

Michigan Department of Environmental Quality  
Air Quality Division

State Registration Number  
**N7113**

**RENEWABLE OPERATING PERMIT  
STAFF REPORT**

ROP Number  
**MI-ROP-N7113-2011**

**MICHIGAN PUBLIC POWER AGENCY**

SRN: **N7113**

Located at

**1750 Prough Road, Southwest, Kalkaska, Kalkaska County, Michigan 49646**

Permit Number: **MI-ROP-N7113-2011**

Staff Report Date: September 26, 2011

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).

## TABLE OF CONTENTS

September 26, 2011, STAFF REPORT	3
October 26, 2011, STAFF REPORT ADDENDUM	8

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**September 26, 2011, 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:	Michigan Public Power Agency 809 Centennial Way Lansing, Michigan 48917
Source Registration Number (SRN):	N7113
North American Industry Classification System (NAICS) Code:	221112
Number of Stationary Source Sections:	One
Is Application for a Renewal or Initial Issuance?	Renewal
Application Number:	200900167
Responsible Official:	Mr. David Walters, General Manager 517-323-8919
AQD Contact:	Mr. Kurt Childs, Environmental Quality Analyst 231-876-4411
Date Permit Application Received:	November 5, 2009
Date Application Was Administratively Complete:	November 19, 2009
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	September 26, 2011
Deadline for Public Comment:	October 26, 2011

## Source Description

Michigan Public Power Agency operates an electric power plant located on Prough Road, approximately two miles south-southwest of Kalkaska, Michigan. It is a “peaking plant”, meaning that it operates mostly for short periods of “peak load” when demand for electricity is high. The facility contains one Pratt and Whitney FT-8 Twin Pac turbine set consisting of two combustion turbines fired by natural gas and utilizing water injection and low-Nox burners for controlling air emissions. It is coupled to an electric generator with an ISO nominal rating of 55 MW. The facility also has a diesel engine for operating a fire pump, and a natural gas-fired “line-heater” to preheat natural gas fuel before that fuel is supplied to the turbines.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System in the **2010** submittal.

### TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	10.6
Lead (Pb)	0
Nitrogen Oxides (NO <sub>x</sub> )	1
Particulate Matter (PM)	1
Sulfur Dioxide (SO <sub>2</sub> )	0
Volatile Organic Compounds (VOCs)	0
<b>Individual Hazardous Air Pollutants (HAPs) **</b>	
NA	<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.

In addition to the pollutants listed above that have been reported in MAERS, the potential to emit of Greenhouse Gases is less than 100,000 tons per year of CO<sub>2</sub>e based on calculations provided by Michigan Public Power Agency.

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 addressed in the non-applicable requirement part of the staff report and Part E of the ROP.

The stationary source is located in Kalkaska County, which is currently designated as attainment/unclassified for all criteria pollutants.

The stationary source is subject to 40 CFR, Part 70 because it is subject to Title IV, the Acid Rain provisions of the Federal Clean Air Act and regulations promulgated under 40 CFR, Part 72. All sources subject to 40 CFR, Part 72 are also subject to 40 CFR, Part 70.

The stationary source is not considered a major source of criteria pollutant emissions under 40 CFR, Part 70 since the stationary source has accepted legally enforceable permit conditions limiting the potential to emit nitrogen oxides to below 100 tons per year.

The stationary source is not 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 less than 10 tons per year and the potential to emit of all HAPs combined is less than 25 tons per year.

The stationary source is considered a 'synthetic minor' source in regards to Prevention of Significant Deterioration (PSD) (40 CFR 52.21) regulations since the stationary source has accepted legally enforceable permit conditions limiting the potential to emit nitrogen oxides to below 250 tons per year.

The stationary source is subject to the New Source Performance Standards (NSPS) for Stationary Gas Turbines promulgated in 40 CFR, Part 60, Subparts A and GG.

The stationary source has two emission units subject to the federal Acid Rain program promulgated in 40 CFR, Part 72.

The stationary source has two emission units subject to the federal CAIR program promulgated in 40 CFR, Part 97.

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

The stationary source is not subject to the federal Compliance Assurance Monitoring (CAM) rule (40 CFR 64) because the emission limitations or standards for NOx emissions from the Twin Pac combustion turbine unit meet the CAM exemption of Acid Rain monitoring requirements. Thus, NOx emissions from the Twin Pac combustion turbine unit are exempt from CAM requirements.

Please refer to Parts B, C and D in the enclosed draft permit 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-N7113-2005b are identified in Appendix 6 of the ROP.

PTI Number			
25-02	25-02A		

**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
FG-TURBINES	I.1	25 ppmv NOx dry at 15% oxygen on a dry gas basis. (R 336.1205(1)(a))	104.4 ppmv NOx dry at 15% oxygen on a dry gas basis. (40 CFR 60.332(a)(1))	The nitrogen oxides emission limit determined through NSR review and listed in condition I.1 is in the same units and is more stringent than the subsumed limit from 40 CFR, Part 60, Subpart GG which is based on the combustion turbine manufacturers guaranteed heat rate of 10.34 KJ/Wk-hr and an F of 0 (no fuel bound nitrogen allowance)
FG-TURBINES	II.2	Burn only pipeline quality natural gas. (R 336.1225.)	The total sulfur content of any fuel used in FG-TURBINES shall not exceed 0.8 percent by weight (8000 ppmw) (40 CFR 60.333(b))	The definition of "pipeline quality natural gas" includes a total sulfur limit of 0.5 grains per 100 standard cubic feet. 8000 ppm = 501 grains per 100 standard cubic feet. Therefore, the streamlined limit is more stringent than the subsumed limit.

### 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
EU-FPENGINE	210 hp diesel engine used as backup power for fire pump	R 336.1212(4)(d)	R 336.1285(g)
EU-GASHEATER	Natural gas-fired heater to preheat turbine fuel, 1 MMBTU/hour heat input	R 336.1212(4)(b)	R 336.1282(b)(i)
EU-HEATBLR	250,000 Btu/hr natural gas fired turbine enclosure heater.	R 336.1212(4)(b)	R 336.1282(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 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 Janis Denman, Cadillac 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.

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**October 26, 2011, STAFF REPORT  
ADDENDUM**

**Purpose**

A Staff Report dated September 26, 2011, 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:	Mr. David Walters, General Manager 517-323-8919
AQD Contact:	Mr. Kurt Childs, Environmental Quality Analyst 231-876-4411

**Summary of Pertinent Comments**

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

**Changes to the September 26, 2011 Draft ROP**

No changes were made to the draft ROP.