

Michigan Department of Environmental Quality
Air Quality Division

State Registration Number
M4782

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-M4782-2010a

EQ - The Environmental Quality Company

SRN: M4782

Located at

49350 N. I-94 Service Dr., Belleville, Wayne, Michigan 48111

Permit Number: MI-ROP-M4782-2010a

Staff Report Date: February 1, 2010

Amended Date: July 11, 2013

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 Environmental Quality (MDEQ), 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

ROP Number
MI-ROP-M4782-2010

February 1, 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:	EQ The Environmental Quality Company 49350 I-94 Service Drive Belleville, Michigan 48111
Source Registration Number (SRN):	M4782
North American Industry Classification System (NAICS) Code:	562211 (MDWTP), 562212 (WDI), 221119 (WER)
Number of Stationary Source Sections:	3
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	200800080
Responsible Official:	Scott Maris, Vice President (734) 329-8000
AQD Contact:	James Voss, Senior Environmental Quality Analyst (313) 456-4687
Date Permit Application Received:	June 2, 2008
Date Application Was Administratively Complete:	July 31, 2008
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	February 1, 2010
Deadline for Public Comment:	March 3, 2010

Source Description

EQ-The Environmental Quality Company, Site 2, is located on North I-94 Service Drive, west of Beck Rd in Van Buren Township, Wayne County, with the nearest residence located across I-94, approximately 200 yards to the south.

EQ-The Environmental Quality Company, Site 2, is comprised of three companies: Michigan Disposal Waste Treatment Plant, Wayne Energy Recovery, Inc., and Wayne Disposal, Inc, a series of co-mingled (containing both hazardous and non-hazardous wastes) landfills. These three facilities are considered a single stationary source based on the definition found in Rule 119(q) of the Part 55 (Public Act 451 of 1994, as amended) administrative rules.

(1) MICHIGAN DISPOSAL WASTE TREATMENT PLANT

Michigan Disposal Waste Treatment Plant is a hazardous and non-hazardous waste processing facility. Michigan Disposal accepts bulk liquid waste, bulk solid waste, and containerized waste, which is processed in two separate buildings called the East Building and West Building. A fabric filter, thermal oxidizer, and sodium hydroxide scrubber control emissions from the East Building. A fabric filter controls emissions from the West building. The West building is restricted to processing waste streams which have a low volatile organic compound (VOC) concentration, and is permitted to process waste subject to the Benzene NESHAP, 40 CFR Part 61 Subpart FF, provided that waste is not subject to control (the generator produces <10 Mg/year benzene waste or the concentration of benzene is below 10 ppm).

The stabilization process in both buildings starts with the waste being transferred to one of four treatment tanks where it is stabilized by adding varying amounts of oxidant (such as sodium hypochlorite) and lime or cement kiln dust. After it has been determined that the waste meets land disposal restriction criteria, the waste is removed and shipped to a landfill, either the hazardous waste landfill on-site or an off-site facility.

(2) WAYNE ENERGY RECOVERY, INC.

Wayne Energy Recovery, Inc. has four internal combustion engines that generate electricity for sale to the local utility. The engines are fueled by landfill gas (LFG) and may be supplemented with natural gas as needed to maintain electrical output. These engines serve to control non-methane organic compound (NMOC) emissions from the landfill.

(3) WAYNE DISPOSAL, INC.

Wayne Disposal, Inc. is a fully permitted Subtitle C landfill (Site 2) that contains both hazardous waste and non-hazardous waste (primarily industrial waste). The landfill currently accepts hazardous, non-hazardous and PCB (polychlorinated biphenyls) waste subject to the Toxic Substances Control Act (TSCA) and may accept asbestos waste. The facility further consists of a series of closed landfills which co-disposed hazardous waste with municipal solid waste (MSW). These landfills are equipped with LFG collection and control systems which are either active or passive, based on the age of the waste. The landfills and their control systems are as follows:

- Site 2 consists of ten closed MSW cells (known as "Master Cells") and an active hazardous waste cell. The MSW cells are equipped with an active landfill gas collection system that pipes the collected gas to the Wayne Energy Recovery engine plant.
- Site1 consists of a closed MSW landfill which is equipped with a passive gas collection system. The passive system consists of widely spaced vent flares which continuously spark. If sufficient LFG is emanating from the cell, the spark results in a flame, which controls the NMOC and methane. The sparker is run from a battery which is charged by a photovoltaic array.
- FONS and Old Wayne are similar to Site 1, though they are older. Both of these sites have passive gas control.

When first buried, MSW initially undergoes aerobic microbial activity, which produces predominately nitrogen gas and carbon dioxide. Over time, the MSW decomposes anaerobically producing methane-

rich LFG. The LFG is comprised of methane, carbon dioxide, hydrogen sulfide and NMOC. The NMOC fraction consists of various organic hazardous air pollutants (HAP) and volatile organic compounds (VOC) and is the primary regulated pollutant associated with LFG. Inorganic HAP compounds are also present in LFG.

LFG is collected through a piping system, using a compressor, and is burned in the four Wayne Energy Recovery, Inc. internal combustion engines. This is considered to be an active LFG collection system.

New Source Performance Standards for Municipal Solid Waste Landfills, codified at 40 CFR 60 Subpart Cc are applicable to MSW landfills which have a construction, reconstruction or modification date before May 30, 1991, have accepted waste at any time since November 8, 1987, have a design capacity in excess of 2.5 million megagrams and have NMOC emissions in excess of 50 megagrams per year. Landfills that meet these criteria are required to comply with the Federal Plan regulations of 40 CFR Part 62 subpart GGG, unless there is an approved state plan. (Michigan currently does not have an approved state plan.)

Wayne Disposal, Inc. was constructed in 1976, and the facility has accepted waste since November 8, 1987. The facility submitted a Tier I report to the USEPA Region V on April 6, 2000. This report showed a design capacity in excess of 2.5 million megagrams and an NMOC emission rate of 1,062 megagrams per year. (Note that Tier 1 calculations utilize extremely conservative assumptions and, thus, the actual emissions of NMOC for the site would not likely approach that level.) Wayne Disposal, Inc, is therefore subject to the requirements of NSPS Subpart Cc. These regulations required the facility to install a collection and control system for the LFG within 30 months of the submittal of the emission rate report. At the time of submittal of the Title V permit application, an active collection and control system for the landfill had already been installed. The collection and control system has since been upgraded in order to comply with the Federal Plan Requirements for Municipal Solid Waste Landfills, codified at 40 CFR Part 62 Subpart GGG.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System in the **2008** submittal.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	18
Lead (Pb)	NA
Nitrogen Oxides (NO _x)	85
Particulate Matter (PM)	7
Sulfur Dioxide (SO ₂)	1
Volatile Organic Compounds (VOCs)	1
Individual Hazardous Air Pollutants (HAPs) **	
NMOC (surrogate for HAP)	1
Total Hazardous Air Pollutants (HAPs)	1

**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 of the regulatory status 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.

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

The stationary source is subject to Title 40 of the Code of Federal Regulations (CFR), Part 70, because:

- the potential to emit nitrogen oxides exceeds 100 tons per year.
- the potential to emit of any single HAP regulated by the federal Clean Air Act, Section 112, is more than 10 tons per year and/or the potential to emit of all HAPs combined is more than 25 tons per year.
- the source is subject to 40 CFR Part 62 Subpart GGG, which requires affected sources to obtain a Part 70 permit.

The stationary source is considered a "synthetic minor" source in regards to the Prevention of Significant Deterioration regulations of because the stationary source accepted legally enforceable permit conditions limiting the potential to emit of nitrogen oxides to less than 250 tons per year

The facility is subject to various state rules as well as federal regulations. These include Rule 225 toxic air contaminants review and Rule 702, Best Available Control Technology (BACT) for VOC control.

FG_EAST and FG_WEST at the stationary source are subject to the Maximum Achievable Control Technology Standards for Off-Site Waste and Recovery Operations promulgated in 40 CFR, Part 63, Subparts A and DD.

EULANDFILL at the stationary source is subject to the Maximum Achievable Control Technology Standards for Municipal Solid Waste Landfills promulgated in 40 CFR, Part 63, Subparts A and AAAA.

FG_EAST and FG_WEST at the stationary source are subject to the National Emission Standard for Hazardous Air Pollutants for Benzene Waste Operations promulgated in 40 CFR, Part 61, Subparts A and FF.

EULANDFILL at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Asbestos promulgated in 40 CFR, Part 61, Subparts A and MM.

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."

FG_EAST 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 and potential pre-control emissions of VOC and PM greater than the major source threshold levels.

FG_WEST 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 and potential pre-control emissions of PM greater than the major source threshold levels.

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 or Wayne County Installation Permit are identified with a footnote designation in the integrated ROP/PTI document.

The following table lists all individual PTIs and Installation Permits that were incorporated into a previous ROP. Permits to Install issued after the effective date of ROP No. MI-ROP-M4782-2010 are identified in Appendix 6 of the ROP.

PTI/Installation Permit Number			
C-7133	C-8078	C-8079	C-8080
C-8081	C-8082	C-8083	C-8084
C-8085	C-8086	C-8087	C-8088
C-8089	C-8640	C-8641	C-8642
C-8643	C-9271	C-9272	C-9868
C-9869	C-9870	C-9871	C-9872
C-9873	C-9874	C-9875	C-9876
C-9877	C-9878	C-9879	C-11379
C-11380	C-11512	C-11513	C-11514
C-11515	7-98	7-98A	7-98B
31-09	31-09A	26-10	80-10

Equivalent Requirements

The following table lists explanations of any equivalent requirements included in the draft permit pursuant to Rule 213(2)(c). Equivalent requirements are enforceable applicable requirements which are equivalent to the applicable requirements contained in the original PTI, a Consent Order/Judgment, and/or the State Implementation Plan.

Emission Unit/Flexible Group ID	Equivalent Requirement Discussion
FG_EAST	S.C. VI.6 – The VOC emission recordkeeping was condensed into a single condition for convenience. This condition combines the following conditions from MI-ROP-M4782-2003a: VI.4 is now VI.6.a and part of VI.3 is now VI.6.b.
	S.C. VI.7 – This condition is the remainder of VI.3 (of MI-ROP-M4782-2003a), not incorporated into S.C. VI.6.
	S.C. VI.8 - The PM and PM10 emission recordkeeping was condensed into a single condition for convenience. This condition combines the following S.C. from MI-ROP-M4782-2003a: VI.9 is now VI.8.a; VI.10 is now VI.8.b; VI.11 is now VI.8.c.
	S.C. VI.9 – This combines S.C. VI.5 and portions of VI.9, VI.10 and VI.11 from MI-ROP-M4782-2003a, as these conditions all require the permittee to calculate emissions using methods outlined in Appendix 1.7.
FG_WEST	S.C. VI.4 – The PM and PM10 emission recordkeeping was condensed into a single condition for convenience. This condition combines the following S.C. from MI-ROP-M4782-2003a: VI.5 is

Emission Unit/Flexible Group ID	Equivalent Requirement Discussion
	<p>now VI.4.a; VI.6 is now VI.4.b; VI.7 is now VI.4.c</p> <p>S.C. VI.5 – The VOC emission recordkeeping was condensed into a single condition for convenience. This condition combines the following S.C. from MI-ROP-M4782-2003a: VI.2 is now VI.5.a; VI.1 is now VI.5.b.</p>
EUVENTFLARE	<p>In MI-ROP-M4782-2003a, S.C. C-3.4.I.C.2 stated: The permittee shall install, calibrate, maintain, and operate the following equipment, associated with a passive flare, according to the manufacturer's specifications. Passive flare, consisting of a battery that provides spark to reignite the flare as long as landfill gas of sufficient quality and quantity is present to sustain combustion. The passive flare meets the requirements of 40 CFR 60.18 with respect to exit velocities and visible emissions. The passive flare will be able to ignite and stay lit with a minimum of 30% methane. (40 CFR 60.752(b)(2)(i)(C), 40 CFR 62.14353(b), 40 CFR 63.1955(c), U.S. EPA approved Final Control Plan page 21)</p> <p>In the renewal ROP, this condition is split up, as the original was poorly worded. The portion about battery operation is covered under III.2; Exit velocity, III.4; visible emissions, III.1; and minimum % methane, IV.2. These are equivalent requirements.</p>

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(3) and (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
DVFURNACE	Miscellaneous furnaces used for heating	R 336.1212(4)(b)	R 336.1282(b)(i)
DVWASTEWATER	Wastewater treatment plant, located at the Wayne Disposal landfill, that does not process off-site waste	R 336.1212(3)(f)	R 336.1285(m)

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 DEQ

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
M4782

RENEWABLE OPERATING PERMIT

ROP Number
MI-ROP-M4782-2010

June 3, 2010 STAFF REPORT ADDENDUM

Purpose

A Staff Report dated February 1, 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:	Scott Maris, Vice President (734) 329-8000
AQD Contact:	James Voss, Senior Environmental Quality Analyst (313) 456-4687

Summary of Pertinent Comments

The only comments received during the 30-day public comment period came from the permittee. The comments pertained to Permit to Install (PTI) Nos. 26-10, 80-10 and 31-09A.

PTI 26-10 was intended to correct a previous error that resulted in conditions which were unintentionally too restrictive.

The facility manages waste subject to 40 CFR Part 61, subpart FF (the Benzene NESHAP). The previous PTI and ROP contained conditions which prevented Michigan Disposal from placing waste subject to subpart FF in FG_WEST and FGLIQWASTETKS, when the conditions should have excluded only waste subject to the control provisions of the benzene NESHAP. In other words, waste that contains benzene, but is not required by the NESHAP to be managed in a waste management unit that has emissions controlled by the thermal oxidizer should be allowed to be treated in FG_WEST, which is not equipped with a thermal oxidizer. The PTI was reviewed by permit engineers and district staff and subsequently approved.

PTI 80-10 reduced the minimum airflows for both the FG_EAST and FG_WEST treatment bays. The amended airflows were demonstrated to provide sufficient negative pressure in the bays.

PTI 31-09A added a back-up control device for the TDU project to prevent nuisance odors.

Changes to the 02/01/10 Draft ROP

FG_EAST III.1
Minimum airflow was changed from 20,000 cfm to 19,500 cfm.

FG_WEST III.1
Minimum airflow was changed from 83,000 cfm to 80,000 cfm.

FG_WEST III.5

5. The permittee shall not process waste streams subject to the **control requirements in 40 CFR 61.342(c)(1) of the** National Emission Standard for Benzene Waste Operations (40 CFR Part 61 Subpart FF) in FG_WEST.2 (40 CFR Part 61 Subpart FF)

FGLIQWASTETKS III.1

1. The permittee shall not store waste streams subject to the **control requirements in 40 CFR 61.342(c)(1) of the** National Emission Standard for Benzene Waste Operations (40 CFR Part 61 Subpart FF) in FGLIQWASTETKS.2 (40 CFR Part 61 Subpart FF)

FGTDU IV

The following condition was added:

3. The permittee shall operate the flare only in the event of RTO malfunction.1 (R 336.1901)

The permittee agreed to all of the changes.

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MI-ROP-M4782-2010

**September 1, 2010 STAFF REPORT
ADDENDUM**

Purpose

A Staff Report, dated February 1, 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 45-day EPA comment period as described in R 336.1214(6). In addition, this addendum describes any changes to the proposed ROP resulting from these pertinent comments.

General Information

Responsible Official:	Scott Maris, Vice President (734) 329-8000
AQD Contact:	James Voss, Senior Environmental Quality Analyst (313) 456-4687

Summary of Pertinent Comments

No pertinent comments were received during the 45-day EPA comment period.

Changes to the June 1, 2010 Proposed ROP

No changes were made to the proposed ROP.

Michigan Department of Environmental Quality
Air Quality Division

State Registration Number

RENEWABLE OPERATING PERMIT

ROP Number

M4782

**July 11, 2013 STAFF REPORT FOR RULE 216(2)
MINOR MODIFICATION**

MI-ROP-M4782-2010a

Purpose

On September 1, 2010, the Department of Environmental Quality, Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-M4782-2010 to EQ - The Environmental Quality Company (Michigan Disposal Waste Treatment Plant), Wayne Energy Recovery, Inc. Partnership (Wayne Energy Recovery, Inc.), and Wayne Disposal, Inc. (Site 1, Site 2, Old Wayne, and Fons Landfills) pursuant to R 336.1214. Once issued, a company is required to submit an application for changes to the ROP as described in R 336.1216. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to R 336.1216(2).

General Information

Responsible Official:	Kerry Durnen, Director of Operations
AQD Contact:	Kirsten S. Clemens, P.E., Environmental Engineer 269-567-3548
Application Number:	201300083
Date Application For Minor Modification Was Submitted:	May 14, 2013

Regulatory Analysis

The AQD has determined that the change requested by the stationary source meets the qualifications for a Minor Modification pursuant to R 336.1216(2).

Description of Changes to the ROP

Section 2:

- Removal of FG-CONTROLS
- Rule citation clarified to include subparts
- Addition of EU-TREATMENTSYS
- Updates to FGENGINEs in regard to 07/26/2012 USEPA determination

Section 3:

- Rule citation clarified to include subparts
- EULANDFILL, EUALGCS and FGLGCS updates to pollution control equipment description

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 the DEQ

The AQD proposes to approve a Minor Modification to ROP No. MI-ROP-M4782-2010a, 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 U.S. 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.

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**August 27, 2013 STAFF REPORT ADDENDUM FOR
RULE 216(2) MINOR MODIFICATION**

MI-ROP-M4782-2010a

Purpose

A Staff Report dated July 11, 2013, was developed in order to set forth the applicable requirements and factual basis for the proposed Minor Modification to the Renewable Operating Permit's (ROP) terms and conditions as required by R 336.1216(2)(c). The purpose of this Staff Report Addendum is to summarize any significant comments received on the proposed ROP modification during the U.S. Environmental Protection Agency's (USEPA) 45-day comment period as described in R 336.1216(2)(c). In addition, this addendum describes any changes to the proposed ROP Minor Modification resulting from these pertinent comments.

General Information

Responsible Official:	Kerry Durnen, Director of Operations
AQD Contact:	Kirsten S. Clemens, P.E., Environmental Engineer 269-567-3548

Summary of Pertinent Comments

No pertinent comments were received during the USEPA's 45-day comment period.

Changes to the July 11, 2013 Proposed ROP Minor Modification

No changes were made to the proposed ROP Minor Modification.