<b>NA</b>

\*\*As listed pursuant to Section 112(b) of the federal Clean Air Act.

See Parts C and D in the draft 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.

Macomb County is currently designated by the U.S. Environmental Protection Agency (USEPA) as a non-attainment area with respect to the PM 2.5 standard.

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

The stationary source is considered a major source of Hazardous Air Pollutant (HAP) emissions because the potential to emit of any single HAP regulated by the Clean Air Act, Section 112 is greater than 10 tons per year and the potential to emit of all HAPs combined is greater than 25 tons per year.

No emissions units at the stationary source are currently subject to the Prevention of Significant Deterioration (PSD) regulations of Part 18, Prevention of Significant Deterioration of Air Quality of Act 451 or 40 CFR, Part 52.21 because the process equipment was constructed/installed prior to June 19, 1978, the promulgation date of the PSD regulations.

Although EUIncinerator, EUBeltPress, EUWetWell, and EUGritBox 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.

The facility is subject to Chemical Accident Prevention Provisions, 40 CFR 68, approved under the Section 112(r) of Clean Air Act 1990 Amendments. Facility submitted a timely plan to USEPA.

The stationary source is not subject to the New Source Performance Standards (NSPS) for Sewage Sludge Treatment Plants promulgated in 40 CFR Part 60 Subparts A and Subpart O because the incinerator was built in 1972 and there has not been any major modification since.

The stationary source is subject to the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Beryllium and Mercury emissions promulgated in 40 CFR Part 61 Subparts A, Subpart C and Subpart E.

The facility is also subject to 40 CFR 503, Standards for the Use or Disposal of Sewage Sludge, Subpart E, Incineration. However it is not included in the permit due to EPA's suggestion that this subpart is not a part of the Clean Air Act.

The facility has twenty open top tanks for processing wastewater. These tanks 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 permitting requirements.

On October 26, 1999, USEPA promulgated National Emission Standard for Hazardous Air Pollutants (NESHAP) Rule for Publicly Owned Treatment Works (POTW) 40 CFR Part 63 Subpart VVV. [See Federal Register dated October 26, 1999, Volume 64, Number 206]. This Maximum Achievable Control Technology standard is promulgated for new and existing and industrial and Non-Industrial Publicly Owned Treatment Works. Only major sources of hazardous air pollutants (HAPs), as defined in 40 CFR Part 63 Subpart A, General Provisions, are subject to this MACT Standard. This MACT standard does not have any applicable requirement for an existing, non-industrial POTW. Sources which began construction prior to December 1, 1998, are considered as existing sources. The Warren Wastewater Treatment Plant is classified as a non-industrial existing POTW. Therefore, Warren WWTP is not subject to any additional requirements than those already described in the draft ROP.

The facility has a compression ignition, diesel fuel fired, less than 10 MMBTU/hr, (2.1 MW, 2855 HP) 2-stroke(2S), emergency use only, reciprocating internal combustion engine (RICE). This RICE at this facility is currently subject to the Maximum Achievable Control Technology (MACT) Standards for Reciprocating Internal Combustion Engines (RICE) codified in 40 CFR 63, Subpart ZZZZ. Any RICE located at a major or area source of HAP emissions is subject to 40 CFR 63, Subpart ZZZZ.

On March 3, 2010 (75 FR 9674, Eff. Date: May 3, 2010), the USEPA promulgated the final rules for the Maximum Achievable Control Technology (MACT) Standards for Reciprocating Internal Combustion Engines (RICE) in 40 CFR 63, Subpart ZZZZ.

40 CFR 63.6590(b)(3) states that:

“A stationary RICE which is an existing spark ignition 4 stroke rich burn (4SRB) stationary RICE located at an area source of HAP emissions; an existing spark ignition 4SRB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions; an existing spark ignition 2 stroke lean burn (2SLB) stationary RICE; an existing spark ignition 4 stroke lean burn (4SLB) stationary RICE; **an existing compression ignition emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions**; an existing spark ignition emergency or limited use stationary RICE; an existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions; an existing stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; or an existing stationary residential, commercial, or institutional emergency stationary RICE located at an area source of HAP emissions, does not have to meet the requirements of this subpart and of subpart A of this part. No initial notification is necessary.”

For Subpart ZZZZ, a stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, is existing if the construction or reconstruction of the stationary RICE was commenced before December 19, 2002.

This facility's emergency generator, EUGENERATOR is an existing CI engine that is more than 500 HP and located at a major HAP source. This RICE does not have to meet the requirements of 40 CFR 63, subpart A and subpart ZZZZ. No initial notification is necessary. In the future EPA may modify this MACT to include specific requirements for RICE greater than 500 HP located at major sources. Therefore the emission unit requirement table, EUGenerator is added in the draft ROP and it contains record keeping requirements for hours of operation, type of fuel usage, etc.

The facility also has another less than 10 MMBTU/hr, (60 KW, 82 hp), 4 cylinders with a displacement of 3.92 liters (0.98 liter/ cylinder), diesel fired emergency generator (EUHouseGenerator) needed to start the backup power generator (EUGenerator) after total loss of Edison power and a total blackout in the area. It was installed on October 23, 2006. For Subpart ZZZZ, a stationary RICE with a site rating of less than 500 brake horsepower (HP) located at a major source of HAP emissions, is new if the construction of the stationary RICE was commenced after June 12, 2006. EUHouseGenerator is subject to 40 CFR 63, Subpart ZZZZ-National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines.

40 CFR 63.6590(c) requires that the EUHouseGenerator must meet the requirements of 40 CFR 63, Subpart ZZZZ by meeting the requirements of 40 CFR part 60 subpart IIII-Standards of Performance for Compression Ignition Internal Combustion Engines. No other requirements apply for such engines under 40 CFR 63, Subpart ZZZZ.

Emission unit requirement table, EUHouseGenerator is added in the draft ROP to specify NSPS Subpart IIII requirements. The NSPS specifies fuel standards for the engine.

The cold cleaners identified in FGCOLDCLEANERS are exempt from the Rule 201 requirement to obtain an Air Use Permit under Rule 281(h) which exempts cold cleaners that has air/vapor interface of not more than 10 square feet. However, these units are subject to provisions of Rule 707.

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

EUIncinerator at the stationary source is subject to the federal Compliance Assurance Monitoring (CAM) rule under 40 CFR, Part 64. This emission unit has a control device to control particulate matter

emissions and the potential pre-control emissions of particulate matter are greater than the major source threshold level.

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-B1792-2005 are identified in Appendix 6 of the ROP.

PTI Number			
104-71A	197-71	666-86	71-96A

**Equivalent Requirements**

This permit does not include any equivalent requirements pursuant to Rule 212(5). Equivalent requirements are enforceable applicable requirements that are equivalent to the applicable requirements contained in the original PTI, a Consent Order/Judgment, and/or the State Implementation Plan.

**Non-applicable Requirements**

Part E of the draft ROP lists requirements that are not applicable to this source as determined by the AQD, if any were proposed in the application. These determinations are incorporated into the permit shield provision set forth in Part A (General Conditions 26 through 29) of the draft 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.

Exempt Emission Unit ID	Description of Exempt Emission Unit	ROP Exemption	PTI Permit Exemption
EU4.1BOILER	4.1MMBTU/hr boiler for building heating. Installed 1/1/1959.	R336.1212(4)(b)	R336.1282(b)(i)

**Draft ROP Terms/Conditions Not Agreed to by Applicant**

This permit 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 DNRE**

The AQD proposes to approve this permit. 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 U.S. Environmental Protection Agency (USEPA) is allowed up to 45 days to review the draft permit 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 Teresa Seidel, Southeast Michigan District Supervisor. The final determination for ROP approval/disapproval 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 terms and conditions, and resolution of any objections by the USEPA.

State Registration Number  
**B1792**

**RENEWABLE OPERATING PERMIT**

ROP Number

**MI-ROP-B1792-2011**

**11/04/2010 STAFF REPORT ADDENDUM**

**Purpose**

A Staff Report dated 9/13/2010, 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:	David M. Monette, Division Head (586) 264-2530 x 103
AQD Contact:	Sebastian G. Kallumkal, Sr. Env. Engineer (586) 753 3738

**Summary of Pertinent Comments**

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

**Changes to the 9/13/2010 Draft ROP**

No changes were made to the draft ROP.