

**DTE**

October 30, 2020

Ms. Caryn Owens
Cadillac District Office
EGLE AQD
120 West Chapin Street
Cadillac, MI 49601-2158

Subject: Application for ROP Amendment for SRN #B2796
Rule 216(1)(a)(i)-(iv) Simple Administrative Amendment Change
DTE Electric Company – Dean Peakers
Section 5 of MI-ROP-B2796-2015c

Dear Ms. Owens,

Enclosed is an application for a ROP simple administrative amendment change under Rule 216(1)(a)(i)-(iv) to ROP No: MI-ROP-B2796-2015c for DTE Electric Company Dean Peakers located at 4490 North River Road in East China, Michigan 48054. This amendment only affects FG-CTG-DP in Section 5 of the ROP.

Should you have any questions regarding this ROP amendment application, please contact Lisa Fishbeck at lisa.fishbeck@dteenergy.com or (313) 235-3389.

Sincerely,



Margaret Guillaumin
Plant Manager – Peakers
Fossil Generation
DTE Energy

Enclosure: MI-ROP-B2796-2015c Simple Administrative Amendment Application
comprised of:

1. *M-001: ROP Rule 216 Amendment Application Form*
2. *C-001: ROP Application Certification Form*
3. *AI-001: Additional Information Form AI-FG-CTG-DP*
4. *MI-ROP-B2796-2015c ROP Mark-Up – Section 3 (Formerly Section 5)*

Cc: Ms. Caryn Owens, EGLE AQD, Cadillac District Environmental Engineer via email at owensc1@michigan.gov

Mr. Robert Elmouchi, EGLE AQD, Warren District Environmental Quality Analyst via email at elmouchir@michigan.gov



Rahn Ledesma, DTE, Fossil Generation, Maintenance Manager – Peakers
via email at Rahn.Ledesma@dteenergy.com

Stefanie Ledesma, DTE, EM&R, Staff Environmental Engineer – Peakers
via email at stefanie.ledesma@dteenergy.com

Barry Marietta, DTE, EM&R, Manager – Emissions Quality
via email at Barry.Marietta@dteenergy.com

Lisa Fishbeck, DTE, EM&R, Staff Environmental Engineer – Emissions Quality
via email at Lisa.Fishbeck@dteenergy.com

Andrew Fadanelli, DTE, EM&R, Principal Environmental Engineer – Emissions
Quality via email at ignatius.fadanelli@dteenergy.com

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

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 Section 5	3. County St. Clair
4. Stationary Source Name DTE Electric Company - Dean Peakers		
5. Location Address 4490 North River Road		6. City East China
<p>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></p> <p><input type="checkbox"/> Rule 215(1) Notification of change. Complete Items 8 – 10 and 14</p> <p><input type="checkbox"/> Rule 215(2) Notification of change. Complete Items 8 – 10 and 14</p> <p><input type="checkbox"/> Rule 215(3) Notification of change. Complete Items 8 – 11 and 14</p> <p><input type="checkbox"/> Rule 215(5) Notification of change. Complete Items 8 – 10 and 14</p> <p><input checked="" type="checkbox"/> Rule 216(1)(a)(i)-(iv) Administrative Amendment. Complete Items 8 – 10 and 14</p> <p><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.</p> <p><input type="checkbox"/> Rule 216(2) Minor Modification. Complete Items 8 – 12 and 14</p> <p><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.</p> <p><input type="checkbox"/> Rule 216(4) State-Only Modification. Complete Items 8 – 12 and 14</p>		
8. Effective date of the change. (MM/DD/YYYY) <i>See detailed instructions.</i> 12/31/2020		9. Change in emissions? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>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></p> <p>Continuous emissions monitoring system (CEMS) for nitrogen dioxide (NO₂) will be installed on each EU in FG-CTG-DP (EU-CTG12-2-DP, EU-CTG12-1-DP, EU-CTG11-1-DP, & EU-CTG11-2-DP) by 12/31/2021. There are no changes in emissions or pollutants.</p>		
<p>11. New Source Review Permit(s) to Install (PTI) associated with this application? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If Yes, enter the PTI Number(s) _____ - _____ - _____ - _____ - _____</p>		
<p>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></p> <p>a. Is the change identified above in compliance with the associated applicable requirement(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>b. Will the change identified above continue to be in compliance with the associated applicable requirement(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>c. If the change includes a future applicable requirement(s), will timely compliance be achieved? <input type="checkbox"/> Yes <input type="checkbox"/> No</p>		
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 -FG-CTG-DP
14. Contact Name Lisa Fishbeck	Telephone No. (313) 235-3389	E-mail Address lisa.fishbeck@dteenergy.com
15. This submittal also updates the ROP renewal application submitted on <u>10/19/2020 & 11/27/2019</u> <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

For Assistance
Contact: 800-662-9278

www.michigan.gov/egle

EQP 5775 (Rev.04-2019)



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 - Dean Peakers	
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 5</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 -FG-CTG-DP	

CONTACT INFORMATION	
Contact Name Lisa Fishbeck	Title Staff Environmental Engineer
Phone number 313-235-3389	E-mail address lisa.fishbeck@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			10/30/2020 _____ Date	

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): 5

1. Additional Information ID

AI-FG-CTG-DP

Additional Information

2. Is This Information Confidential?

 Yes No

Enclosed is the ROP Mark-up for MI-ROP-B2796-2015c. Changes were made in Part D) Flexible Group Conditions of FG-CTG-DP. No other emission units, flexible groups, parts, or sections of the ROP are affected.

Please note that FG-CTG-DP is currently in Section 5 of the ROP and was requested to be consolidated into Section 3 of the new ROP (along with Sections 2 & 4 of the current ROP) during the ROP renewal submitted on November 27, 2019. An amended ROP renewal application was submitted on October 19, 2020. The enclosed ROP Mark-Up was made to the Word version of the ROP submitted on October 19, 2020 in order to capture all permit changes in the same document.

Page 1 of 1

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION

EFFECTIVE DATE: July 15, 2015

REVISION DATES: December 15, 2015, June 16, 2016, July 15, 2019

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ISSUED TO

DTE ELECTRIC COMPANY
ST. CLAIR POWER PLANT,
BELLE RIVER POWER PLANT, AND
BLUE WATER ENERGY CENTER

State Registration Number (SRN) B2796

LOCATED AT

4505 King Road,
China Township, Michigan 48054
4901 Pointe Drive, St. Clair, Michigan 48054

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RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-B2796-201YY5e

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Expiration Date: July 15, 2020

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Administratively Complete ROP Renewal Application
Due Between January 15, 2019 and January 15, 2020

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This Renewable Operating Permit (ROP) is issued in accordance with and subject to Section 5506(3) of Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Act 451). Pursuant to Michigan Air Pollution Control Rule 210(1), this ROP constitutes the permittee's authority to operate the stationary source identified above in accordance with the general conditions, special conditions and attachments contained herein. Operation of the stationary source and all emission units listed in the permit are subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-B2796-20YY15e

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This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(5) of Act 451. Pursuant to Michigan Air Pollution Control Rule 214a, the terms and conditions herein, identified by the underlying applicable requirement citation of Rule 201(1)(a), constitute a federally enforceable PTI. The PTI terms and conditions do not expire and remain in effect unless the criteria of Rule 201(6) are met. Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

Section 3 – Peakers

ROP No: MI-ROP-B2796-2015e
Expiration Date: July 15, 2020
PTI No: MI-PTI-B2796-2015e

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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

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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-B2796-2015e
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D. FLEXIBLE GROUP CONDITIONS

Part D outlines the terms and conditions that apply to more than one emission unit. The permittee is subject to the special conditions for each flexible group in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

The permittee shall comply with all specific details in the special conditions and the underlying applicable requirements cited. If a specific condition type does not apply, NA (not applicable) has been used in the table. If there are no special conditions that apply to more than one emission unit, this section will be left blank.

FLEXIBLE GROUP SUMMARY TABLE D-34

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-DIESEL-BP	Belle River Peakers - Five (5) diesel fuel-fired, "limited-use", (per 40CFR 63.6590(b)(3)(iv) stationary reciprocating internal combustion engine (RICE)) peaking units each rated at 2.5 MW	EU-DG11-1-BP EU-DG11-2-BP EU-DG11-3-BP EU-DG11-4-BP EU-DG11-5-BP
FG-CTG-BP	Belle River Peakers - Three (3) Belle River natural gas-fired, simple cycle combustion turbine generator peaking units. Each equipped with dry low-NOx burners nominally rated at 82.4 megawatts at ISO conditions. (PTI No. 177-07A)	EU-CTG12-1-BP EU-CTG12-2-BP EU-CTG13-1-BP
FG-DIESEL-SP	St. Clair Peakers - Two (2) diesel fuel-fired, "limited-use" (per 40CFR 63.6590(b)(3)(iv) stationary reciprocating internal combustion engine (RICE)) peaking units each rated at 2.75 MW	EU-DG12-1-SP EU-DG12-2-SP
FG-CTG-DP	Dean Peakers - Four (4) natural gas-fired, simple cycle combustion turbine generator, each with dry low-NOx burner peaking units rated nominally at 82.4 megawatts at ISO conditions	EU-CTG12-2-DP EU-CTG12-1-DP EU-CTG11-1-DP EU-CTG11-2-DP

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Commented [LRF205]: I added this FG (formerly FG-MACT-ZZZZ-SP in the current ROP) for St. Clair Peakers (which was previously in former Section 2).

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Commented [LRF207]: I added this FG for Dean Peakers (which was previously in former Section 5)

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Section 3 – Peakers

ROP No: MI-ROP-B2796-2015e
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**FG-CTG-DP
 FLEXIBLE GROUP CONDITIONS**

Commented [LRF262]: I inserted Dean Peakers' FG conditions in from former Section 5.

Commented [LRF263]: Changes part of the ROP simple administrative amendment submitted on 10/30/2020 are highlighted in Green to differentiate them from other changes/submittals.

This amendment only effects Part D) beginning here for FG-CTG-DP and Appendices 3 & 7.

DESCRIPTION

Dean Peakers. Four (4) natural gas-fired simple cycle combustion turbine generator peaking units each nominally rated at 82.4 MW at ISO conditions. Peak mode means operation is above the nominally rated capacity of the turbine, as specified by equipment manufacturer, to supply additional output on a short-term basis with the potential for greater than normal wear on the turbine and increased frequency for periodic inspection and maintenance of the turbine. Base mode means operating at 100 percent load based on ambient temperature conditions. Combustion turbines are equipped with dry low-NOx burners.

Emission Unit:

- EU-CTG12-2-DP Dean Peakers CTG Unit 12-2. Natural gas-fired combustion turbine generator
- EU-CTG12-1-DP Dean Peakers CTG Unit 12-1. Natural gas-fired combustion turbine generator
- EU-CTG11-1-DP Dean Peakers CTG Unit 11-1. Natural gas-fired combustion turbine generator
- EU-CTG11-2-DP Dean Peakers CTG Unit 11-2. Natural gas-fired combustion turbine generator

Commented [LRF264]: DTE inserted the new EU ID #s here.

POLLUTION CONTROL EQUIPMENT

Dry Low-NOx Burners.

I. EMISSION LIMIT(S)

Pollutant	Limit ^a	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	Base load, average of all operating hours in a calendar day	Each emission unit in FG-CTG-DP	SC V.1 & V.2, and Appendix 7-DP	R 336.1205(1(a) & (b)), 40 CFR 52.21(j), 40 CFR 60.332(a)(1)
	21 ppm by volume at 15% oxygen & on a dry gas basis ²	Peak mode, average of all operating hours in a calendar day	Each emission unit in FG-CTG-DP	SC V.1 & V.2, and Appendix 7-DP	R 336.1205(1(a) & (b)), 40 CFR 52.21(j), 40 CFR 60.332(a)(1)
	230 tons per year ²	Based on a rolling 12-month period, as determined at the end of each month	FG-CTG-DP	SC V.1 & V.2 and Appendix 7-DP	R 336.1205(1(a) & (b)), 40 CFR 52.21(j)
2. CO	25 ppm by volume at 15% oxygen & on a dry gas basis ²	Average of all operating hours in a calendar day ²	Each emission unit in FG-CTG-DP	SC V.3 and Appendix 7-DP	R 336.1205(1(a) & (b)), 40 CFR 52.21(j)
	350 tons per year ²	Based on a rolling 12-month period, as determined at the end of each month	FG-CTG-DP	SC V.3 and Appendix 7-DP	R 336.1205(1(a) & (b)), 40 CFR 52.21(j)
3. PM-10	9.0 pounds per hour ²	Average of all operating hours in a calendar day	Each emission unit in FG-CTG-DP	SC V.4 and Appendix 7-DP	R 336.1205(1(a) & (b)), 40 CFR 52.21(i)
	46.4 tons per year ²	Based on a rolling 12-month period, as determined at the end of each month	FG-CTG-DP	SC V.4 and Appendix 7-DP	R 336.1205(1(a) & (b)), 40 CFR 52.21(i)

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Section 3 – Peakers

ROP No: MI-ROP-B2796-2015e
 Expiration Date: ~~July 15, 2020~~
 PTI No: MI-PTI-B2796-2015e

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Pollutant	Limit ^a	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
4. HCOH	4.5 tons per year ²	Based on a rolling 12-month period, as determined at the end of each month	FG-CTG-DP	SC V.5	R 336.1205(2)
5. Opacity	10%, except for uncombined water vapor ^{2, b}	6-minute average	Each emission unit in FG-CTG-DP	SC V.7	R 336.1301 40 CFR 52.21
6. Sulfur in Natural Gas	0.8 grain per 100 standard cu. ft. ²	As-fired	FG-CTG-DP	SC-III.1	R 336.1225, R 336.1702(a) 40 CFR 52.21 40 CFR 60.333(b)

^aLimits do not include startup, shutdown, and malfunction conditions.²
^bOpacity limit shall not include periods of startup and shutdown.²

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Commented [LRF265]: Can this be combined with III.1.?

Commented [PAR266]: Not an Emission Limit. Move to Material limit

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Natural Gas	12,400 MMCF ²	Based on a rolling 12-month period, as determined at the end of each month	FG-CTG-DP	Section VI.10	R 336.1205(1)(a) & (b), 40 CFR 52.21(i)

Commented [LRF267]: Add I.6. here. Delete above.

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The permittee shall only burn pipeline quality natural gas in each turbine.² (R 336.1225, R 336.1702(a), 40 CFR 52.21, 40 CFR 60.333(b))
- The permittee shall operate not the turbines | FG-CTG-DP at base load for more than a total of 12,400 hours per 12-month rolling time period as determined at the end of each calendar month.² (R 336.1205(1)(a) & (b), 40 CFR 52.21(i))
- The permittee shall not operate the turbines | FG-CTG-DP at peak load for more than a total of 800 hours per 12-month rolling time period as determined at the end of each calendar month.² (R 336.1205(1)(a) & (b), 40 CFR 52.21(i))
- The permittee must minimize the NO_x, CO and PM-10 emission rates during startup and shutdown in accordance with the turbine manufacturer recommendations.² (R 336.1912, 40 CFR 52.21(j))
- The total hours for startup and shutdown for FG-CTG DP 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 (i.e., loads greater than 65%). 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 (40 CFR 52.21(j))
- The permittee shall not operate FG-CTG-DP 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 EGLE approved plan describing how emissions are 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. Unless notified by the District Supervisor within 30 business days after plan submittal, the plan shall be deemed approved.² (R 336.1911, R 336.1912, 40 CFR 52.21)

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Section 3 – Peakers

ROP No: MI-ROP-B2796-2015e

Expiration Date: July 15, 2020

PTI No: MI-PTI-B2796-2015e

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IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each turbine with a dry low-NO_x combustor.² (R 336.1910, 40 CFR 52.21(i))

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V. TESTING/SAMPLING

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

1. NO_x emission rates (ppmv) from each turbine will be verified in accordance with 40 CFR 60, Subparts A and GG. Testing procedures shall be in accordance with the applicable federal Reference Methods, 40 CFR Part 60, Appendix A.² (40 CFR 60.8 & 60.335)
2. In accordance with 40 CFR 75, Appendix E, the permittee shall retest the NO_x emission rate of each turbine at least once every 20 calendar quarters. The permittee shall perform NO_x testing for at least four (4) approximately equally spaced operating load points, ranging from the maximum operating load to the minimum operating load. (40 CFR 75, Appendix E2.2)
3. CO emission rates from each turbine will be verified in accordance with Department requirements. Testing must be done for each turbine in conjunction with NO_x testing and under the same operating load and test averaging period requirements.² (R 336.2001, R 336.2003, R 336.2004)
4. The permittee shall test PM-10 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. Testing must be done for each turbine at 100% load conditions.² (R 336.2001, R 336.2003, R 336.2004)
5. Emission factors developed from previous stack tests at 65%, 100% and peak load conditions will be used along with hourly fuel usage data to demonstrate compliance with annual HCOH limits. (R 336.2001, R 336.2003, R 336.2004, R 336.1213(3))
6. 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.² (R 336.1331, R 336.2001, R 336.2003, R 336.2004)
7. The permittee shall conduct federal Reference Method 9 visible emissions reading for each turbine at least once per 825 hours of operation.² (R 336.1301, 40 CFR 52.21)

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five 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 825 hours of operation.² (R 336.1301, 40 CFR 52.21)
2. The permittee shall keep records for each turbine operating in base mode, of the calendar day NO_x emission calculations (ppmv NO_x). All such records and calculations are for the purpose of compliance demonstration and shall be kept on file for a period of at least five years and made available to the AQD upon request. See Appendix 7-DP. (R 336.1205(1)(a) & (b), 40 CFR 52.21(i), 40 CFR 60 Subpart GG)
3. The permittee shall keep records for each turbine operating in peak mode, of the calendar day NO_x emission calculations (ppmv NO_x). All such records and calculations are for the purpose of compliance demonstration and shall be kept on file for a period of at least five years and made available to the AQD upon request. See Appendix 7-DP. (R 336.1205(1)(a) & (b), 40 CFR 52.21(i), 40 CFR 60 Subpart GG)
4. For each turbine, the permittee shall keep monthly records of hours of operation at base and peak loads.² (R 336.1205(1)(a) & (b), 40 CFR 52.21(i))

Section 3 – Peakers

ROP No: MI-ROP-B2796-2015e
Expiration Date: July 15, 2020
PTI No: MI-PTI-B2796-2015e

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- 5. For each turbine, the permittee shall keep records of the monthly and previous 12-month NOx emission calculations.² See Appendix 7-DP. (R 336.1205(1)(a) & (b), 40 CFR 52.21, 40 CFR 60 Subpart GG)
- 6. The permittee shall monitor the nitrogen content in the fuel in accordance with 40 CFR 60.334(h)(2) if an allowance for fuel bound nitrogen is claimed.² (40 CFR 60.334(h)(2))
- 7. For each turbine, the permittee shall keep records of the calendar day average (ppmv), monthly and previous 12-month CO emission calculations.² See Appendix 7-DP. (R 336.1205(1)(a) & (b), 40 CFR 52.21)
- 8. For each turbine, the permittee shall keep records of the calendar day average, monthly and previous 12-month PM-10 emission calculations.² (R 336.1205(1)(a) & (b), 40 CFR 52.21)
- 9. For each turbine, the permittee shall keep records of the monthly and previous 12-month HCOH emission calculations.² (R 336.1205(2))
- 10. For each turbine, the permittee shall continuously monitor and record the hourly natural gas usage in a manner and with instrumentation acceptable to the AQD District Supervisor.² (R 336.1205(1)(a) & (b), 40 CFR 52.21)
- 11. For each turbine, the permittee shall keep records of hours of startup and shutdown.² (40 CFR 52.21(j))
- 12. 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.² (40 CFR 75.12(c)(2))
- 13. Monitoring and recording of emissions and operating information for each turbine 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 & CFR 75, Appendix E)

14. On or before December 31, 2021, the permittee shall install, calibrate, maintain, & operate in a satisfactory manner devices or equipment to monitor and record the NOx emissions and O2 or CO2 content of the exhaust gas from each turbine on a continuous basis. See Appendix 3-F (R 336.1213(3), 40 CFR 75.12(d)(2), 30 CFR 72.12(c), Appendix F to Part 75)

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. After NOx CEMS is installed, within 30 days following the end of each calendar quarter, the permittee shall report nitrogen oxide and either oxygen or carbon dioxide emissions in accordance with 40 CFR Part 75 (Continuous Emission Monitoring). (R 336.1213(3), 40 CFR 75.64)

5. After NOx CEMS installed, in accordance with 40 CFR 60.7(c) & (d), the permittee shall submit two (2) copies of an excess emission report (EER) and monitoring system performance report in an acceptable format to the AQD District Supervisor and the TPU Supervisor. The monitoring system performance report shall follow the format of Figure 1 in 40 CFR 60.7(d). The written reports of NOx excess emissions (EER) shall include the following information:

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a. For each exceedance above the permitted NOx, the date & time of commencement & completion, the magnitude, the cause and corrective actions of all occurrences during the reporting period.

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b. A report of all periods of CEMS downtime and corrective action.

c. A report of the total operating time of each turbine included in FG-CTG-BP, during the reporting period.

d. If no exceedances or CEMS downtime occurred during the reporting period, the permittee shall report that fact.

The permittee shall submit quarterly Excess Emission Report (EER) and Monitoring System Performance report 30 days following the end of the quarter in which data were collected. (R 336.1213(3), 40 CFR 60.7(c) & (d), 40CFR60.334(i))

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See Appendices 3-P and 8-P

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-TURBINE1-DP	108 x 228 ²	56 ²	R 336.1225, 40 CFR 52.21(c) & (d)
2. SV-TURBINE2-DP	108 x 228 ²	56 ²	R 336.1225, 40 CFR 52.21(c) & (d)
3. SV-TURBINE3-DP	108 x 228 ²	56 ²	R 336.1225, 40 CFR 52.21(c) & (d)
4. SV-TURBINE4-DP	108 x 228 ²	56 ²	R 336.1225, 40 CFR 52.21(c) & (d)

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IX. OTHER REQUIREMENT(S)

1. 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))

2. 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-55718-2015 is hereby incorporated into this ROP as Appendix 9-I. (R 336.1299(2)(a))

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3. 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))

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4. 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-DP, EU-CTG12-2-DP, EU-CTG11-1-DP, and EU-CTG11-2-DP. (40 CFR Part 97 Subpart CCCCC)

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5. The permittee shall comply with the provisions of the Transport Rule NOx Annual Trading Program, as specified in 40 CFR, Part 97, Subpart AAAAA, as they apply to EU-CTG12-1-DP, EU-CTG12-2-DP, EU-CTG11-1-DP, and EU-CTG11-2-DP. (40 CFR Part 97 Subpart AAAAA)

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6. The permittee shall comply with the provisions of the Transport Rule SO2 Nox Ozone Trading Program, as specified in 40 CFR, Part 97, Subpart BBBBB, as they apply to EU-CTG12-1-DP, EU-CTG12-2-DP, EU-CTG11-1-DP, and EU-CTG11-2-DP. (40 CFR Part 97 Subpart BBBBB)
7. The permittee shall comply with all the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A and GG, as they apply to FG-CTG-DP.² (40 CFR 60, Subparts A and GG)

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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Appendix 2-P-BP. Schedule of Compliance

The permittee certified in the ROP application that this stationary source is in compliance with all applicable requirements and the permittee shall continue to comply with all terms and conditions of this ROP. A Schedule of Compliance is not required. (R 336.1213(4)(a), R 336.1119(a)(ii))

Appendix 3-P-BP. Monitoring Requirements

Belle River CTG Peakers and Dean Peakers:

The following monitoring procedures, methods, or specifications are the details to the monitoring requirements identified and referenced in **FG-BR-CTG-BP and FG-CTG-DP**

Continuous Emission Monitoring System

The CEMS performance specifications defined in 40 CFR Part 75, Appendix B are adopted.

Methods of measurement, frequency of measurement and recordkeeping methods for CEMS required under 40 CFR 75 are outlined in the most recent version of the Acid Rain Program – Belle River Peakers Monitoring Plan and Acid Rain Program – Dean Peakers Monitoring Plan.

The data reduction procedures defined in 40 CFR 75.12(c) will calculate hourly, quarterly, and annual NOx emission rates (in lb/MMBtu) by combining the NOx concentration (in ppm), diluent concentration (in percent O2 or CO2), and percent moisture (if applicable) measurements according to the procedures in Appendix F of 40 CFR Part 75. Additionally, the CEMS shall ensure that the data obtained is directly correlated with the emission limits established in FGCTG-BP SC I.1.

The data conversion procedures defined in Appendix F in 40 CFR Part 75 will calculate the hourly heat input, MMBtu.

Appendix 4-P-BP. Recordkeeping

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

Appendix 5-P-BP. Testing Procedures

Specific testing requirement plans, procedures, and averaging times are detailed in the appropriate source-wide, emission unit and/or flexible group special conditions. Therefore, this appendix is not applicable.

Appendix 6-P-BP. Permits to Install

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-B2796-2015c09. Those ROP revision applications that are being issued concurrently with this ROP renewal are identified by an asterisk (*). Those revision applications not listed with an asterisk were processed prior to this renewal.

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Source-Wide PTI No MI-PTI-B2796-2015c09a is being reissued as Source-Wide PTI No. MI-PTI-B2796-20YY15.

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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-SP 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-B2796-20YY15.

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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-DP

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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:

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 CTG. 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 I.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:

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

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 x 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:

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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.

After NOx CEMS is installed, compliance with the NOx 12-month rolling totals will be determined using the hourly NOx emission rate (lb/mmBtu) and hourly heat rate (mmBtu/hr) values, described in Appendix 3-P.

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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.