



Michigan Department Of Environmental Quality - Air Quality Division

**RENEWABLE OPERATING PERMIT APPLICATION  
C-001: CERTIFICATION**

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*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 N6631
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Stationary Source Name Dearborn Industrial Generation	
City Dearborn	County Wayne

<b>SUBMITTAL CERTIFICATION INFORMATION</b>	
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 _____	
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 ROP	

<b>CONTACT INFORMATION</b>	
Contact Name Paul Snoes	Title DIG Environmental Health & Safety Coordinator
Phone number 313-336-7189	E-mail address paul.snoes@cmsenergy.com

<b>This form must be signed and dated by a Responsible Official.</b>				
Responsible Official Name Jimmy Chong			Title Asset Manager	
Mailing address 2400 Miller Road				
City Dearborn	State MI	ZIP Code 48121	County Wayne	Country United States
<b>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.</b>				
Signature of Responsible Official 			Date 5/1/18	

201600060



**Dearborn Industrial Generation LLC**

Ms. Caryn Owens  
Michigan Department of Environmental Quality (MDEQ)  
Air Quality Division  
Cadillac District Office  
120 W Chapin Street  
Cadillac, MI 49601

May 1, 2018

**RE: Significant Modification to Renewable Operating Permit (ROP)  
Incorporate Permit to Install No. 8-17  
Dearborn Industrial Generation, LLC (DIG)**

Dear Ms. Owens,

Dearborn Industrial Generation, LLC (DIG) received approval of Permit to Install (PTI) No. 8-17 on April 5, 2017 for upgrades to the natural gas-fired, simple-cycle turbine identified as EUCTG1. The EUCTG1 upgrades were completed on November 30, 2017, and emissions testing for particulate matter less than 10 microns in diameter (PM<sub>10</sub>) and volatile organic compounds (VOCs) was conducted February 5 through February 9, 2018. This application for significant modification of Renewable Operating Permit (ROP) No. MI-ROP-N6631-2012a is being submitted pursuant to Rule 216(3) to incorporate the terms and conditions of PTI No. 8-17.

PTI No. 8-17 incorporated new emission limits, monitoring, recordkeeping, and reporting requirements for EUCTG1. The project triggered new requirements for EUCTG1 under 40 CFR Part 60, Subpart KKKK replacing requirements of 40 CFR Part 60, Subpart GG. Incorporating PTI No. 8-17 into the ROP will replace certain terms and conditions for EUCTG1 and FGTURBINES, and will add EUCTG1 to the existing flexible group FGNSPSKKKK.

A ROP Renewal Application was submitted to MDEQ on August 31, 2016. The enclosed ROP modification is being submitted prior to completion of the ROP renewal process. Based on discussion with Ms. Rebecca Loftus, we are including a copy of PTI No. 8-17 rather than a mark-up of ROP No. MI-ROP-N6631-2012a.

The M-001, C-001, and AI-001 forms and a copy of PTI No. 8-17 are enclosed. If you have questions regarding this submittal, please contact Mr. Paul Snoes at (313) 336-7189 or Mr. Chris Occhipinti at (616) 951-4774.

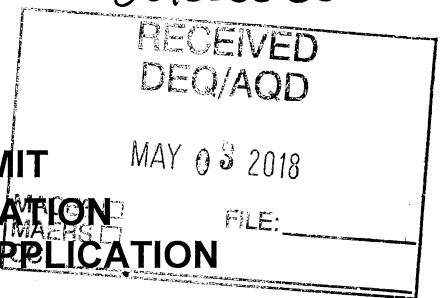
Sincerely,

Jimmy Chong  
Asset Manager

cc: Paul Snoes, DIG  
Wilhemina McLemore, MDEQ  
Chris Occhipinti, NTH Consultants, Ltd.



201800060



### 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 N6631	2. ROP Number MI-ROP-N6631-2012a	3. County Wayne
4. Stationary Source Name Dearborn Industrial Generation, LLC		
5. Location Address 2400 Miller Road	6. City Dearborn	
<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 7 – 10.</p> <p><input type="checkbox"/> Rule 215(2) Notification of change. Complete Items 7 – 10.</p> <p><input type="checkbox"/> Rule 215(3) Notification of change. Complete Items 7 – 11.</p> <p><input type="checkbox"/> Rule 216(1)(a)(i)-(iv) Administrative Amendment. Complete Items 7 – 10.</p> <p><input type="checkbox"/> Rule 216(1)(a)(v) Administrative Amendment. Complete Items 7 – 13. Results of testing, monitoring &amp; recordkeeping must be submitted. See detailed instructions.</p> <p><input type="checkbox"/> Rule 216(2) Minor Modification. Complete Items 7 – 12.</p> <p><input checked="" type="checkbox"/> Rule 216(3) Significant Modification. Complete Items 7 – 12 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 7 – 12.</p>		
8. Effective date of the change. (MM/DD/YYYY) <i>See detailed instructions.</i>	<u>11/30/2017</u>	9. Change in emissions? <input checked="" type="checkbox"/> Yes <input 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>Incorporating PTI No. 8-17 terms and conditions for EUCTG1, FGTURBINES, and FGNSPSKKKK. Under PTI No. 8-17, EUCTG1 underwent upgrades that triggered 40 CFR Part 60 Subpart KKKK requirements.</p>		
11. New Source Review Permit(s) to Install (PTI) associated with this application?		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
If Yes, enter the PTI Number(s) <u>8-17</u> - - - - -		
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>		<b>AI ROP</b>
14. Contact Name	Telephone No.	E-mail Address
Paul Snoes	313-336-7189	paul.snoes@cmsenergy.com
15. This submittal also updates the ROP renewal application submitted on <u>8/31/2016</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

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Michigan Department of Environmental Quality - Air Quality Division



# RENEWABLE OPERATING PERMIT INITIAL APPLICATION

## AI-001: ADDITIONAL INFORMATION

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FILE: \_\_\_\_\_

*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. Refer to instructions for additional information to complete the Renewable Operating Permit Application.*

SRN: N6631	Section Number (if applicable):
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1. Additional Information ID <b>AI-001</b>
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### Additional Information

2. Is This Information Confidential?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
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3. Narrative  
 A copy of permit to install (PTI) No. 8-17 is enclosed in lieu of a marked-up Renewable Operating Permit (ROP) No. MI-ROP-N6631-2012a for proposed changes associated with PTI No. 8-17.

An ROP Renewal Application was submitted to MDEQ on August 31, 2016 and MDEQ is in the process of drafting ROP conditions. On April 17, 2018, Ms. Rebeccas Loftus of MDEQ indicated that changes to the ROP associated with PTI No. 8-17 need not be marked-up in the ROP due to the status of the ROP renewal.

In addition to the conditions of PTI No. 8-17, the following changes can be incorporated into the ROP with this modification:

Special condition III.1 under FGTURBINES can be revised to reflect completion of submittal. Dearborn Industrial Generation (DIG) submitted the startup and shutdown plan to MDEQ on December 20, 2017.

Special condition VII.7 under FGNSPSK KKK can be revised to reflect completion of submittal. DIG submitted notification of construction to Ms. Wilhemina McLemore of MDEQ (Air Quality Division - Detroit District Supervisor) on December 7, 2017.

201800060

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

April 5, 2017

**PERMIT TO INSTALL  
8-17**

**ISSUED TO**  
Dearborn Industrial Generation, L.L.C.

**LOCATED AT**  
2400 Miller Road  
Dearborn, Michigan

**IN THE COUNTY OF**  
Wayne

**STATE REGISTRATION NUMBER**  
N6631

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: <b>March 24, 2017</b>	
DATE PERMIT TO INSTALL APPROVED: <b>April 5, 2017</b>	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

## PERMIT TO INSTALL

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**Common Abbreviations / Acronyms**

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO <sub>2</sub> e	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
EU	Emission Unit	gr	Grains
FG	Flexible Group	HAP	Hazardous Air Pollutant
GACS	Gallons of Applied Coating Solids	Hg	Mercury
GC	General Condition	hr	Hour
GHGs	Greenhouse Gases	HP	Horsepower
HVLP	High Volume Low Pressure*	H <sub>2</sub> S	Hydrogen Sulfide
ID	Identification	kW	Kilowatt
IRSL	Initial Risk Screening Level	lb	Pound
ITSL	Initial Threshold Screening Level	m	Meter
LAER	Lowest Achievable Emission Rate	mg	Milligram
MACT	Maximum Achievable Control Technology	mm	Millimeter
MAERS	Michigan Air Emissions Reporting System	MM	Million
MAP	Malfunction Abatement Plan	MW	Megawatts
MDEQ	Michigan Department of Environmental Quality	NMOC	Non-methane Organic Compounds
MSDS	Material Safety Data Sheet	NO <sub>x</sub>	Oxides of Nitrogen
NA	Not Applicable	ng	Nanogram
NAAQS	National Ambient Air Quality Standards	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM10	Particulate Matter equal to or less than 10 microns in diameter
NSPS	New Source Performance Standards	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NSR	New Source Review	pph	Pounds per hour
PS	Performance Specification	ppm	Parts per million
PSD	Prevention of Significant Deterioration	ppmv	Parts per million by volume
PTE	Permanent Total Enclosure	ppmw	Parts per million by weight
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO <sub>2</sub>	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

\*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

### GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to R 336.1210, operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to R 336.1219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.



11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301)**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

**SPECIAL CONDITIONS**

**EMISSION UNIT SUMMARY TABLE**

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

Emission Unit ID	Emission Unit Description (Process Equipment & Control Devices)	Installation Date / Modification Date	Flexible Group ID
EUCTG1	One simple cycle General Electric Model PG7241 combustion turbine. The turbine is fired exclusively with pipeline quality natural gas and has a design heat input rating of 1,638 MM Btu per hour at ISO conditions. The rated output capacity of the unit is approximately 181 megawatts at ISO conditions.	6/01/1999 8/12/2015 TBD 2017	FGTURBINES FGNSPSKXXX
EUCTG2	One combined cycle General Electric Model PG7241 combustion turbine. The turbine is fired exclusively with pipeline quality natural gas and has a design heat input rating of 1,626 MM Btu per hour. The heated and pressurized exhaust gases from the turbine are utilized to power an electric generator shaft and are then sent to an unfired heat recovery steam generator. The rated output capacity of the unit is approximately 179 megawatts.	7/23/2001 8/12/2015	FGTURBINES FGNSPSKXXX
EUCTG3	One combined cycle General Electric Model PG7241 combustion turbine. The turbine is fired exclusively with pipeline quality natural gas and has a design heat input rating of 1,626 MM Btu per hour. The heated and pressurized exhaust gases from the turbine are utilized to power an electric generator shaft and are then sent to an unfired heat recovery steam generator. The rated output capacity of the unit is approximately 179 megawatts.	7/9/2001 8/12/2015	FGTURBINES FGNSPSKXXX
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.			

**The following conditions apply to: EUCTG1**

**DESCRIPTION:** One simple cycle General Electric Model PG7241 combustion turbine. The turbine is fired exclusively with pipeline quality natural gas and has a design heat input rating of 1,638 MM Btu per hour at ISO conditions. The rated output capacity of the unit is approximately 170 megawatts at ISO conditions.

**Flexible Group ID:** FGTURBINES

**POLLUTION CONTROL EQUIPMENT:** Dry Low NOx Combustor.

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NOx as NO <sub>2</sub>	9 ppmv at 15% O <sub>2</sub> on a dry basis <sup>2</sup>	Test Protocol*	EUCTG1	SC VI.2, GC 13	R 336.1205(1)(a), R 336.2802(4)
2. NOx as NO <sub>2</sub>	72 pph <sup>2</sup>	720-hour rolling average as determined at the end of each hour that the unit operates	EUCTG1	SC VI.2, SC VI.4, GC 13	R 336.1205(1)(a), R 336.2802(4), 40 CFR 52.21(c) & (d)
3. CO	9 ppmv at 15% O <sub>2</sub> on a dry basis <sup>2</sup>	Test Protocol*	EUCTG1	SC VI.3, GC 13	R 336.1205(1)(a), R 336.2802(4)
4. CO	30 pph <sup>2</sup>	720-hour rolling average as determined at the end of each hour that the unit operates	EUCTG1	SC VI.3, SC VI.4, GC 13	R 336.1205(1)(a), R 336.2802(4), 40 CFR 52.21(d)
5. VOC	2.8 pph <sup>2</sup>	Test Protocol*	EUCTG1	SCV.1, SC VI.1	R 336.1205(1)(a), R 336.2802(4)
6. PM10	9 pph <sup>2</sup>	Test Protocol*	EUCTG1	SC V.1, SC VI.1	R 336.1205(1)(a), R 336.2802(4), 40 CFR 52.21(c) & (d)

\*Test Protocol shall specify averaging time.

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

NA

#### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Testing to verify PM10 and VOC emission limits shall be conducted within 180 days of the issuance of this permit if an acceptable emissions test has not been conducted within 5 years prior to the issuance of the RO permit, unless the permittee has submitted to the AQD District Supervisor an acceptable demonstration that the most recent acceptable test remains valid and representative. 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.<sup>2</sup> **(R 336.2003, R 336.2004)**
2. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. **(R 336.2001, R 336.2003, R 336.2004)**

#### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the natural gas usage rate in EUCTG1 on an hourly and monthly basis. The heating value of the natural gas in BTU per cubic foot shall be determined on a monthly basis from one sample taken from the main gas pipeline to the facility on the permittee's property. Upon request, the AQD District Supervisor may authorize a different sampling method and/or sampling schedule.<sup>2</sup> **(40 CFR Part 75, Appendix D, R 336.1205(1)(a))**
2. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner, a device to monitor and record the NOx (as NO<sub>2</sub>) emissions from EUCTG1 on a continuous basis. Installation and operation of the Continuous Emission Monitoring System (CEMS) or equivalent Predictive Emissions Monitoring System (PEMS) shall meet the timelines, requirements, and reporting detailed in 40 CFR Part 60 Appendix F. If the permittee chooses to use a PEMS in lieu of a CEMS to monitor NOx emissions, the permittee shall follow the protocol as approved by the Environmental Protection Agency (EPA).<sup>2</sup> **(40 CFR Part 75 Subpart E, 40 CFR Part 75.66(d))**
3. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner, a device to monitor and record the CO emissions from EUCTG1 on a continuous basis. Installation and operation of the Continuous Emission Monitoring System (CEMS) shall meet the timelines, requirements, and reporting detailed in 40 CFR Part 60 Appendix F. If the permittee chooses to use a Predictive Emissions Monitoring System (PEMS) in lieu of a CEMS to monitor CO emissions, the permittee shall follow the protocol as approved by the Environmental Protection Agency (EPA).<sup>2</sup> **(40 CFR Part 75 Subpart E, 40 CFR Part 75.66(d))**
4. The permittee shall maintain the following records:
  - a. Hourly NOx emission rate, in pph.<sup>2</sup>
  - b. Hourly CO emission rate, in pph.<sup>2</sup>
  - c. 720-hour rolling average NOx emission rate in pph, based on actual hours of turbine operation. Upon issuance of this PTI the 720-hour rolling average shall include the previous 720 hours of operation.<sup>2</sup>
  - d. 720-hour rolling average CO emission rate in pph, based on actual hours of turbine operation. Upon issuance of this PTI the 720-hour rolling average shall include the previous 720 hours of operation.<sup>2</sup>
  - e. Monthly hours of turbine operation including startup and shutdown.<sup>2</sup>
  - f. Total monthly PM10 emission rate in tons per month.<sup>2</sup>
  - g. Total monthly VOC emission rate in tons per month.<sup>2</sup>**(40 CFR Part 75, R 336.1205(1)(a), R 336.2802(4), 40 CFR 52.21(c) & (d))**
5. The permittee shall verify compliance with the emission limitations for EUCTG1 by following the procedures and methodologies contained in the document entitled "Protocol for Demonstrating Continuous Compliance with the Emission Limitations of MI-ROP-N6631-2012a" dated April 12, 2016, or subsequent revisions to this document as provided under Special Condition VI.6.<sup>2</sup> **(R 336.1205(1)(a))**

6. If it becomes necessary to modify the document entitled "Protocol for Demonstrating Continuous Compliance with the Emission Limitations of MI-ROP-N6631-2012a" dated April 12, 2016, the permittee shall re-submit the document to the District Supervisor for review and written approval before implementing any modifications to the protocol.<sup>2</sup> **(R 336.1205(1)(a))**

#### **VII. REPORTING**

1. The permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor for approval at least 30 days prior to the anticipated test date. The protocol shall include test program summary, test schedule, and the quality assurance measures to be applied. **(R 336.2001(3))**
2. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. **(R 336.2001(4))**
3. The permittee shall submit two complete test reports of the test results to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, within 60 days following the last date of the test. **(R 336.2001(5))**

#### **VIII. STACK/VENT RESTRICTIONS**

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SVCTG1	213 <sup>2</sup>	60 <sup>2</sup>	R 336.1225, 40 CFR 52.21(c) & (d)

#### **IX. OTHER REQUIREMENTS**

1. If the permittee chooses to use a Predictive Emissions Monitoring System (PEMS) to monitor NO<sub>x</sub> emissions, the permittee shall follow the protocol delineated in the Environmental Protection Agency's (EPA) April 5, 2006, approval letter for GTP1.<sup>2</sup> **(40 CFR Part 75 Subpart E, 40 CFR Part 75.66(d))**
2. If the permittee chooses to use a Predictive Emissions Monitoring System (PEMS) to monitor CO emissions, the permittee shall follow the protocol delineated in Performance Specification 16 in Appendix B of 40 CFR Part 60.<sup>2</sup> **(40 CFR Part 60 Appendix B).**

#### **Footnotes:**

<sup>1</sup>This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

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

**FLEXIBLE GROUP SUMMARY TABLE**

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

<b>Flexible Group ID</b>	<b>Flexible Group Description</b>	<b>Associated Emission Unit IDs</b>
FGTURBINES	This emission group consists of the simple cycle combustion turbine, and two combined cycle turbines.	EUCTG1, EUCTG2, and EUCTG3
FGNSPSKKKK	This flexible group consists of one simple cycle turbine and two combined cycle turbines, subject to NSPS KKKK.	EUCTG1, EUCTG2, and EUCTG3

**The following conditions apply to: FGTURBINES**

**DESCRIPTION:** This emission group consists of the simple cycle combustion turbine, and two combined cycle turbines.

**Emission Units:** EUCTG1, EUCTG2, and EUCTG3

**POLLUTION CONTROL EQUIPMENT:** Dry low NOx combustors.

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. NOx as NO <sub>2</sub>	815 tpy	12-month rolling time period as determined at the end of each calendar month	FGTURBINES	SC VI.1, VI.2	R 336.1205(1)(a), R 336.2802(4), 40 CFR 52.21(c) & (d)
2. CO	403 tpy	12-month rolling time period as determined at the end of each calendar month	FGTURBINES	SC VI.1, VI.2	R 336.1205(1)(a), R 336.2802(4), 40 CFR 52.21(c) & (d)
3. VOC	36 tpy	12-month rolling time period as determined at the end of each calendar month	FGTURBINES	SC VI.1, VI.2	R 336.1205(1)(a), R 336.2802(4), 40 CFR 52.21(c) & (d)
4. PM <sub>10</sub>	118 tpy	12-month rolling time period as determined at the end of each calendar month	FGTURBINES	SC VI.1, VI.2	R 336.1205(1)(a), R 336.2802(4), 40 CFR 52.21(c) & (d)

\*Test Protocol shall specify averaging time.

**II. MATERIAL LIMIT(S)**

1. The permittee shall burn only pipeline quality natural gas in FGTURBINES. **(R 336.1205(1)(a))**
2. The pipeline quality natural gas shall not have a total sulfur content in excess of 1 grain of sulfur per 100 standard cubic feet of gas based on a 12-month rolling time period. **(R 336.1205(1)(a) & (3))**

**III. PROCESS/OPERATIONAL RESTRICTION(S)**

1. The permittee shall submit to the AQD District Supervisor and maintain on file, a plan that describes how emissions will be minimized during startup and shutdown within 60 days of completion of modifications to FGTURBINES. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. If it becomes necessary to revise, modify or update the plan, the permittee shall submit the revised plan to the District Supervisor for review and written approval before implementing such revisions, modifications, or updates. Unless notified by the AQD District Supervisor within 30 business days after plan submittal, the plan shall be deemed approved. **(R 336.1205(1)(a), R 336.1911, R 336.1912)**

**IV. DESIGN/EQUIPMENT PARAMETER(S)**

NA

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of 5 years. **(R 336.1201(3))**

NA

**VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of 5 years. **(R 336.1201(3))**

1. The permittee shall maintain the following records for FGTURBINES<sup>2</sup>:
  - a. PM10 emission rate, in tons/month, and tons per 12 month rolling time period as determined at the end of each calendar month.
  - b. CO emission rate, in tons/month, and tons per 12 month rolling time period as determined at the end of each calendar month.
  - c. VOC emission rate, in tons/month, and tons per 12 month rolling time period as determined at the end of each calendar month.
  - d. NOx (as NO<sub>2</sub>) emission rate, in tons/month, and tons per 12 month rolling time period as determined at the end of each calendar month.**(R 336.1205(1)(a), R 336.2802(4))**
2. The permittee shall verify compliance with the emission limitations for FGTURBINES by following the procedures and methodologies contained in the document entitled "Protocol for Demonstrating Continuous Compliance with the Emission Limitations of ROP-MI-N6631-2012a" dated April 12, 2016, or subsequent revisions to this document as provided under special condition VI.3.<sup>2</sup> **(R 336.1205(1)(a))**
3. If it becomes necessary to revise, modify or update the document entitled "Protocol for Demonstrating Continuous Compliance with the Emission Limitations of ROP-MI-N6631-2012a" dated April 12, 2016, the permittee shall submit the revised document to the District Supervisor for review and written approval before implementing such revisions, modifications, or updates.<sup>2</sup> **(R 336.1205(1)(a))**
4. The permittee shall keep monthly records of fuel sampling data or fuel receipts that verify the gaseous fuel for FGTURBINES meets the definition of natural gas as defined in 40 CFR 60.41b. **(R 336.1205(3))**
5. The permittee shall calculate and record the monthly and 12-month rolling sulfur concentrations of the gaseous fuel used in FGTURBINES, as recorded from the fuel sampling data or fuel receipts. **(R 336.1205(3))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTION(S)**

NA

**IX. OTHER REQUIREMENT(S)**

1. 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-55088-2012 is hereby incorporated into Appendix 9 of MI-ROP-N6631-2012a. **(R 336.1299(2)(a))**

**Footnotes:**

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

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



**The following conditions apply to: FGNSPSK KKK**

**DESCRIPTION:** This flexible group consists of one simple cycle turbine and two combined cycle turbines, subject to NSPS KKKK.

**Emission Units:** EUCTG1, EUCTG2, and EUCTG3

**POLLUTION CONTROL EQUIPMENT:** Dry Low NOx Combustors.

**I. EMISSION LIMITS**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period/ Operating Scenario</b>	<b>Equipment</b>	<b>Testing / Monitoring Method</b>	<b>Underlying Applicable Requirements</b>
1. NOx	42 ppm at 15 percent O <sub>2</sub> or 290 ng/Joules of useful output (2.3 lb/MWh) <sup>2</sup>	30-day rolling average (when using a CEMS or equivalent)	EUCTG2, EUCTG3	SC V.1, SC VI.1	40 CFR 60.4320(a)
2. NOx	15 ppm at 15 percent O <sub>2</sub> or 290 ng/Joules of useful output (2.3 lb/MWh) <sup>2</sup>	4-unit operating hour rolling average, when using a CEMS or equivalent	EUCTG1	SC V.1, SC VI.1	40 CFR 60.4320(a)

**II. MATERIAL LIMITS**

1. The permittee shall not burn in FGNSPSK KKK any fuel which contains total potential sulfur emissions in excess of 26 ng SO<sub>2</sub>/Joules (0.060 lb SO<sub>2</sub>/MMBtu) heat input.<sup>2</sup> **(40 CFR Part 60.4330(a)(2))**

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall operate and maintain the stationary combustion turbines, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup, shutdown, and malfunction.<sup>2</sup> **(40 CFR 60.4333(a))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

NA

#### **V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. If the permittee does not use the continuous emissions monitoring allowance as specified in SC VI.1, then within 60 days after achieving the maximum production rate, but not later than 180 days after initial startup, federal Standards of Performance for New Stationary Sources require verification of NO<sub>x</sub> emission rates from each turbine included in FGNSPSK KKK, by testing at owner's expense, in accordance with 40 CFR Parts 60.8 and 60.4400.
  - a. The permittee shall conduct three separate test runs, at least 20 minutes each, at ambient temperatures greater than 0 °F, and at any load condition within ±25 percent of 100 percent peak load.
  - b. Testing must be conducted annually (at least every 14 calendar months).
  - c. If the stack test result is less than or equal to 75 percent of the NO<sub>x</sub> limits in SC I.1, the test plan can be changed to once every two years (at least every 26 calendar months). If subsequent test results yield NO<sub>x</sub> emissions greater than 75 percent of the NO<sub>x</sub> limit in SC I.1, annual testing must be resumed.
  - d. Subsequent stack testing is not required if the permittee shows continuous compliance with the NO<sub>x</sub> emission limits with a CEMS or equivalent PEMS pursuant to 40 CFR 60.4340(b)(ii), as specified in SC VI.1.
  - e. Stack testing procedures and the location of stack testing ports shall be in accordance with the applicable Federal Reference Methods, 40 CFR Part 60 Appendix A.

No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. 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.<sup>2</sup>  
**(40 CFR 60.4400)**

#### **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. In lieu of the stack testing required in SC V.1, the permittee may instead install, calibrate, maintain and operate a continuous emission monitoring system (CEMs) as described in §60.4335(b) and 60.4345.  
**(40 CFR 60.4340(b))**
2. The permittee shall monitor the sulfur content in the fuel once per turbine operating day, using the methods described in 40 CFR 60.4415, or alternate methods as described in 40 CFR 60.4360. The permittee may use a custom monitoring schedule pursuant to 40 CFR 60.4370(c) if the schedule has been approved by the EPA Administrator. Sulfur in fuel monitoring is not required if it is demonstrated that the potential sulfur emissions do not exceed 26 ng SO<sub>2</sub>/Joules (0.060 lb SO<sub>2</sub>/MMBtu) heat input. The demonstration shall include one of the following:
  - a. The fuel quality characteristics in a current, valid purchase contract, tariff sheet or transportation contract for the fuel, specifying that the maximum total sulfur content is 20 grains of sulfur per 100 standard cubic feet or less; or
  - b. Representative fuel sampling data, as specified in 40 CFR Part 75, Appendix D, Section 2.3.1.4 or 2.3.2.4, shows that the sulfur content does not exceed 26 ng SO<sub>2</sub>/Joules (0.060 lb SO<sub>2</sub>/MMBtu) heat input.  
**(40 CFR 60.4360, 40 CFR 60.4370)**
3. The permittee shall keep, in a satisfactory manner, records of the sulfur content of the fuel once each operating day for FGNSPSK KKK, as required by SC VI.2. This condition does not apply if it is demonstrated that the potential sulfur emissions do not exceed 26 ng SO<sub>2</sub>/Joules (0.060 lb SO<sub>2</sub>/MMBtu) per MMBtu heat input pursuant to 40 CFR 60.4365. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4370)**

## **VII. REPORTING**

1. The permittee shall provide written notification of construction and operation to comply with the federal Standards of Performance for New Stationary Sources, 40 CFR 60.7. The permittee shall submit this notification to the AQD District Supervisor within the time frames specified in 40 CFR 60.7. **(40 CFR 60.7)**
2. The permittee shall submit excess emissions and monitor downtime in accordance with 40 CFR 60.7(c) and 40 CFR 60.4380(b). An excess emission is any unit operating period in which the 4-hour or 30-day rolling average NO<sub>x</sub> emission rate exceeds the applicable emission limit in §60.4320. Monitor downtime is any unit operating hour in which the data for any of the following parameters are either missing or invalid: NO<sub>x</sub> concentration, CO<sub>2</sub> or O<sub>2</sub> concentration, fuel flow rate, steam flow rate, steam temperature, steam pressure, or megawatts. The steam flow rate, steam temperature, and steam pressure are only required if you will use this information for compliance purposes. All reports must be postmarked by the 30<sup>th</sup> day following the end of each 6-month period. **(40 CFR 60.4375(a), 40 CFR 60.4380(b), 40 CFR 60.4395)**
3. If the permittee is required to monitor the sulfur content in the fuel pursuant to SC VI.2 and 40 CFR 60.4360, the permittee shall submit excess emissions and monitor downtime in accordance with 40 CFR 60.7(c) and 60.4385. An excess emission is each turbine operating hour beginning on the date and hour that any sample shows an exceedance in the applicable sulfur limit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit. Monitor downtime begins when a required sample is not taken by its due date or the date and hour that invalid results are obtained. Monitor downtime ends on the date and hour of the next valid sample. All reports must be postmarked by the 30<sup>th</sup> day following the end of each 6-month period. **(40 CFR 60.4375(a), 40 CFR 60.4385, 40 CFR 60.4395)**

## **VIII. STACK/VENT RESTRICTIONS**

NA

## **IX. OTHER REQUIREMENTS**

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart KKKK, as they apply to FGNSPSKKKK. **(40 CFR Part 60 Subparts A & KKKK)**

### **Footnotes:**

<sup>1</sup>This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

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