



State Registration Number

B2796

Michigan Department of Environmental Quality
Air Quality Division

**RENEWABLE OPERATING PERMIT
STAFF REPORT**

ROP Number

MI-ROP-B2796-2009a

DETROIT EDISON COMPANY
ST. CLAIR/BELLE RIVER POWER PLANT

SRN: B2796

Located at

4901 Pointe Drive , Saint Clair, Michigan 48054

| | |
|--------------------|-------------------------------|
| Permit Number: | MI-ROP-B2796-2009 |
| Staff Report Date: | September 29, 2008 |
| Amended Date: | April 7, 2009, March 14, 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 29, 2008 STAFF REPORT | 3 |
| April 7, 2009 STAFF REPORT ADDENDUM | 10 |
| March 1, 2010 STAFF REPORT FOR RULE 217(2) REOPENING | 17 |
| January 25, 2011 STAFF REPORT ADDENDUM FOR RULE 217(2) REOPENING | 19 |
| March 14, 2011 STAFF REPORT ADDENDUM FOR RULE 217(2) REOPENING | 20 |



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September 29, 2008 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 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: | Detroit Edison St. Clair/Belle River Power Plant 4901 Pointe Drive St. Clair, Michigan 48054 |
| Source Registration Number (SRN): | B2796 |
| Standard Industrial Classification (SIC) Code: | 4911 |
| Number of Stationary Source Sections: | 5 |
| Is Application for a Renewal or Initial Issuance? | Renewal |
| Application Number: | 200400129 |
| Responsible Officials: | 1. Mr. Stephen J. Booker, Plant Manager Section 1, St. Clair Power Plant (810) 326-6201 2 & 4. Mr. Thomas J. Tanciar, Plant Manager Section 2, St. Clair Peaking Units and Section 4, Belle River Peaking Units (313) 897-1065 3. Mr. John C. Dau, Plant Manager Section 3, Belle River Power Plant (810) 326-3199 5. Mr. Steve Sorrentino, Director of Assets Section 5, DTE Energy Services Peaking Units (734) 302-4800 |
| AQD Contact: | Francisco S. Lim, Environmental Engineer (586) 753-3742 |
| Date Permit Application Submitted: | June 30, 2004 |
| Date Application Was Administratively Complete: | July 15, 2004 |
| Is Application Shield In Effect? | Yes |
| Date Public Comment Begins: | September 29, 2008 |
| Deadline for Public Comment: | October 29, 2008 |

Source Description

This Detroit Edison Company electric generating facility is composed of the St. Clair Power Plant located at 4901 Pointe Drive, East China, and Belle River Power Plant located at 4505 King Road, China Township, St. Clair County. Included in this electric generating facility are the St. Clair Peaking Units, Belle River Peaking Units, and the DTE East China Peaking Units. St. Clair Power Plant has been in operation since the mid-1950's while Belle River Power Plant has been operational since 1984. The power plants, including the peaking units are considered a single stationary source based on the definition in Michigan's Rule 119(q).

The St. Clair Power Plant, identified in Section 1 of the ROP, has six operating electric generating units with a total maximum gross design generating output of 1,375 megawatt (MW). Unit No. 5 was decommissioned and has been in extended cold standby since February 1980. The Belle River Power Plant, Section 3, has two operating electric generating units, each with a maximum gross design generating output of 697 MW. Pulverized coal is the primary fuel for all boilers in both plants, except for the boiler of St. Clair Unit No. 5, which is permitted for fuel oil only. The St. Clair boilers can also be fired with fuel oil no. 6, fuel oil no. 2, and off-specification recycled used oil.

The St. Clair Peaking Units, identified in Section 2 of the ROP, consist of a 23 MW combustion turbine electric generator and (2) 2.75 MW each diesel electric generators; the Belle River Peaking Units, Section 4, consist of (5) 2.5 MW each diesel electric generators and (3) 82.4 MW each combustion turbine electric generators; and the DTE East China Peaking Units, Section 5, consist of (4) 82.4 MW each combustion turbine electric generators.

Particulate emissions from the power plants are controlled through the use of electrostatic precipitators and baghouses. Nitrogen oxides are controlled by installing low-NOx burners in the boilers and combustion turbines. The power plants installed Continuous Emissions Monitoring Systems to measure gas flow, sulfur dioxide, carbon dioxide, nitrogen oxides and opacity.

Other emission sources at the power plants include auxilliary boilers, flyash handling systems, coal handling systems, a railcar coal dumping facility, and cold parts cleaners.

The following table lists stationary source emission information as reported in Michigan Air Emissions Reporting System for 2006 submittal.

TOTAL STATIONARY SOURCE EMISSIONS

| Pollutant | Tons per Year |
|------------------------------------|----------------------|
| Carbon Monoxide (CO) | 2241 |
| Lead (Pb) | 0 |
| Nitrogen Oxides (NO _x) | 1788 |
| Particulate Matter (PM) | 117 |
| Sulfur Dioxide (SO ₂) | 57610 |
| Volatile Organic Compounds (VOCs) | 265 |
| | |
| | |
| | |

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 initial renewable operating permit was issued on January 7, 2002. Since then, the ROP has undergone several amendments. The initial ROP's expiration date was January 1, 2005, to coincide with the expiration of the Acid Rain Permits for this source. An administratively complete renewal application was received June 2004, successfully extending the permit shield until the ROP is renewed.

This Detroit Edison Company stationary source is engaged in the generation of electricity for sale. It is located in St. Clair County, which is currently designated as basic non-attainment for 8-hour ozone (Subpart 2/Marginal) and PM-2.5, and in attainment with the remaining criteria pollutants (coarse PM, carbon monoxide, lead, nitrogen oxide, and sulfur dioxide).

As of June 15, 2004, St. Clair County has been designated by the U.S. Environmental Protection Agency (USEPA) as a basic non-attainment area with respect to the 8-hour ozone standard.

The stationary source is subject to Title 40 of the Code of Federal Regulations, Part 70, because the potential to emit criteria pollutants 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 federal 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.

The stationary source is subject to Prevention of Significant Deterioration of Title 40 of the Code of Federal Regulations, Part 52.21, regulations because its potential to emit of criteria pollutants is greater than 250 tons per year.

The stationary source has emission units in Section 3 that are subject to the New Source Performance Standards for Fossil-fueled-fired Steam Generators promulgated in Title 40 of the Code of Federal Regulations, Part 60, Subparts A and D.

The stationary source has emission units in Sections 4 and 5 that are subject to the New Source Performance Standards for Stationary Gas Turbines promulgated in Title 40 of the Code of Federal Regulations, Part 60, Subparts A and GG.

The stationary source has emission units in Section 3 that are subject to the Maximum Achievable Control Technology Standards for Industrial, Commercial, and Institutional Boilers and Process Heaters promulgated in Title 40 of the Code of Federal Regulations, Part 63, Subparts A and DDDDD.

The stationary source has emission units in Sections 1, 3, 4, and 5 that are subject to the federal Acid Rain program promulgated in Title 40 of the Code of Federal Regulations, Part 72.

The stationary source has emission units in Sections 1, 3, 4, and 5 that are subject to the NO_x Budget Trading program pursuant to Rules 802 through 816.

The stationary source is subject to R 336.1220 for Major Offset Sources.

Boiler Nos. 1 to 4 at the St. Clair Power Plant were installed prior to August 15, 1967. As a result, the boilers are considered "grandfathered" with regards to using off-specification used oil and are not subject to New Source Review (NSR) permitting requirements. However, future modifications of this equipment may be subject to NSR permitting requirements.

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 subject to the federal Compliance Assurance Monitoring (CAM) rule under Title 40 of the Code of Federal Regulations, Part 64, because boilers at the St. Clair Power Plant and Belle River Power Plant have both a control device and potential pre-control emissions of particulate greater than the major source threshold level. In addition, post-control emissions of particulate from the boilers are over the major source threshold level. CAM requirements are included in Sections 1 and 3 of the ROP.

Please refer to Parts B, C and D in the enclosed 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. PTIs that are being incorporated through this current permit action into the Source-wide PTI are listed in Appendix 6 of the permit.

The following table lists all individual PTIs that were incorporated into previous ROP/Source-wide PTIs and subsequently voided.

| PTI Number | | | | |
|------------|--------|-----------|-----------|-----------|
| Section 1 | | Section 3 | Section 4 | Section 5 |
| 21-69A | 56-89 | 412-76 | 483-79 | 116-01 |
| 322-72 | 383-99 | 412-76A | 331-98B | |
| 418-74 | 390-99 | 261-01 | | |
| 7-75 | 379-00 | | | |
| 523-81 | | | | |

Equivalent Requirements

This permit includes equivalent requirements or significant changes pursuant to Rule 212(5). Equivalent requirements are enforceable applicable requirements that are equivalent to the applicable requirements contained in the original New Source Review permit, a Consent Order/Judgment, and/or the State Implementation Plan.

The following PTI applicable requirements were replaced by equivalent requirements in the ROP:

Section 4

1. The permittee shall monitor the sulfur content in the fuel in accordance with 40 CFR 60.334(h)(3). (40 CFR 60.334)

2. Verification of CO emission rates from each turbine by testing, at owner's expense, in accordance with Department requirements will be required. Testing must be done for each turbine at 70%, and 100% of base load. (R336.2001, R336.2003, R336.2004)
3. The permittee must complete the CO test once every 3,000 hours of operation per turbine during the first five years of operation or at the five-year anniversary date, whichever comes first, and once every five years thereafter. (R336.2001, R336.2003, R336.2004)

Section 5

1. The permittee shall monitor the sulfur content in the fuel in accordance with 40 CFR 60.334(h)(3). (40 CFR 60.334)
2. The permittee shall test NOx once every 3000 hours of operation per turbine during the first five years of operation, or at the anniversary mark, whichever comes first, and once every five years thereafter. (40 CFR 60.8 & 60.335)
3. The permittee shall test CO once every 3000 hours of operation per turbine during the first five years of operation, or at the anniversary mark, whichever comes first, and once every five years thereafter. (R336.2001, R336.2003, R336.2004)
4. The permittee shall monitor the sulfur content in the fuel in accordance with 40 CFR 60.335(e), or as described in the Custom Fuel Monitoring Plan. (40 CFR 60.334 & 60.335)

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).

The following were not proposed as applicable requirements in the ROP application, but are listed for clarification:

1. The gasoline storage tanks located at the St. Clair and Belle River Power Plants are not subject to R336.1703 for dispensing facilities since the gasoline storage tanks are located in St. Clair County, which is not included in Table 61 of Part 6 of the Michigan Administrative Rules.
2. Visible emissions observations do not have to be conducted using USEPA Method 9, unless specified.

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.

Sections 1 & 2:

| Applicant's (Operator's) Device ID | Applicant's Description of Process | RO Permit Exemption Rule | NSR Permit Exemption Rule |
|---|---|--------------------------|---------------------------|
| DV001-416 | Gasoline Storage Tank, 10,000 gallons | R336.1212(4)(c) | R336.1284(g)(i) |
| DV003-016, DV003-019, DV003-022, DV003-024, DV003-026, DV003-028, | Pipe shop gas heaters with heat input rating of 130,000 BTU/hr each. | R336.1212(4)(b) | R336.1282(b)(i) |
| DV012-021, DV012-022, DV012-025, DV012-026, | Gas heaters no. 1 screen house with heat input rating of 220,000 BTU/hr each. | R336.1212(4)(b) | R336.1282(b)(i) |
| DV012-033 | Dayton Gas heater in No. 1 screenhouse with heat input rating of 220,000 BTU/hr | R336.1212(4)(b) | R336.1282(b)(i) |
| DV013-009, DV013-011, DV013-012, DV013-013, DV013-014, | Gas heaters no. 2 screen house with heat input rating of 230,000 BTU/ hr each except DV013-013 at 300,000 BTU/hr. | R336.1212(4)(b) | R336.1282(b)(i) |
| DV018-004 | (2) Clubhouse heaters with heat input rating of 230,000 BTU/hr. | R336.1212(4)(b) | R336.1282(b)(i) |
| DV014-001, DV014-002, DV014-004, DV014-007, | Gas heaters no. 3 screen house with heat input rating of 175,000 BTU/hr each. | R336.1212(4)(b) | R336.1282(b)(i) |
| DV016-008 | Two (2) Gas heaters for old construction building with heat input rating of 200,000 BTU/hr each and | R336.1212(4)(b) | R336.1282(b)(i) |
| DV016-010 | Gas heater for Gym (in old construction bldg), heat input rating of 130,000 BTU/hr | R336.1212(4)(b) | R336.1282(b)(i) |
| DV022-119 | Hastings gas heater in TH1, heat input of 1,125,000 BTU/hr | R336.1212(4)(b) | R336.1282(b)(i) |
| DV022-157 | #2 Oil-fired, Heating boiler for W. Tractor House with heat input rating of 621,000 BTU/hr | R336.1212(4)(b) | R336.1282(b)(ii) |
| DV022-184, DV022-219, | Two (2) Hastings heaters: 3TH5 & 3TH6 with heat input rating of 5,625,000 BTU/hr each. | R336.1212(4)(b) | R336.1282(b)(i) |
| DV001-427* | Diesel generator rated at 180,000 BTU/hr | R336.1212(4)(d) | R336.1285(g) |

* There is one diesel generator with maximum rated design capacity of 180,000 BTU / hour designated as DV001-427. This diesel generator is only capable of using No. 2 fuel oil. Since the specification for diesel fuel is less than 0.5% sulfur, its SO2 emissions are limited to less than 50% of the emission limits listed in Rule 402.

| Exempt Emission Unit ID | Description of Exempt Emission Unit | ROP Exemption | NSR Permit Exemption |
|----------------------------------|--|-----------------|----------------------|
| EU-WhseB-htr | Natural gas heater for Warehouse B, with heat rating of 5,000,000 Btu/hr | R336.1212(4)(b) | R336.1282(b)(i) |
| DV-510-107 | 4,000 gallon gasoline storage tank | R336.1212(4)(c) | R336.1284(g)(i) |
| DV505-009, DV505-067, DV505-082, | Hastings natural gas heater for 3TH8, 3TH7 and 3TH9 with heat input rating of 5,625,000 BTU/hr each. | R336.1212(4)(b) | R336.1282(b)(i) |

Section 5: none

Draft ROP Terms/Conditions Not Agreed to by Applicant

The following are terms and/or conditions of the draft ROP that the AQD and the applicant did not agree upon and outlines the applicant's objections pursuant to Rule 214(2). If the applicant and the AQD cannot agree upon the terms and conditions of the draft ROP, the terms and conditions that the AQD believes are necessary to comply with the requirements of Rule 213 shall be incorporated into the ROP.

Flexible Groups: FG-BLR_GEN-SC and FG-BOILERS-BR

Applicable Requirements in dispute: CAM excursion monitoring specified in Section VI.7, FG-BLR_GEN-SC and Section VI.11, FG-BOILERS-BR

Applicant's Objection: The CAM excursion definition should exclude data collected during boiler startup and shutdown. DTE Energy contends that while COMS monitoring is appropriate, the requirement does not equate to attributing all monitored data toward determining a CAM excursion because the PM testing per 40 CFR 60, cannot be done during SU/SD periods; therefore, there is no correlation between opacity and the PM standard during startup/shutdown conditions (and a correlation can't be extrapolated).

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 Ms. 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.



Michigan Department of Environmental Quality
Air Quality Division

State Registration Number

RENEWABLE OPERATING PERMIT

ROP Number

B2796

April 7, 2009 STAFF REPORT ADDENDUM

MI-ROP-B2796-2009

Purpose

A Staff Report dated September 29, 2008, 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 Officials: | <ol style="list-style-type: none"> 1. Mr. Stephen J. Booker, Plant Manager Section 1, St. Clair Power Plant (810) 326-6201 2 & 4. Mr. Thomas J. Tanciar, Plant Manager Section 2, St. Clair Peaking Units and Section 4, Belle River Peaking Units (313) 897-1065 3. Mr. John C. Dau, Plant Manager Section 3, Belle River Power Plant (810) 326-3199 5. Mr. Steve Sorrentino, Director of Assets Section 5, DTE Energy Services Peaking Units (734) 302-4800 |
| AQD Contact: | Francisco S. Lim, Environmental Engineer (586) 753-3742 |

Summary of Pertinent Comments

One comment was received from the general public regarding the non inclusion of the applicable requirements of the New Source Performance Standards (NSPS), 40 CFR 60 Subpart Y, Coal Preparation Plants. In the ROP, installation date of the Belle River Coal Handling equipment is listed as October 17, 1978. Promulgation date of Subpart Y is October 1974.

Response: Detroit Edison provided supporting documentation that indicates the physical construction of the Belle River Power Plant Coal Handling System started on or about January 13, 1974. This start date predates the NSPS. However, Detroit Edison acknowledged that with the proposed modification to the Coal Handling System to allow the usage of a new Chem Mod sorbents as coal fuel additive, NSPS Subpart Y would be triggered and an initial notification will be submitted. During the modification, pugmills and additional conveyors will be installed. The Chem Mod sorbents are expected to reduce mercury, NOx, and SO₂ emissions.

A summary of Detroit Edison's comments to the draft ROP and AQD response follows below:

1. Detroit Edison proposed modified language for Appendix 7, Section 4, FG-CTG-BP and Section 5, FG-CTG-DP. The proposed language clarifies compliance methods for CO, NOx and PM-10 emissions limits.

Response: AQD agreed and made the changes as requested.

2. Detroit Edison proposed changes to the description of St. Clair Boiler No. 6, as described in Section 1, FG-BLR_GEN-SC to indicate that natural gas can be used as secondary fuel.

Response: AQD agreed and made the change as requested.

3. Detroit Edison asserts that Title I (Air Pollution Prevention and Control) of the Clean Air Act, Section 114(a) reference to Section 1, FG-BLR_GEN-SC, VII.4.c and Section 3, FG-BOILERS-BR, VII.4.c does not apply and has been a typo carried over from the original ROP.

Response: The reference actually applies to condition VII.4, not just VII.4.c. Title I (Air Pollution Prevention and Control), of the Clean Air Act, Section 114(a), Inspections, Monitoring and Entry, includes regulations pertaining to installing, using, and maintaining emissions monitoring equipment. Therefore it is an appropriate reference to the permit requirements for the COMS. Additionally, Section 114(a) is also a mechanism by which EPA requests facilities to provide reasonably required data. The reference was retained in the permit conditions.

4. For Section 3, Detroit Edison stated that the facility has not requested to incorporate permit conditions of PTI No. 164-08 for the installation of lo-NOx burners at Belle River Power Plant Boiler No. 1. Detroit Edison requested to remove permit conditions of PTI 164-08 pertaining to the lo-Nox burner installation at Belle River Boiler No. 1 which were incorporated into the ROP.

Response: AQD agreed with Detroit Edison and removed the requested ROP conditions. Rule 216(1)(a)(v) allows Detroit Edison to postpone the incorporation of the pertinent PTI conditions into the ROP. The PTI conditions will be incorporated when Detroit Edison requests an ROP administrative amendment.

5. For Section 1, FG-BLR_GEN-SC and Section 3, FG-BOILERS-BR, Detroit Edison submitted comments regarding several "Draft ROP Terms/Conditions not Agreed to by Applicant"

Response: Detroit Edison's comments and AQD's response is discussed in the following section, **Draft ROP Terms/Conditions not Agreed to by Applicant.**

6. Detroit Edison requested that additional language regarding exempt devices and equipment be added to the staff report to assure that exemptions allowed in the Administrative Rules are applied to St. Clair/Belle River Power Plant.

Response: The exemptions are described in the succeeding section, **Additional Language Describing Exempt Equipment at St. Clair/Belle River Power Plant.**

Draft ROP Terms/Conditions not Agreed to by Applicant.

The following lists terms and/or conditions of the draft ROP that the AQD and the applicant did not agree upon and outlines the applicant's objections pursuant to Rule 214(2). If the applicant and the AQD cannot agree upon the terms and conditions of the draft ROP, the terms and conditions that the AQD believes are necessary to comply with the requirements of Rule 213 shall be incorporated into the ROP. Note that item 1 has already been described in the September 29, 2008 Staff Report.

1. *Emission Unit/Flexible Group ID:* Section 1, FG-BLR_GEN-SC; Section 3, FG-BOILERS-BR

Applicable Requirement in Dispute: CAM indicator range in conditions VI.7 and VI.11, respectively, of the above flexible groups.

Applicant's Objection:

Detroit Edison agrees that COMS monitoring needs to be conducted during all periods of unit operation, except for QA/QC activities. However, the company disputes the contention that conducting required monitoring equates to assessing all monitored data toward determining if a CAM excursion occurred. The company contends that establishing a CAM indicator range that includes monitored data collected during start-up and shutdown periods of the boilers is NOT required or appropriate. Rather, Detroit Edison contends that including SU/SD conditions is not appropriate or feasible and that the start-up / shutdown / malfunction plan be should be used to ascertain compliance during those periods.

Company provides the following support for its position:

The Federal Register (FR), page 54919, 3rd column, section "c," 1st paragraph, 2nd sentence regarding indicator ranges provides: *"These ranges must be established at a level where the monitoring can assess whether there is a reasonable assurance of compliance (emphasis added) with applicable requirements."* Therefore, the requirement to monitor need not equate to attributing all monitored data toward determining if a CAM excursion occurred. In addition, FR 64.3(a)(2), pg 54942, provides *"The owner or operator shall establish an appropriate range(s) or designated condition(s) for the selected indicator(s), such that operation within the ranges provides a reasonable assurance of ongoing compliance with emission limitations or standards for the anticipated range of operating conditions."*

EPA assumes the indicator range is established based on stack testing. Per the FR, page 54918, C.1.a, 2nd sentence: *"A basic assumption of EPA air pollution control rulemaking, at least under technology-based programs such as the NSPS program, is that an emission limit should be established at a point where a well operated and maintained source can achieve the limit under all expected operating conditions using control equipment that has been shown through a performance test (emphasis added) to be capable of achieving the emission limit."* Also in EPA's Presumptive CAM, the indicator range is modeled during normal operating range of boilers. Start-up and Shutdown conditions are not modeled.

Detroit Edison developed the indicator range by monitoring opacity data during PM tests done during normal boiler loads. The NSPS rule establishing compliance with the PM limits, 40CFR60, specifies that stack testing cannot be done during SU/SD periods, since they are not representative of the unit's emissions. The reference method cannot be run properly during start-up and shutdown, as isokinetic sampling conditions can't be achieved as required by the method. Errors associated with such testing would be high - on the order of plus or minus 150%. The test method references maximum routine operating conditions, which would not include start-up and shutdown for these emission units. Our limit is a mass emission limit and should not be applied during start-up and shutdown conditions. Detroit Edison has indicated that it will adopt a start-up/shutdown program to ensure proper operation of the control equipment during such periods.

Further, those correlations between opacity and PM can't be extrapolated to startup / shutdown conditions. A perfect example is during startup, the ESP is not up to normal operating temperature or best efficiency during unit warm up. There is no maintenance that can be performed on the ESP to react to these potential excursions.

As a final point, the company contends that the MDEQ's CAM rule interpretation to include data collected during SU/SD in the CAM indicator range seems in conflict with the enforcement discretion provisions regarding SU/SD conditions provided by Rule 336.1915. Per the FR, page 54945, 64.7(d)(1), the second sentence acknowledges that responses to

excursions or exceedances are not needed in case of "excused SU or SD conditions: *"The response shall include . . . (other than those caused by excused startup or shutdown conditions)."*

Belle River Power Plant has further reason not to be affected during SU/SD operations. Specifically, BRPP is an NSPS subjected facility. As such, 40 CFR 60.8(c) discusses that the emission limits (in this case PM) shall not be considered a violation of the applicable emission limit. So, there is no requirement to create a CAM indicator during Startup, Shutdown or malfunction, because there is in fact, no emission limits during those periods as stated in 40 CFR 60.8(c), quoted as follows:

"40CFR 60.8 (c) Performance tests shall be conducted under such conditions as the Administrator shall specify to the plant operator based on representative performance of the affected facility. The owner or operator shall make available to the Administrator such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard."

So, Detroit Edison requests modifying VI.7 and VI.11 to the following:

*"The permittee shall utilize COMS-recorded opacity as an indicator of the emission unit's compliance with the particulate matter emission limit. An excursion of the PM emission limit shall be defined as 2 consecutive 1-hour block average opacity values greater than 20%, **except during periods of startup, shutdown or malfunction.** This condition does not affect compliance with R 336.1301."*

AQD Response: The CAM Rule requires that monitoring be operated at all times except for monitoring malfunctions, associated repairs and required QA/QC activities. In 40 CFR 64.9(a)(2)(i), it states, in part: "A report for monitoring under this part shall include, at a minimum, the information required under 70.6(a)(3)(iii) and the following information Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken". Excursions (departures from established indicator range) or exceedances (emissions greater than the standard) are to be submitted to the permitting authority.

AQD agrees that performance stack testing cannot be done during startup/shutdown periods since these are not representative of the unit's emissions. Furthermore, the PM reference method cannot be run properly during SU/SD conditions. AQD agrees that a correlation between opacity and PM can't be extrapolated to SU/SD conditions. However, since Detroit Edison did not propose a separate indicator range during SU/SD conditions, AQD accepts that the correlation established by Detroit Edison in the CAM Plan is valid for all operating ranges, including startup/shutdown. Therefore, whenever excursions of the proposed indicator range occur, appropriate action should be taken. Detroit Edison may submit another acceptable CAM Plan that includes different indicators and indicator ranges during startup/shutdown.

AQD does not agree that its CAM rule interpretation to include data collected during startup/shutdown in the CAM indicator range seems to be in conflict with the enforcement discretion provisions regarding SU/SD conditions provided by Rule 336.1915. Although the Rule provides enforcement discretion in instances of excess emissions resulting from SU/SD conditions, the Rule also states that the amount and duration of excess emissions should have been minimized to the maximum extent practicable during periods of the emissions. This is consistent with the intent of the CAM Rule to return operations within the established ranges as expeditiously as possible.

Detroit Edison pointed out that per the Federal Register, page 54945, 64.7(d)(1), the second sentence acknowledges that responses to excursions or exceedances are not needed in case of "excused SU or SD conditions". This is not relevant to the CAM requirement of 40 CFR 64.9(a)(2)(i), since startup/shutdown conditions are generally not "excused startup/shutdown conditions".

AQD agrees with Detroit Edison that under 40 CFR 60.8(c), an exceedance of the PM emission limits shall not be considered a violation of the applicable emission limit during periods of startup/shutdown/malfunction. **NOTE:** 40 CFR 60.11(d) obligations do apply during periods of SSM - maintain and operate affected facility in a manner consistent with good air pollution practice for minimizing emissions.

Therefore, the AQD will retain the St. Clair Power Plant ROP CAM condition, as written.

AQD however, will modify the Belle River Power Plant ROP CAM condition, as proposed by Detroit Edison. An ROP condition pertaining to a startup/shutdown and malfunction abatement plan for Boiler No. 1 and No. 2 will be added.

2. *Emission Unit/Flexible Group ID:* Section 1, FG-BLR_GEN-SC; Section 3, FG-BOILERS-BR

Applicable Requirement in Dispute: CO Minimization monitoring requirements as stated in conditions III.2/VI.6 and III.2/VI.10, respectively, of the above flexible groups.

Applicant's Objection:

The company asserts that conditions suggesting the longevity of the CO Minimization plans/protocols exceed the earlier understanding of the original PTI's proposing them. The CO minimization plans themselves were not conceived like a Malfunction Abatement Plan or Fugitive Dust Control Plan as ongoing, living documents. The original CO minimization plan illustrated its term to be a one-year plan, after which a CO emission summary report was filed to fulfill the plan's completion. Therefore, it's the company's contention that the initial conditions from the PTI's sunset after the first year of Lo-N0x burner operations. The Company agrees with conditions to currently maintain monthly and previous 12-month CO calculation records.

The reasoning for the company's contention arises from the original concept behind CO minimization plans developed between Dave Ferrier of MDEQ and Detroit Edison, which was to document that CO emissions were reviewed per BACT requirements. Recall that Low-N0x burners were a pollution prevention project to lower N0x emissions. Thermodynamics dictate that some slight increase in CO occurs with N0x reduction. Since the level of CO increase exceeded the definition of significant increase, INITIALLY, the only requirement was to model ambient impacts, which demonstrated insignificant impacts & implement the one-year CO Minimization plan. Since there is no other pollution control equipment for CO, Best Available Control Technology was simply deemed to be "operating boilers in a satisfactory manner." To demonstrate this, the CO minimization plan was written and required a summary report one year later showing CO emissions to provide historical record that CO was low and then the plan was done.

Although the last PTI's were secured after the vacatur of the Pollution Control Exemption rules, the concept of the CO minimization plan can not be logically extended past the initial year since the plan does not offer any operating concepts besides "operating the boilers in a satisfactory manner." There are no benefits to referring to an arcane document.

AQD Response: AQD does not agree that the CO Minimization Plan is a one year term and sunsets after the first year of lo-Nox burner operations.

The pollution control project (PCP) exclusion was vacated in June 24, 2005. Therefore lo-NOX burner installation for St. Clair Boiler No. 1 and 2 is subject to PSD. Lo-nox burner installation for St. Clair Boiler No. 3, 4, 6, and 7 and Belle River Boiler No. 2 is a pollution control project.

With the significant increase in CO emissions due to the lo-NOx burner installation, BACT was proposed to consist of "operating boilers in a satisfactory manner" or "good combustion control/practices." To keep CO emissions low, Detroit Edison must continuously monitor operational parameters and continuously implement the activities in the CO Minimization Plan. To demonstrate that the activities are being implemented continuously and effectively, records must be kept. The ROP should contain sufficient recordkeeping and monitoring to comply with ROP requirements. Therefore, the permit conditions as written in the draft ROP will be retained.

Additional Language Describing Exempt Equipment at St. Clair/Belle River Power Plant

Detroit Edison believes the following additional language needs to be added to the Staff Report to assure exemptions allowed in the Michigan rules are applied to the facility. Facility operates exempt devices and conducts exempt activities pertaining to the following. These are in addition or redundant to the exemption described in pages 8 and 9 of this Staff Report.

1. Rule 282(b) for fuel burning space heaters, including Number 1, or 2 fuel oil, distillate oil, gaseous fuels in paragraph (i), or combinations which contains not more than 0.40% sulfur by weight and equipment rated not more than 20,000,000 BTU/hr.
2. Rule 280, including comfort air conditioning and ventilation systems;
3. Rule 281, including vacuum cleaning systems, portable steam cleaning equipment, blast cleaning / portable blast cleaning equipment, and washing / drying equipment (not using VOCs and no fuel burned);
4. Rule 283, including laboratory, hydraulic/hydrostatic testing equipment and process sample valves;
5. Rule 284, including containers for storage and surge capacity of lubricating, hydraulic, and thermal oils and indirect fluids; storage of ASTM-D-96 specified No. 1 to No. 6 fuel oils; storage of inorganic salt water solutions, bases and certain acids;
6. Rule 285, including routine maintenance as specified under paragraph (a) – such as replacing baghouse bags; ESP wires, plates, rappers, controls, circuitry (doesn't decrease design efficiency); boiler tubes; or maintenance to clean boiler tubes; process or process equipment changes as specified under paragraph (b) – such as raw material formulation, method of raw material addition, equal or more thermally efficient fuel burner replacement; process or process equipment changes as specified under paragraph (c) – such as fuel suppliers, storage location, equal or more efficient like-kind replacement / reconstruction of air pollution control devices, air pollution control for NESHAP compliance, air pollution control to existing process; lagoons and certain wastewater treatment processes; appropriate soil and fuel spill remediation processes; asbestos removal / stripping; boiler tube & related steam components cleaning and combustion of non-RCRA hazardous boiler cleaning solution; landfill equipment; open burning; fire extinguisher filling, testing, spraying, and repairing; hand-held aerosol spray can use;
7. Rule 288, for oil and gas processing equipment, including gas odorizing, glycol dehydrator, and sweet gas flare.

Furthermore, Rule 212 (2) lists the following activities as insignificant activities at a stationary source under Part 2 of the Michigan Air Rules as amended 7/1/2003. These devices and activities at the power plants include:

1. Rule 212 (2)(i) - fire protection equipment, fire fighting and training in preparation for fires;
2. Rule 212 (2)(j) – use, servicing, and maintenance of motor vehicles;

3. Rule 212 (2)(k) – construction, repair, and maintenance of roads;
4. Rule 212 (2)(l) - venting from pressure relief valves and purging of natural gas lines.

Changes to the September 29, 2008 Draft ROP

The following changes were made to the September 29, 2008 Draft Renewable Operating Permit:

1. The installation date of the Belle River Coal Handling equipment as written in Section 3, Emission Unit Summary Table C-3, was changed to January 13, 1974.
2. Appendix 7 for Section 4, FG-CTG-BP and Section 5, FG-CTG-DP were modified to clarify compliance methods with the CO, NOx, and PM-10 limits.
3. The description for St. Clair Boiler No. 6, Section 1, FG-BLR_GEN-SC was modified. "Natural gas as secondary fuel" was added to the description.
4. ROP conditions for Section 3, FG-BOILERS-BR, III.2, IV.4, V.2, V.3, VI.6 thru 9, and a portion of VI.10 related to Belle River Power Plant Boiler No. 1 were removed. The reference to lo-NOx burners for Boiler No. 1 was also removed in Table C-3 and FG-BOILERS-BR. These conditions will be included when Detroit Edison requests for an ROP Administrative Amendment for the installation of the lo-NOx burners, as permitted in PTI-164-08.
5. ROP condition No. VI.7 for Section 3, FG-BOILERS-BR was modified to "The permittee shall utilize COMS-recorded opacity as an indicator of the emission unit's compliance with the particulate matter emission limit. An excursion of the PM emission limit is defined as two consecutive 1-hour block average opacity values greater than 20%, except during periods of startup, shutdown, or malfunction. This condition does not affect compliance with R336.1301."
6. ROP condition No. IX.8 for Section 3, FG-BOILERS-BR, was added: "Within 45 days of issuance of this ROP, permittee shall submit for approval of the AQD District Supervisor, the startup/shutdown and malfunction abatement plan (Plan) for Boiler No. 1 and No. 2. The permittee shall maintain and implement the approved startup/shutdown and malfunction abatement plan (Plan) for Boiler No. 1 and No. 2. If the Plan inadequately addresses an event, permittee shall revise the Plan within 45 days of such an event and submit the revised Plan for approval of the AQD District Supervisor."

Prepared by Francisco S. Lim, Environmental Engineer

Michigan Department of Natural Resources & Environment
Air Quality Division

State Registration Number

RENEWABLE OPERATING PERMIT

ROP Number

B2796

MI-ROP-B2796-2009a

**March 1, 2010 STAFF REPORT FOR RULE
217(2) REOPENING**

Purpose

On April 7, 2009, the Department of Natural Resources and Environment, Air Quality Division (AQD), approved and issued Renewable Operating Permit (ROP) No. MI-ROP-B2796-2009 to Detroit Edison - St. Clair/Belle River Power Plant pursuant to R 336.1214. Once issued, the AQD is required to reopen the ROP as described in R 336.1217. The purpose of this Staff Report is to describe the changes that were made to the ROP pursuant to R 336.1217.

General Information

| | |
|------------------------------|---|
| Responsible Official: | <ol style="list-style-type: none"> 1. Mr. Stephen J. Booker, Plant Manager Section 1, St. Clair Power Plant (810) 326-6201 2 & 4. Mr. Thomas J. Tanciar, Plant Manager Section 2, St. Clair Peaking Units and Section 4, Belle River Peaking Units (313) 897-1065 3. Mr. John C. Dau, Plant Manager Section 3, Belle River Power Plant (810) 326-3199 5. Mr. Steve Sorrentino, Director of Assets Section 5, DTE Energy Services Peaking Units (734) 302-4800 |
| AQD Contact: | Brian Carley, Environmental Quality Specialist 517-780-7843 |
| Date Public Comment Begins: | March 1, 2010 |
| Deadline for Public Comment: | March 31, 2010 |

Regulatory Analysis

The AQD has determined that the ROP must be reopened because the Nitrogen Oxide (NOx) Budget Permit is to be removed and for the inclusion of the Clean Air Interstate Rule (CAIR) Annual Sulfur Dioxide Permits, CAIR Annual Nitrogen Oxide Budget Permits, and CAIR Ozone Nitrogen Oxide Budget Permits into the ROP.

These permits must be complete and separable portions of the ROP per the requirements of 40 CFR 96.120, 96.220, and 96.320 and R 336.1420(3) and R 336.1821(2).

Description of Changes to the ROP

The NOx Budget Permit and language relating to the NOx Budget Permit was removed from the ROP. The CAIR Annual Sulfur Dioxide Permits for their respective facilities were incorporated into the ROP as Appendix 10-SC, Appendix 10-BR, and Appendix 10-DP. The CAIR Annual Nitrogen Oxide Budget Permits for their respective facilities were incorporated into the ROP as Appendix 11-SC, Appendix 11-BR, and Appendix 11-DP. The CAIR Ozone Nitrogen Oxide Budget Permits for their respective facilities was incorporated into the ROP as Appendix 12-SC, Appendix 12-BR, and Appendix 12-DP. Appendices

10-BP, 11-BP, and 12-BP in Section 4 of this ROP has language referring to the appropriate permits in the appendices in Section 3. The requirements to comply with the CAIR Annual Sulfur Dioxide Budget Permit, CAIR Annual Nitrogen Oxide Budget Permit, and CAIR Ozone Nitrogen Oxide Budget Permit and the requirements to have the appropriate amount of allowances in their accounts were added to Section IX of Tables FG-BLR_GEN-SC, FG-BOILERS-BR, FG-CTG-BP, and FG-CTG-DP.

Action Taken by the Department

The AQD proposes to approve this change to ROP No. MI-ROP-B2796-2009, which was reopened by the AQD in order to incorporate CAIR Permits into the ROP per 40 CFR 96.120, 96.220, and 96.320 and R 336.1420(3) and 336.1821(2). A final decision on the approval of the revised ROP will not be made until the public and any affected states have had an opportunity to comment on the proposed changes to the ROP 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 Ms. Teresa Seidel, Southeast Michigan District Supervisor. The final determination for approval of the revised ROP will be based on a judgment that the stationary source will be able to comply with applicable emission limits and other requirements, and resolution of any objections by the public, any affected states or the USEPA.

Michigan Department of Natural Resources & Environment
Air Quality Division

State Registration Number

B2796

RENEWABLE OPERATING PERMIT

ROP Number

MI-ROP-B2796-2009a

**January 25, 2011 STAFF REPORT ADDENDUM
FOR RULE 217(2) REOPENING**

Purpose

A Staff Report dated March 1, 2010, was developed in order to set forth the applicable requirements and factual basis for the draft reopening to Renewable Operating Permit's (ROP) terms and conditions as required by R 336.1214(3). The purpose of this Staff Report Addendum is to summarize any significant comments received on the draft ROP reopening during the 30-day public and affected state(s) comment period as described in R 336.1214(3) and (4). In addition, this addendum describes any changes to the proposed ROP reopening resulting from these pertinent comments.

General Information

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|-----------------------|---|
| Responsible Official: | <ol style="list-style-type: none"> 1. Mr. Stephen J. Booker, Plant Manager Section 1, St. Clair Power Plant (810) 326-6201 2 & 4. Mr. Thomas J. Tanciar, Plant Manager Section 2, St. Clair Peaking Units and Section 4, Belle River Peaking Units (313) 897-1065 3. Mr. John C. Dau, Plant Manager Section 3, Belle River Power Plant (810) 326-3199 5. Mr. Steve Sorrentino, Director of Assets Section 5, DTE Energy Services Peaking Units (734) 302-4800 |
| AQD Contact: | Brian Carley, Environmental Quality Specialist 517-780-7843 |

Summary of Pertinent Comments

Comments were received on March 30, 2010 and January 10, 2011, but none were pertinent to the proposed changes of the ROP. In accordance with R 336.1217(2) "Any proceeding to reopen and issue a revised renewable operating permit shall affect only those parts of the permit for which cause to reopen exists." Also in accordance with 40 CFR §70.7(f)(2): "Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of the permit for which cause to reopen exists." As stated in the March 1, 2010 STAFF REPORT FOR RULE 217(2) REOPENING in the Section titled Action Taken by the Department: "...AQD proposes to approve this change to ROP No. MI-ROP-B2796-2009, which was reopened by the AQD in order to incorporate CAIR Permits into the ROP per 40 CFR §96.120, §96.220, and §96.320 and R 336.1420(3) and R 336.1821(2). A final decision on the approval of the revised ROP will not be made until the public and any affected states have had an opportunity to comment on the proposed changes to the ROP ...". None of the comments addressed the proposed inclusion of the CAIR permits into the ROP.

Changes to the March 1, 2010 Draft ROP Reopening

No changes were made to the ROP pursuant to R 336.1217(2)(b) as no comments were received concerning the incorporation of the CAIR permits into the ROP.

Michigan Department of Environmental Quality
Air Quality Division

State Registration Number
B2796

RENEWABLE OPERATING PERMIT

ROP Number
MI-ROP-B2796-2009a

**March 14, 2011 STAFF REPORT ADDENDUM
FOR RULE 217(2) REOPENING**

Purpose

A Staff Report dated January 25, 2011, was developed in order to set forth the applicable requirements and factual basis for a proposed reopening to Renewable Operating Permit's (ROP) terms and conditions as required by R 336.1214(3). The purpose of this Staff Report Addendum is to summarize any significant comments received on the proposed ROP reopening during the U.S. Environmental Protection Agency's (USEPA), 45-day comment period as described in R 336.1214(3). In addition, this addendum describes any changes to the proposed ROP reopening resulting from these pertinent comments.

General Information

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| Responsible Official: | <ol style="list-style-type: none"> 1. Mr. Stephen J. Booker, Plant Manager Section 1, St. Clair Power Plant (810) 326-6201 2 & 4. Mr. Thomas J. Tanciar, Plant Manager Section 2, St. Clair Peaking Units and Section 4, Belle River Peaking Units (313) 897-1065 3. Mr. John C. Dau, Plant Manager Section 3, Belle River Power Plant (810) 326-3199 5. Mr. Steve Sorrentino, Director of Assets Section 5, DTE Energy Services Peaking Units (734) 302-4800 |
| AQD Contact: | Brian Carley, Environmental Quality Specialist 517-780-7843 |

Summary of Pertinent Comments

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

Changes to the January 25, 2011 Proposed ROP Reopening

No changes were made to the proposed ROP reopening.