

State Registration Number
B4252

Michigan Department of Environmental Quality
Air Quality Division
**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number
MI-ROP-B4252-2018

AEP Cook Nuclear Plant

SRN: B4252

Located at

One Cook Place, Bridgman, Berrien County, Michigan 49106

Permit Number: MI-ROP-B4252-2018

Staff Report Date: December 4, 2017

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

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DECEMBER 4, 2017 STAFF REPORT

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 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 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:	AEP Cook Nuclear Plant One Cook Place Bridgman, Michigan 49106
Source Registration Number (SRN):	B4252
North American Industry Classification System (NAICS) Code:	221113
Number of Stationary Source Sections:	1
Is Application for a Renewal or Initial Issuance?	Initial Issuance
Application Number:	201700047
Responsible Official:	Jon Harner, Nuclear Environmental Manager 269-465-5901
AQD Contact:	Matt Deskins, Environmental Quality Analyst 269-567-3542
Date Application Received:	March 21, 2017
Date Application Was Administratively Complete:	March 21, 2017
Is Application Shield In Effect?	Yes
Date Public Comment Begins:	December 4, 2017
Deadline for Public Comment:	January 3, 2018

Source Description

AEP Cook Nuclear Plant (Facility) is a two unit nuclear power plant located in Bridgman, Berrien County, Michigan, on the shore of Lake Michigan. In addition to the two nuclear steam supply system fed electric turbine generators, the Facility also has a number of fuel oil fired emergency generators and fire pumps, a small #2 distillate oil fired Facility auxiliary boiler that is used primarily for building heating when both units are out of service, one propane fired emergency generator, and a paint shop that supports the maintenance of the overall Facility. These sources are scattered about the Facility and are periodically tested for readiness in accordance with the Technical Specifications for the Facility, and in an emergency situation would be called on to run continuously until such time as external power could be restored to the Facility for safety and security reasons.

The following table lists stationary source emission information as reported to the Michigan Air Emissions Reporting System For the year 2016.

TOTAL STATIONARY SOURCE EMISSIONS

Pollutant	Tons per Year
Carbon Monoxide (CO)	2.84
Lead (Pb)	0.00
Nitrogen Oxides (NO _x)	10.74
Particulate Matter (PM)	0.39
Sulfur Dioxide (SO ₂)	0.21
Volatile Organic Compounds (VOC)	0.38

The following table lists HAP emissions:

Individual HAPs**	Tons per Year
NA	NA
Total Hazardous Air Pollutant (HAP)	NA

**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 located in Berrien County, which is currently designated by the U.S. 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 PM, NO₂, CM, and VOC exceeds 100 tons per year.

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

No emissions units at the stationary source are currently subject to the Prevention of Significant Deterioration (PSD) regulations of the Michigan Air Pollution Control Rules, Part 18, Prevention of Significant Deterioration of Air Quality, 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.

EU-BOILER1 at the stationary source is subject to the Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units promulgated in 40 CFR Part 60, Subparts A and Dc.

EU-DRYCASKDSLGEN at the stationary source is subject to the Standards of Performance for Stationary Compression Internal Combustion Engines promulgated in 40 CFR Part 60, Subparts A and IIII.

FG-EMERDIESELS, FG-ENGINES, EU-SECDIESELGEN, EU-DSLFIREFPUMP1, EU-DSLFIREFPUMP2, EU-TRGCTRDSLGEN, EU-MAINGATEDSLGEN, EU-DRYCASKDSLGEN, EU-COMTWRPRGEN 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-BOILER1 at the stationary source is subject to the National Emission Standard for Hazardous Air Pollutants for Industrial, Commercial, or Institutional Boilers promulgated in 40 CFR Part 63, Subparts A and JJJJJJ.

FG-EMERDIESELS, FG-ENGINES, EU-SECDIESELGEN, EU-DSLFIREFPUMP1, EU-DSLFIREFPUMP2, EU-TRGCTRDSLGEN, EU-MAINGATEDSLGEN, EU-COMTWRPRGEN at the stationary source are subject to the National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), promulgated in 40 CFR Part 63, Subparts A and ZZZZ (RICE area source MACT). The ROP contains special conditions provided by the Facility in their application for applicable requirements from 40 CFR Part 63, Subparts A and ZZZZ. The AQD is not delegated the regulatory authority for this area source maximum achievable control technology (MACT).

EU-BOILER1 at the stationary source is subject to the National Emissions Standards for Hazardous Air Pollutants for Industrial, Commercial, or Institutional Boilers promulgated in 40 CFR Part 63, Subparts A and JJJJJJ (boiler area source MACT). The ROP contains special conditions provided by the Facility in their application for applicable requirements from 40 CFR Part 63, Subparts A and JJJJJJ. The AQD is not delegated the regulatory authority for this area source MACT.

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 under 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.

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
EU-BOILER1	SC I.1	R 336.1401 (0.31 lb/MMBtu)	40 CFR 60.42c(d) (0.50 lb/MMBtu)	The boiler is subject to 40 CFR Part 60, Subpart Dc, which includes an emission limit for SO ₂ of 0.50 lb/MMbtu for this category of boiler. However, when the Facility permitted this boiler, they accepted a limit of 0.31 lb/MMBtu, which is, of course, a stricter limit.

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
EU-BLASTENC	Sand blasting enclosure located in the paint shop.	R 336.1212(4)(e)	R 336.1285(vi)(C)

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 the MDEQ, 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 Ms. Mary Douglas, Kalamazoo 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.

Purpose

A Staff Report dated December 4, 2017, was developed in order to set forth the applicable requirements and factual basis for the Draft 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:	Jon Harner, Nuclear Environmental Manager 269-465-5901
AQD Contact:	Matt Deskins, Environmental Quality Analyst 269-567-3542

Summary of Pertinent Comments

The AQD received comments during the 30-day public comment period from the USEPA, the Facility, and a citizen. The comments from the citizen were mainly related to things that the AQD does not have regulatory authority of, and did not pertain directly to the equipment or conditions contained in the ROP. Therefore, those comments will not be included here. The AQD did address their comments, however, and referred them to the appropriate regulatory authority for further information. The following will list the comments made by the USEPA and the Facility followed by the changes made to the ROP.

USEPA COMMENT 1: EU-BOILER1, Page 16: SC I.6 lists 40 CFR § 60.43c as an underlying applicable requirement. Please verify the applicability of the opacity limit contained in 40 CFR § 60.43c.

MDEQ Changes Made: The reference to 40 CFR 60.43c was removed since it is not applicable.

USEPA COMMENT 2: EU-BOILER1, Page 16: The SO₂ and NO_x ton per year limits in SC I.2 and I.4 reference SC VI.5 as the monitoring/testing method. SC VI.5, however, requires the recordkeeping for Arsenic, Cadmium, and Chromium concentrations in the blended fuel oil tanks. Please review the testing/monitoring method for SC I.2 and I.4 and revise as appropriate. Note that SC VI.4 requires 12-month rolling emissions calculations.

MDEQ Changes Made: The monitoring/testing method for SC I.2 and I.4 was changed from SC VI.5 to SC VI.4.

USEPA COMMENT 3: EU-BOILER1, Page 17: SC V.2 references the blend limits specified in SC II.6, a condition that is not contained in the Draft permit. Please review this reference and revise accordingly.

MDEQ Changes Made: The Table referenced in SC V.2 was changed to reflect SC II.5; not SC II.6.

AEP Cook Nuclear Comment 1: Flexible Group EMERDIESELS, Section III, Condition 1 (Page 20).

After reviewing the MACT ZZZZ rule language and this language, we believe that the language in Condition III.1 in this Section should be better aligned with the language under FG-MACTZZZZ III.1(a)(i) to eliminate the potential issues that the slightly different language potentially brings. To accomplish the alignment, we recommend the following language change to Condition III.1, under FG-EMERGIESELS:

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Applicant shall not operate the emergency generators in FG-EMERDIESELS when electric power is available, except during periods of maintenance checks, operator training, and readiness testing under the plant Technical Specifications and/or NRC requirements.

MDEQ Changes Made: The above language was added to the condition for consistency with the requirements of the MACT ZZZZ.

AEP Cook Nuclear Comment 2: EU-BOILER1, Section V, Condition 2 (Page 17).

In reviewing this condition, we note that it references SC II.6 as it relates to contaminant concentrations in specification recycled used oil (RUO) that may be combusted in the boiler. In reviewing Section II under EU-Boiler, we cannot find a Condition 6 in this Section of the Permit. In looking at Section II under EU-Boiler and the context of the SC V.2, we believe that the reference in SC V.2 should be to SC II.5 under EU-Boiler. Based on our assumption of the intended meaning, we recommend the following change to SC V.2:

2. The permittee shall sample blended fuel oil after each addition of the specification RUO to the blend tanks. Sampling of the blended fuel oil shall not be required if the sampling results of the specification RUO are below the blend limits specified in SC II.5.² **(R336.1205, R336.1225)**

MDEQ Changes Made: This comment was also made by the USEPA and was addressed above under the USEPA Comments.

Changes to the December 4, 2017 Draft ROP

See changes that were made above following the comments made by the USEPA and the Facility.