

October 26, 2020

Ms. Joyce Zhu
Warren District Office
EGLE AQD
27700 Donald Court
Warren, MI 48092-2793

DTE



Subject: SRN #B2796 ROP Renewal Application for
DTE Electric Company, MI-ROP-B2796-2015c
Rule 216(2) Minor Modification to Section 4, Belle River Peakers

Dear Ms. Zhu, Mr. Bob Elmouchi, Ms. Owens:

Enclosed are the Rule 215/216 Amendment/Modification Application Form (M-001) and signed Certification Form (C-001) for requested changes to the Renewable Operating Permits ("ROP"). DTE Electric submits this Rule 216(2) ROP modification application for the three combustion turbine generators at Belle River Power Plant. On April 21, 2020, Michigan Air Quality Division (AQD) approved PTI 331-98C to modify permit conditions accompanying the change from NOx parametric emissions monitoring (PEMS) to NOx CEMS.

Since this ROP is currently in the process of being renewed, DTE requests that Mr. Bob Elmouchi incorporate the PTI's requirements into the current draft ROP. A copy of this request package is also being submitted to Caryn Owens at the Cadillac office.

The enclosed Rule 216(2) ROP minor modification application only updates a portion of FG-CTG-BP of the ROP renewal application found in new Section 3-all peaking equipment. A mark-up of FG-CTG-BP section is enclosed as AI-001, showing the new PTI requirements incorporated into that same portion of the ROP renewal application.

If you have any questions, please call either Andrew Fadanelli at 313-235-6384 (ignatius.fadanelli@dteenergy.com) or Lisa Fishbeck 248-225-0481 (lisa.fishbeck@dteenergy.com).

Sincerely,

I Andrew Fadanelli /s/

I. Andrew Fadanelli, Principal Environmental Engineer
Environmental Management and Safety
DTE Energy

Enclosures

Cc: Robert Elmouchi, EGLE AQD, Warren District Office
Caryn Owen, EGLE-AQD, Cadillac District Office
Rahn Ledesma, DTE, Fossil Generation, Maintenance Manager – Peakers
Stefanie Ledesma, DTE, EM&R, Staff Environmental Engineer – Peakers
File in SharePoint



Michigan Department of Environment, Great Lakes, and Energy - Air Quality Division

RENEWABLE OPERATING PERMIT APPLICATION C-001: CERTIFICATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to provide this information may result in civil and/or criminal penalties. Please type or print clearly.


This form is completed and included as part of Renewable Operating Permit (ROP) initial and renewal applications, notifications of change, amendments, modifications, and additional information.

Form Type C-001	SRN B2796
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Stationary Source Name DTE Electric Company, St. Clair/Belle River Power Plant - Section 4 Belle River Peaking Plant	
City East China	County St. Clair

SUBMITTAL CERTIFICATION INFORMATION	
1. Type of Submittal <i>Check only one box.</i>	
<input type="checkbox"/> Initial Application (Rule 210)	<input checked="" type="checkbox"/> Notification / Administrative Amendment / Modification (Rules 215/216)
<input type="checkbox"/> Renewal (Rule 210)	<input type="checkbox"/> Other, describe on AI-001
2. If this ROP has more than one Section, list the Section(s) that this Certification applies to <u>Section 4</u>	
3. Submittal Media <input checked="" type="checkbox"/> E-mail <input type="checkbox"/> FTP <input type="checkbox"/> Disk <input checked="" type="checkbox"/> Paper	
4. Operator's Additional Information ID - Create an Additional Information (AI) ID that is used to provide supplemental information on AI-001 regarding a submittal. AI: EG-CTG-BP	

CONTACT INFORMATION	
Contact Name I Andrew Fadanelli	Title Principal Engineer
Phone number 313.235.6384	E-mail address Ignatius.fadanelli@dteenergy.com

This form must be signed and dated by a Responsible Official.				
Responsible Official Name Margaret Guillaumin			Title Plant Manager, Fossil Generation - Peakers	
Mailing address DTE Electric Company, 4695 West Jefferson Avenue				
City Trenton	State MI	ZIP Code 48183	County Wayne	Country USA
As a Responsible Official, I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this submittal are true, accurate and complete.				
 Signature of Responsible Official			10/22/2020 Date	



RENEWABLE OPERATING PERMIT
M-001: RULE 215 CHANGE NOTIFICATION
RULE 216 AMENDMENT/MODIFICATION APPLICATION

This information is required by Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment.

1. SRN B2796	2. ROP Number MI-ROP-B2796-2015c	3. County St. Clair
4. Stationary Source Name DTE Electric Company, St. Clair/Belle River Power Plant - Belle River Peaking Plant (4)		
5. Location Address 4505 King Road		6. City China
7. Submittal Type - <i>The submittal must meet the criteria for the box checked below. Check only one box. Attach a mark-up of the affected ROP pages for applications for Rule 216 changes.</i> <input type="checkbox"/> Rule 215(1) Notification of change. Complete Items 8 – 10 and 14 <input type="checkbox"/> Rule 215(2) Notification of change. Complete Items 8 – 10 and 14 <input type="checkbox"/> Rule 215(3) Notification of change. Complete Items 8 – 11 and 14 <input type="checkbox"/> Rule 215(5) Notification of change. Complete Items 8 – 10 and 14 <input type="checkbox"/> Rule 216(1)(a)(i)-(iv) Administrative Amendment. Complete Items 8 – 10 and 14 <input type="checkbox"/> Rule 216(1)(a)(v) Administrative Amendment. Complete Items 8 – 14. Results of testing, monitoring & recordkeeping must be submitted. See detailed instructions. <input checked="" type="checkbox"/> Rule 216(2) Minor Modification. Complete Items 8 – 12 and 14 <input type="checkbox"/> Rule 216(3) Significant Modification. Complete Items 8 – 12 and 14, and provide any additional information needed on ROP application forms. See detailed instructions. <input type="checkbox"/> Rule 216(4) State-Only Modification. Complete Items 8 – 12 and 14		
8. Effective date of the change. (MM/DD/YYYY) <i>See detailed instructions.</i> 04/21/2020		9. Change in emissions? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
10. Description of Change - <i>Describe any changes or additions to the ROP, including any changes in emissions and/or pollutants that will occur. If additional space is needed, complete an Additional Information form (AI-001).</i> Incorporate PTI 331-98C, to remove obsolete PEMS conditions and streamline new CEMS conditions related to the installation of CEMS NOx Monitors.		
11. New Source Review Permit(s) to Install (PTI) associated with this application? If Yes, enter the PTI Number(s) 331-98C - - - - -		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12. Compliance Status - <i>A narrative compliance plan, including a schedule for compliance, must be submitted using an AI-001 if any of the following are checked No.</i> a. Is the change identified above in compliance with the associated applicable requirement(s)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No b. Will the change identified above continue to be in compliance with the associated applicable requirement(s)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No c. If the change includes a future applicable requirement(s), will timely compliance be achieved? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
13. Operator's Additional Information ID - <i>Create an Additional Information (AI) ID for the associated AI-001 form used to provide supplemental information.</i>		AI
14. Contact Name I Andrew Fadanelli	Telephone No. 313.235.6384	E-mail Address ignatius.fadanelli@dteenergy.com
15. This submittal also updates the ROP renewal application submitted on 10/19/2020 & 11/27/2019 <input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A <i>(If yes, a mark-up of the affected pages of the ROP must be attached.)</i>		

NOTE: A CERTIFICATION FORM (C-001) SIGNED BY A RESPONSIBLE OFFICIAL MUST ACCOMPANY ALL SUBMITTALS

Michigan Department of Environment, Great Lakes, and Energy - Air Quality Division



RENEWABLE OPERATING PERMIT APPLICATION

AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, Part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

SRN: B2796

Section Number (if applicable): 4

1. Additional Information ID
AI-FG-CTG-BP

Additional Information

2. Is This Information Confidential?

 Yes No

Enclosed is ROP Mark-up for MI-ROP-B2796-2015c to incorporate changes from PTI 331-98C into the current working draft of the ROP. Because the ROP is currently under renewal, changes were made to the ROP Mark-Up submitted on October 19, 2020

FG-CTG-BP is in Section 4 of the current ROP but is to be consolidated into Section 3 of the new ROP (along with Sections 2 & 4 of the current ROP).

Other than the related Appendices #3-BP and #7-BP, no other emission units, flexible groups, or sections of the ROP are affected or changed from the original ROP renewal application submitted on November 27, 2019 and the amended ROP Renewal Application submitted on October 19, 2020.

Page 1 of 1

Section 3 – Peakers

ROP No: MI-ROP-B2796-2045e
Expiration Date: July 15, 2020
PTI No: MI-PTI-B2796-2045e

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SECTION 43 – BELLE RIVER, PEAKERSERS

Commented [LRF189]: Former Section 4 will now be Section 3 of the ROP. In addition to Belle River Peakers, this will also now include St. Clair Peakers and Dean Peakers. We would like this Section 3 simply called "PEAKERS"

LOCATED AT

Belle River Peakers

4505 King Road
China Township, Michigan 48054

Commented [LRF190]: All 3 peakers are at 1 facility. They do however have different physical addresses. Therefore, I listed each peaker's address out individually.

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St. Clair Peakers

4901 Pointe Drive
~~St. Clair~~ East China Township, Michigan 48054

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Dean Peakers

4490 North River Road
East China, Michigan 48054

Commented [LRF191]: Note this change in address from the former ROP. It currently lists the incorrect city.

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Section 3 - Peakers

ROP No: MI-ROP-B2796-2045e
 Expiration Date: July 15, 2020
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FG-CTG-BP
FLEXIBLE GROUP CONDITIONS

Commented [LRF221]: As of 10/22/2019, there is a PTI application pending EGLE AQD approval/issuance for the Belle River CTG new NOx limit and to remove PEMS verblage and add CEMS. Once this is issued, it is hoped that this PTI can be rolled into this section and FG of the ROP.

DESCRIPTION

Belle River Peakers. Three (3) natural gas-fired simple cycle combustion turbine generator (CTG) peaking units each nominally rated at 82.4 MW located at Belle River Power Plant. The combustion turbines are equipped with dry low-NOx burners.

Emission Unit:

- EU-CTG12-1-BP Belle River Peakers CTG 12-1. Natural gas-fired combustion turbine generator located at Belle River Power Plant
- EU-CTG12-2-BP Belle River Peakers CTG 12-2. Natural gas-fired combustion turbine generator located at Belle River Power Plant
- EU-CTG13-1-BP Belle River Peakers CTG 13-1. Natural gas-fired combustion turbine generator located at Belle River Power Plant

Commented [LRF222]: Since this FG exceeded the capacity factor, they are no longer "Peakers". DTE requests the word "peaking" to be removed here.

Commented [IAF223]: Pls reformat table to better fit the information. Increase table width to 7.2 Inches Col 1 = 0.7 Inch, Col 2 = 1.1 Inch, Col 3 = 1.5 Inch Col 4 = 1.2 Inch, col 5 = 1.1 Inch Col 6 = 1.3 Inch Then reduced font of last column to 9

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POLLUTION CONTROL EQUIPMENT

Dry Low-NOx Burners

I. EMISSION LIMIT(S)

Pollutant	Limit ¹	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO _x	9 ppm by volume at 15% oxygen & on a dry gas basis ²	Average of all operating hours in a calendar day, excluding startup, shutdown, and malfunction	Each combustion turbine emission unit in FG-CTG-BP during steady state operations	SG V.1 and Appendix 7-BP	R 336.1205(1)(a) & (b), R 336.810, R336.803, CFR 52.21(c) & (d), 40 CFR 52.21(f), 40 CFR 60.332(a)(1)
2. NO _x	60 ppm by volume at 15% oxygen & on a dry gas basis	Hourly	Each emission unit in FG-CTG-BP	SC VI.2	R 336.2804, R 336.2810, 40 CFR 52.21(c) & (d), 40 CFR 52.21(i)
3. NO _x	230 tons per year ²	Based on a rolling 12-month period, as determined at the end of each month	FG-CTG-BP	SC V.1, VI.32 and Appendix 7-BP	R 336.810, R336.803, 40 CFR 52.21(c) & (d), R 336.1205(1)(a) & (b), 40 CFR 52.21(i)
4. CO	25 ppm by volume at 15% oxygen & on a dry gas basis ²	Average of all operating hours in a calendar day, excluding startup, shutdown, and malfunction	Each emission unit in FG-CTG-BP Each combustion turbine	SC V.2, VI.32 and Appendix 7-BP	R 336.1205(1)(a) & (b), R 336.810, R336.803, 40 CFR 52.21(c) & (d), 40 CFR 52.21(i)
5. CO	382 tons per year	Based on a rolling 12-month period, as determined at the end of each month, excluding startup, shutdown, and malfunction	FG-CTG-BP	SC V.12, VI.32 and Appendix 7-BP	R 336.1205(1)(a) & (b), R 336.810, R336.803, 40 CFR 52.21(c) & (d), 40 CFR 52.21(i)

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 PTI No: MI-PTI-B2796-2045e

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Pollutant	Limit ^a	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
36. PM-10	9 pounds per hour ²	Average of all operating hours in a calendar day, <u>excluding startup, shutdown, and malfunction</u> ²	Each combustion turbine emission unit in FG-CTG-BP	SC V.23 and Appendix 7-BP	R 336.1205(1)(a) & (b), R 336.810, R336.803, 40CFR 52.21(c) &(d), 40 CFR 52.21(i)
7. PM-10	50.4 tons per year ²	Based on a rolling 12-month period, as determined at the end of each month, <u>excluding startup, shutdown, and malfunction</u>	FG-CTG-BP	SC V.23, VI.32 and Appendix 7-BP	R 336.1205(1)(a) & (b), R 336.810, R336.803, 40CFR 52.21(e) &(d), 40 CFR 52.21(i)
4. Opacity	10%, except for uncombined water vapor ^{2, b}	6-minute average, <u>excluding startup, shutdown, and malfunction</u>	Each emission unit in FG-CTG-BP combustion turbine	SC V.45	R 336.1301(1)(c), 40 CFR 52.21(i)

^aLimits do not include startup, shutdown, and malfunction conditions.
^bOpacity limit shall not include periods of startup and shutdown.

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Section 3 – Peakers

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II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Natural Gas	13,600 MM Cu. Ft. ²	Based on a rolling 12- month period, as determined at the end of each month ²	FG-CTG-BP	SC VI.4	R 336.1205(1)(a) & (b), R 336.2803, R 336.804, 40CFR 52.21(c) & (d), 40 CFR 52.21(j)
2. Sulfur in Natural Gas	0.8 grain per 100 standard cu. ft. ²	As-fired	FG-CTG-BP	SC III.1	R 336.1225, R 803, R 804, 40CFR 52.21(c) & (d), R 336.1702(a), 40 CFR 52.21, 40 CFR 60.333(b)

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 Process/Operational Restrictions and/or be combined with SC
 III.1.7

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The permittee shall only burn pipeline quality natural gas in each turbine.² (R 336.1225, R336.2803, R336.2804, R 336.1702(a), 40CFR52.21(c) & (d), 40 CFR 52.21(j), 40 CFR 60.333(b))
- The total hours for startup and shutdown for FG-CTG-BP shall not exceed 500 hours per turbine per 12-month rolling time period as determined at the end of each calendar month. Startup is defined as the period of time from initiation of combustion firing until the unit reaches steady state operation (e.g., when pre-mix operating mode is achieved). Shutdown is defined as that period of time from the initial lowering of the turbine output, with the intent to shut down, until the point at which the combustion process has stopped.² (R336.1205, R336.2803, R336.2804, 40CFR52.21(c) & (d), 40 CFR 52.21(j))
- The permittee shall not operate FG-CTG-BP unless all provisions of the Federal Prevention of Significant Deterioration regulations, 40 CFR 52.21, are met.² (40 CFR 52.21)
- The permittee shall maintain and implement the approved "Emission Minimization Plan" describing how emissions will be minimized during startup(s), shutdown(s) and malfunction(s). The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. Alternative plans or modifications to the approved plan must be approved by the District Supervisor.² (R 336.1911, R 336.1912, R336.2803, R336.2804, R 336.2810, 40CFR52.21(c) & (d), 40 CFR 52.21(j))

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IV. DESIGN/EQUIPMENT PARAMETER(S)

- The permittee shall equip and maintain each turbine with a dry low-NOx combustor.² (R 336.1910, R336.2803, R336.2804, R 336.2810, 40CFR52.21(c) & (d), 40 CFR 52.21(j))

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V. TESTING/SAMPLING

Records shall be maintained on file for a period of 5 years. (R 336.1213(3)(b)(ii))

- The permittee shall conduct NOx and CO emission rate testing at owner's expense for each turbine in accordance with 40 CFR 75, Appendix E. NOx emission rates (ppmv) from each turbine will be verified at least once every 20 calendar quarters. The permittee shall perform NOx and CO emission testing will be conducted at two operating load points, one at maximum load and one other mid load for at least four (4) approximately equally spaced operating load points, ranging from the maximum operating load to the minimum operating load. Testing procedures shall be performed using approved EPA test methods listed in accordance with the applicable federal Reference Methods, 40 CFR Part 60, Appendix A. Alternative methods or a modification to the approved EPA method may be specified in an AQD approved test protocol. This test satisfies the NOx performance test requirements of 40 CFR 60, Subparts A and GG.² (R336.1205(1)(a) & (b), R336.1902, R336.2001, R336.2803, R336.2804, R336.2810, 40 CFR 52.21(c) & (d), 40 CFR 52.21(j), 40 CFR 60.8 & 60.335, 40 CFR 75 Appendix E2-2F3)

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2. The permittee shall conduct CO emission rate testing for each turbine in conjunction with NOx testing and under the same test averaging period requirements. CO emissions testing will be conducted at two operating load points, one at maximum load and one other mid load. (R 336.1213(3))

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3.2. Verification of PM-10 emission rates from each turbine by testing, at owner's expense, in accordance with Department requirements will be required once every five years. The permittee shall verify PM-10 emission rates from each turbine once every 5 years. Testing must be done for each turbine at 70% and 100% of base load. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee shall notify the AQD no less than 7 days prior to the anticipated test. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test date. Testing procedures shall be in accordance with the applicable federal Reference Methods, 40 CFR 60, Appendix A. Testing must be done for each turbine at 70% and 100% of base load. (R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, R336.2803, R336.2804, R336.2810, 40 CFR 52.21(c) & (d), 40 CFR 52.21(i))

4. The permittee shall submit a complete test protocol to the AQD for approval at least 30 days prior to the anticipated test date. The permittee shall notify the AQD no less than 7 days prior to the anticipated test date. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. (R 336.1334, R 336.2004, R 336.2003, R 336.2004)

5.3. The permittee shall conduct federal Reference Method 9 visible emissions reading for each turbine at least once per 1200 hours of operation. (R 336.1301, 40 CFR 52.21(i))

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VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of 5 years. (R 336.1213(3)(b)(ii))

1. For each turbine, the permittee shall keep a record of federal Reference Method 9 visible emissions reading conducted at least once per 1200 hours of operation. (R 336.1301, 40 CFR 52.21)

2. For each turbine, the permittee shall calculate and keep records of calendar day average (lbs/hr for PM-10, and ppmv for NOx and CO), monthly and previous 12-month NOx, CO and PM-10 emission rates (tons) on a monthly and previous 12-month rolling time period. These emission calculations shall be based upon. See Appendix 7-BP. (R 336.1205(1)(a) & (b), R336.2803, R336.2804, R336.2810, 40 CFR 52.21(c) & (d), 40 CFR 52.21(i), 40 CFR 60 Subpart GG)

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3. If the permittee claims an allowance for fuel bound nitrogen, the permittee shall monitor the nitrogen content in of the fuel combusted in the turbine shall be monitored by the permittee, in accordance with 40 CFR 60.334(h)(2) if an allowance for fuel bound nitrogen is claimed. (40 CFR 60.334(h)(2))

Commented [LRF226]: Moved the last part of this sentence to the beginning to be a little clearer in this requirement.

4. For each turbine, the permittee shall continuously monitor and record hourly the natural gas usage in a manner and with instrumentation acceptable to the AQD District Supervisor. (R 336.1205(1)(a) & (b), R336.2803, R336.2804, 40 CFR 52.21(c) & (d), 40 CFR 52.21(i))

5. For each turbine, the permittee shall keep records of hours of startup and shutdown. (R 336.1205(1)(a) & (b), R336.2803, R336.2804, 40 CFR 52.21(c) & (d), 40 CFR 52.21(j))

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6. For each turbine, the permittee shall monitor and record the capacity factor for each calendar year. If the capacity factor for each individual turbine exceeds 20% in any calendar year or exceeds 10% averaged over the three previous calendar years, a continuous monitor for nitrogen dioxide must be installed, certified, and operated no later than December 31 of the following calendar year. (40 CFR 75.12(d)(2))

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7. Monitoring and recording of emissions and operating information for EG-CTG-BP is required to comply with the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subpart A, and Subpart GG, 60.334. (40 CFR 60.334)

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ROP No: MI-ROP-B2796-2045e

Expiration Date: July 15, 2020

PTI No: MI-PTI-B2796-2045e

Section 3 – Peakers

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~~8.6. On or before December 31, 2019, the permittee shall install, calibrate, maintain, and operate devices or equipment to monitor and record the NOx emissions and oxygen (O2) or (CO2) content of the exhaust gas from each turbine in FG-CTG-BP on a continuous basis, and to meet the timelines and reporting requirements as described in Appendix 3-BP. The Continuous Emission Monitoring System (CEMS) shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS 2 for NOx and PS 3 for O2 or CO2 of Appendix B to 40 CFR Part 60. (R 336.1213(3), R336.1205(1)(a) & (b), R336.2150(1)(b), R336.2803, R336.2803, R336.2804, R336.2810, 40 CFR 52.21(c) & (d), R 336.1213(3), 40 CFR 75.12(d)(2), 40 CFR 72.12(c), 40 CFR Part 75 Appendix B & F)~~

Commented [IAF227]: New conditions VI.6 & 7 came from the PTI, V.2

Commented [IAF228]: This reference to Rule 313(3) must stay because that is how this condition was originally added to ROP, thru an ROP mod, not the PTI.

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Commented [IAF229]: This condition consolidated with above condition, per PTI, SC IV.2
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~~9.7. The Continuous Emission Monitoring System (CEMS) shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS 2 for NOx and PS 3 for O2 or CO2 of Appendix B to 40 CFR Part 60. (R 336.1213(3), R 336.2150(1)(b), (d), and (e), 40 CFR 60.13)~~

See Appendix 3-BP

VII. REPORTING

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. (R 336.1213(3)(c)(ii))
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. (R 336.1213(3)(c)(i))
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. (R 336.1213(4)(c))

~~4. Once CEMS are installed, the permittee shall report NOx and either O2 or CO2 emissions in accordance with 40 CFR Part 75 within 30 days following the end of each calendar quarter. (R 336.1213(3), 40 CFR 75.64)~~

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~~5. Once CEMS are installed, in accordance with 40 CFR 60.7(c) and (d), the permittee shall submit two copies of an excess emission report (EER) and the monitoring system performance summary report in an acceptable format to the AQD Technical Programs Unit and District Office – AQD District Supervisor, within 30 days following the end of each calendar quarter. The Monitoring System Performance Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:~~

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- a. A report of each exceedance above specified permit limits for NOx. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
- b. A report of all periods of CEMS downtime and corrective action.
- c. A report of the total operating time of each combustion turbine in FG-CTG-BP during the reporting period.
- d. A report of any periods that the CEMS exceeds the instrument range.
- e. If no exceedances or CEMS downtime occurred during the reporting period, the permittee shall report that fact.

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~~The permittee shall keep all monitoring data on file for a period of at least five years and make them available to the AQD upon request. (R 336.1213(3), 40 CFR Part 60.7(c) and (d), 40 CFR 60.334)~~

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6. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS set forth in Part 75, Appendix A and B. Within 30 days following the end of each calendar quarter, the permittee shall submit the results to the AQD Technical Programs Unit and District Supervisor in a format acceptable to AQD. (R 336.1213(3), 40 CFR Part 75 Appendix A and B)

~~7. Within 30 calendar days after commencement of trial operation of the CEMS, the permittee shall submit two copies of a Monitoring Plan to the AQD Technical Programs Unit and District Office, for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required CEMS. (R 336.1213(3), 40 CFR Part 75)~~

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8. ~~Within 150 calendar days after commencement of trial operation of the CEMS, the permittee shall submit two copies of a complete test plan for the CEMS to the AQD Technical Programs Unit and AQD District Supervisor for approval. (R 336.1213(3))~~
9. ~~Within 180 calendar days after commencement of trial operation, the permittee shall complete the installation and testing of the CEMS. (R 336.1213(3))~~
10. ~~Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the NO_x CEMS complies with the requirements of Performance Specification (PS) 2. (R 336.1213(3), R 336.2156)~~
- 44.7. The permittee shall submit any performance test reports, including RATA reports, to the AQD Technical Programs Unit and AQD District Supervisor, in a format approved by the AQD. (R 336.1213(3)(c), R 336.2001(5))

See Appendix 3-BP, 7-BP and 8-BP

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VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-CTG13-1-BP	228 x 108 ²	56 ²	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
2. SV-CTG12-1-BP	228 x 108 ²	56 ²	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)
3. SV-CTG12-2-BP	228 x 108 ²	56 ²	R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)

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IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR 60, Subparts A and GG, as they apply to FG-CTG-BP.² (40 CFR 60, Subparts A and GG)
2. The permittee shall conduct a visual inspection of the silencer elements associated with each turbine once each quarter that the turbine is operated. The visual inspection will evaluate whether or not silencer material has been lost due to operation of the turbines. If there is evidence that silencer material has been lost, the permittee shall notify the District Office of the positive results and take immediate action to replace the silencer elements. Records of the quarterly visual inspections shall be kept on file for a period of at least five years and made available to the AQD upon request. (R 336.1213(3))
3. The permittee shall comply with the acid rain permitting provisions of 40 CFR 72.1 to 72.94 as outlined in a complete Phase II Acid Rain Permit issued by the AQD. The Phase II Acid Rain Permit No. MI-AR-6034-2015 is hereby incorporated into this ROP as Appendix 9-BP. (R 336.1299(2)(a))
4. The permittee shall not allow the emission of an air pollutant to exceed the amount of any emission allowances that an affected source lawfully holds as of the allowance transfer deadline pursuant to R 336.1299(2)(d) and 40 CFR Part 72.9(c)(1)(i). (R 336.1299(2)(a), 40 CFR 72.9(c)(1)(i))
5. The permittee shall comply with the provisions of the Transport Rule SO₂ Group 1 Trading Program, as specified in 40 CFR, Part 97, Subpart CCCCC, as they apply to EU-CTG12-1-BP, EU-CTG12-2-BP, and EU-CTG13-1-BP. (40 CFR Part 97 Subpart CCCCC)
6. The permittee shall comply with the provisions of the Transport Rule NO_x Annual Trading Program, as specified in 40 CFR, Part 97, Subpart AAAAA, as they apply to EU-CTG12-1-BP, EU-CTG12-2-BP, and EU-CTG13-1-BP. (40 CFR Part 97 Subpart AAAAA)
7. The permittee shall comply with the provisions of the Transport Rule NO_x Ozone Trading Program, as specified in 40 CFR, Part 97, Subpart BBBBB, as they apply to EU-CTG12-1-BP, EU-CTG12-2-BP, and EU-CTG13-1-BP. (40 CFR Part 97 Subpart BBBBB)

Footnotes:

¹This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

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Source-Wide PTI No MI-PTI-B2796-2015c09a is being reissued as Source-Wide PTI No. MI-PTI-B2796-2015Y15.

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Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
NA	NA	NA	NA
NA	201200055*	Incorporate RICE MACT special conditions	EU-DG12-1-SF EU-DG12-2-SP

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The following ROP amendments or modifications were issued after the effective date of ROP No. MI-ROP-B2796-2015Y15.

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Permit to Install Number	ROP Revision Application Number/Issuance Date	Description of Change	Corresponding Emission Unit(s) or Flexible Group(s)
177-07A	201500058/ December 15, 2015	Incorporate PTI No. 177-07A into Section 4 (Belle River Peakers). The focus of this PTI relates to load ranges between 50 and 70 percent. The existing ROP (MI-ROP-B2796-2015) treats these loads as Startup/Shutdown/Malfunction (SSM) operating hours, with a maximum of 500 per year, per unit. Recent installation of automated governor controlled (AGC) systems on these generators provides control to the regional electrical system operator (MISO) to, likely, operate these units in this critical load range more frequently. DTE believes this supporting material justifies the operating conditions as steady state, not SSM.	EU-CTG12-1-BP EU-CTG12-2-BP EU-CTG13-1-BP FG-CTG-BP
NA	201500148/ June 16, 2016	Reopening to update from CAIR to CSAPR.	FG-CTG-BP
NA	201500180/ November 4, 2015	Name change for Section 5 from DTE East China, LLC to DTE Electric Company – Dean Peakers.	NA
NA	201500148/ June 16, 2016	Reopening to update from CAIR to CSAPR.	FG-CTG-DF

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Appendix 7-P-BP. Emission Calculations

a. Belle River Peakers

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in FG-CTG-BP:

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Natural gas usage is monitored continuously but recorded once per hour and tracked on a monthly basis.

The NOx and CO calendar day ppmv limits are assured by the latest stack testing results. The worst-case concentration data (in ppmv) from the tested operating loads are compared to permit limits. Deleted per recently issued PTI, 331-98C

From stack testing, emission factors for CO and PM-10 are developed in lbs pollutant/million cubic feet of natural gas, for the corresponding loads specified in FG-CTG-BP SC.V.12 (CO) and V.23 (PM-10). Emission factors for each pollutant are calculated using the worst-case emissions recorded during the last representative stack test on a pollutant-specific basis. The emission factors, along with the fuel monitoring requirement, shall be applied to each

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hour to ensure compliance with PM-10's calendar day average (lbs/hr), and CO's and PM-10's rolling 12-month period emission limits (tons/year).

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From stack testing at the four load points, correlation curves are developed from NOx emissions (lb/MM BTU) and heat input (MM BTU/hr) for each CTC. Consistent with Part 75, Appendix E, an hourly NOx emission rate (lb/MM BTU) is applied to each operating hour. Each QA-QC-validated hour either has the NOx emission rate from the correlation curve applied or the appropriate substitute NOx emission rate applied if the hour is outside operational and control equipment parameters, per Appendix E, section 2.5.2. The product of the hourly NOx emission rates and heat inputs are aggregated monthly to report the tons of NOx on a rolling 12-month basis.

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Once CEMS are installed, compliance with the NOx 12-month rolling time period will be determined using the hourly NOx emission rate (lb/MMBtu) and hourly heat rate (MMBtu/hr) values, described in Appendix 3-BP and 40 CFR Part 75 Appendix F indicated below: The NOx emission limit for steady-state operations (SC 1.1) which are based on the average of all operating hours in a calendar day shall continue to be based upon stack testing results (SC V.1).

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Use the following procedures to convert continuous emission monitoring system measurements of NOX concentration (ppm) and diluent concentration (percentage) into NOX emission rates (in lb/mmBtu). Perform measurements of NOX and diluent (O2 or CO2) concentrations on the same moisture (wet or dry) basis.

When the NOX continuous emission monitoring system uses O2 as the diluent, and measurements are performed on a dry basis, use the following conversion procedure:

$$E = K C_h F \frac{20.9}{20.9 - \%O_2}$$

When the NOX continuous emission monitoring system uses CO2 as the diluent, use the following conversion procedure:

$$E = K C_h F_c \frac{100}{\%CO_2}$$

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where:

- K = 1.194 × 10⁻⁷ (lb/dscf)/ppm NOX.
- E = Pollutant emissions during unit operation, lb/mmBtu.
- Ch = Hourly average pollutant concentration during unit operation, ppm.
- %O2, %CO2 = Oxygen or carbon dioxide volume during unit operation (expressed as percent O2 or CO2).

b. Dean Peakers

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in FG-CTG-DP:

Commented [LRF283]: Formerly Appendix 7-DP. Emission Calculations from former Section 5. Added subheader for Dean to differentiate which part of the appendix applies to which facilities.

Natural gas usage is monitored continuously but recorded once per hour and tracked on a monthly basis.

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The NOx and CO calendar day ppmv limits are assured by the latest stack testing results. The worst-case concentration data (in ppmv) from the tested operating loads are compared to permit limits.

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From stack testing, emission factors for CO and PM-10 are developed in lbs pollutant/million cubic feet of natural gas, for the corresponding loads specified in FG-CTG-DP SC V.2 (CO) and V.3 (PM-10). Emission factors for each pollutant are calculated using the worst-case emissions recorded during the last representative stack test on a pollutant-specific basis. The emission factors, along with the fuel monitoring requirement, shall be applied to each hour to ensure compliance with PM-10's calendar day average, and CO's and PM-10's rolling 12-month period emission limits.

From stack testing at the four load points, correlation curves are developed from NOx emissions (lb/MM BTU) and heat input (MM BTU/hr) for each CTG. Consistent with Part 75, Appendix E, an hourly NOx emission rate (lb/MM

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BTU) is applied to each operating hour. Each QA-QC validated hour either has the NOx emission rate from the correlation curve applied or the appropriate substitute NOx emission rate applied if the hour is outside operational and control equipment parameters, per Appendix E, section 2.5.2. The product of the hourly NOx emission rates and heat inputs are aggregated monthly to report the tons of NOx on a rolling 12-month basis.

Appendix 8-P-BP. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

The permittee shall use EGLE, AQD, Report Certification form (EQP 5736) and EGLE, AQD, Deviation Report form (EQP 5737) for the annual, semiannual and deviation certification reporting referenced in the Reporting Section of the Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Alternative formats must meet the provisions of Rule 213(4)(c) and Rule 213(3)(c)(i), respectively, and be approved by the AQD District Supervisor.

B. Other Reporting

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate source-wide, emission unit and/or flexible group special conditions. Therefore, Part B of this appendix is not applicable.