

**From:** [Woolley, Lillian](#)  
**To:** [EGLE-ROP](#)  
**Cc:** [Alex Smith; Zhu, Joyce \(EGLE\)](#)  
**Subject:** N6838-ROP Renewal Application  
**Date:** Sunday, April 23, 2023 9:03:53 PM  
**Attachments:** [N6838\\_ROP Renewal\\_Vector\\_Highland.pdf](#)

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**CAUTION: This is an External email. Please send suspicious emails to [abuse@michigan.gov](mailto:abuse@michigan.gov)**

Attached you will find an electronic copy of the Vector Pipeline ROP Renewal Application (B1966). Files included in the pdf file include: a) the ROP Renewal Application Forms and b) an ROP Mark-up with no changes or deletions. Since a word copy of the ROP mark-up is required, a word copy is also attached. We have mailed a signed hard copy of the application – we understand that the ROP Renewal cannot be considered administratively complete without a hard copy including an original signature. Its my understanding you have already received the hard copy – please let me know if you have any questions.

**Lillian L. Woolley, PE | Senior Chemical Engineer**

Fishbeck | w: 248.324.4785 | c: 586.489.6876 | [Fishbeck.com](http://Fishbeck.com)



**Vector Pipeline™**

Vector Pipeline Company, LP  
38805 Seven Mile Road, #490  
Livonia, MI 48152

April 13, 2023

Joyce Zhu  
Warren District Office  
Air Quality Division  
Michigan Department of Environment, Great Lakes and Energy  
27700 Donald Court  
Warren, MI 48092-2793

**Renewable Operating Permit (ROP) Renewal Application  
MI-ROP-N6838-2019**

Dear Joyce:

A renewal application is attached for MI-ROP-M6838-2019 for the Highland Compressor Station located at 2282 South Duck Lake Road, Highland, Michigan. The renewal application is due no later than December 18, 2023.

This application includes:

- EQP 6000 ROP Application Form
- EQP 5774 Additional Information Form
- Preventive Maintenance Plan (PMP)
- Marked up copy of MI-ROP-N6838-2019

An electronic copy of the application and supporting documents will be provided to EGLE, which reduces the EGLE application administrative completeness review to 15 days.

If you have any questions or require additional information, please contact me at 952.983.1010 or [alex.smith@enbridge.com](mailto:alex.smith@enbridge.com).

Sincerely,

Alex Smith  
Senior Environmental Advisor

**Attachments**

By email and UPS

Copy: Lillian L. Woolley, PE – Fishbeck



## RENEWABLE OPERATING PERMIT RENEWAL APPLICATION FORM

*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 Renewal Application Form.*

### GENERAL INSTRUCTIONS

This application form should be submitted as part of an administratively complete application package for renewal of a Renewable Operating Permit (ROP). This application form consists of nine parts. Parts A – H must be completed for all applications and must also be completed for each section of a sectioned ROP. Answer all questions in all parts of the form unless directed otherwise. Detailed instructions for this application form can be found at <http://michigan.gov/air> (select the Permits Tab, “Renewable Operating Permits (ROP)/Title V”, then “ROP Forms & Templates”).

### PART A: GENERAL INFORMATION

Enter information about the source, owner, contact person and the responsible official.

#### SOURCE INFORMATION

SRN N6838	SIC Code 4922	NAICS Code 486210	Existing ROP Number MI-ROP-N6838-2019	Section Number (if applicable)
Source Name Vector Pipeline LP, Highland Compressor Station				
Street Address 2282 South Duck Lake Road				
City Highland	State MI	ZIP Code 48356	County Oakland	
Section/Town/Range (if address not available)				
Source Description Natural gas compressor station used in transporting pipeline quality natural gas.				
<input type="checkbox"/> Check here if any of the above information is different than what appears in the existing ROP. Identify any changes on the marked-up copy of your existing ROP.				

#### OWNER INFORMATION

Owner Name Vector Pipeline LP	Section Number (if applicable)			
Mailing address ( <input type="checkbox"/> check if same as source address) 38705 West Seven Mile Road, Suite 490				
City Livonia	State MI	ZIP Code 48152	County Oakland	Country

Check here if any information in this ROP renewal application is confidential. Confidential information should be identified on an Additional Information (AI-001) Form.

SRN: N6838	Section Number (if applicable):
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**PART A: GENERAL INFORMATION (continued)**

At least one contact and responsible official must be identified. Additional contacts and responsible officials may be included if necessary.

**CONTACT INFORMATION**

Contact 1 Name Alex Smith		Title Senior Environmental Advisor		
Company Name & Mailing address ( <input type="checkbox"/> check if same as source address) Enbridge Pipelines 7701 France Avenue, Suite 600d Shady Oak Rd., Suite 150				
City Edina	State MN	ZIP Code 55435	County Hennepin	Country USA
Phone number 952.983.1010		E-mail address <a href="mailto:alex.smith@enbridge.com">alex.smith@enbridge.com</a>		

Contact 2 Name (optional)		Title		
Company Name & Mailing address ( <input type="checkbox"/> check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		

**RESPONSIBLE OFFICIAL INFORMATION**

Responsible Official 1 Name Amy Back		Title General Counsel		
Company Name & Mailing address ( <input type="checkbox"/> check if same as source address) Vector Pipeline LP 38705 West Seven Mile Road, Suite 490				
City Livonia	State MI	ZIP Code 48152	County Oakland	Country USA
Phone number 734.462.7619		E-mail address <a href="mailto:amy.back@vector-pipeline.com">amy.back@vector-pipeline.com</a>		

Responsible Official 2 Name (optional)		Title		
Company Name & Mailing address ( <input type="checkbox"/> check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		

<input type="checkbox"/> Check here if an AI-001 Form is attached to provide more information for Part A. Enter AI-001 Form ID:
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**PART B: APPLICATION SUBMITTAL and CERTIFICATION by Responsible Official**

Identify the items that are included as part of your administratively complete application in the checklist below. For your application to be complete, it must include information necessary to evaluate the source and to determine all applicable requirements. Answer the compliance statements as they pertain to all the applicable requirements to which the source is subject. The source's Responsible Official must sign and date this form.

Listing of ROP Application Contents. Check the box for the items included with your application.	
<input checked="" type="checkbox"/> Completed ROP Renewal Application Form (and any AI-001 Forms) (required)	<input type="checkbox"/> Compliance Plan/Schedule of Compliance
<input checked="" type="checkbox"/> Mark-up copy of existing ROP using official version from the AQD website (required)	<input type="checkbox"/> Stack information
<input type="checkbox"/> Copies of all Permit(s) to Install (PTIs) that have not been incorporated into existing ROP (required)	<input type="checkbox"/> Acid Rain Permit Initial/Renewal Application
<input type="checkbox"/> Criteria Pollutant/Hazardous Air Pollutant (HAP) Potential to Emit Calculations	<input type="checkbox"/> Cross-State Air Pollution Rule (CSAPR) Information
<input type="checkbox"/> MAERS Forms (to report emissions not previously submitted)	<input type="checkbox"/> Confidential Information
<input type="checkbox"/> Copies of all Consent Order/Consent Judgments that have not been incorporated into existing ROP	<input checked="" type="checkbox"/> Paper copy of all documentation provided (required)
<input type="checkbox"/> Compliance Assurance Monitoring (CAM) Plan	<input checked="" type="checkbox"/> Electronic documents provided (optional)
<input checked="" type="checkbox"/> Other Plans (e.g., Malfunction Abatement, Fugitive Dust, Operation and Maintenance, etc.)	<input type="checkbox"/> Other, explain:

**Compliance Statement**

This source is in compliance with **all** of its applicable requirements, including those contained in the existing ROP, Permits to Install that have not yet been incorporated into that ROP, and other applicable requirements not currently contained in the existing ROP.  Yes  No

This source will continue to be in compliance with all of its applicable requirements, including those contained in the existing ROP, Permits to Install that have not yet been incorporated into that ROP, and other applicable requirements not currently contained in the existing ROP.  Yes  No

This source will meet in a timely manner applicable requirements that become effective during the permit term.  Yes  No

The method(s) used to determine compliance for each applicable requirement is/are the method(s) specified in the existing ROP, Permits to Install that have not yet been incorporated into that ROP, and all other applicable requirements not currently contained in the existing ROP.

If any of the above are checked No, identify the emission unit(s) or flexible group(s) affected and the specific condition number(s) or applicable requirement for which the source is or will be out of compliance at the time of issuance of the ROP renewal on an AI-001 Form. Provide a compliance plan and schedule of compliance on an AI-001 Form.

**Name and Title of the Responsible Official (Print or Type)**

Amy Back, General Counsel

**As a Responsible Official, I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this application are true, accurate, and complete.**


  
Signature of Responsible Official


  
Date

**PART C: SOURCE REQUIREMENT INFORMATION**

Answer the questions below for specific requirements or programs to which the source may be subject.

C1.	Actual emissions and associated data from <b>all</b> emission units with applicable requirements (including those identified in the existing ROP, Permits to Install and other equipment that have not yet been incorporated into the ROP) are required to be reported in MAERS. Are there any emissions and associated data that have <b>not</b> been reported in MAERS for the most recent emissions reporting year? If <b>Yes</b> , identify the emission unit(s) that was/were not reported in MAERS on an AI-001 Form. Applicable MAERS form(s) for unreported emission units must be included with this application.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C2.	Is this source subject to the federal regulations on ozone-depleting substances? (40 CFR Part 82)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C3.	Is this source subject to the federal Chemical Accident Prevention Provisions? (Section 112(r) of the Clean Air Act Amendments, 40 CFR Part 68) If <b>Yes</b> , a Risk Management Plan (RMP) and periodic updates must be submitted to the USEPA. Has an updated RMP been submitted to the USEPA?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input type="checkbox"/> No
C4.	Has this stationary source <b>added or modified</b> equipment since the last ROP renewal that changes the potential to emit (PTE) for criteria pollutant (CO, NOx, PM10, PM2.5, SO2, VOC, lead) emissions? If <b>Yes</b> , include potential emission calculations (or the PTI and/or ROP revision application numbers, or other references for the PTE demonstration) for the added or modified equipment on an AI-001 Form. If <b>No</b> , criteria pollutant potential emission calculations do not need to be included.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C5.	Has this stationary source <b>added or modified</b> equipment since the last ROP renewal that changes the PTE for hazardous air pollutants (HAPs) regulated by Section 112 of the federal Clean Air Act? If <b>Yes</b> , include potential emission calculations (or the PTI and/or ROP revision application numbers or other references for the PTE demonstration) for the added or modified equipment on an AI-001 Form. Fugitive emissions <b>must</b> be included in HAP emission calculations. If <b>No</b> , HAP potential emission calculations do not need to be included.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C6.	Are any emission units subject to the Cross-State Air Pollution Rule (CSAPR)? If <b>Yes</b> , identify the specific emission unit(s) subject to CSAPR on an AI-001 Form.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C7.	Are any emission units subject to the federal Acid Rain Program? If <b>Yes</b> , identify the specific emission unit(s) subject to the federal Acid Rain Program on an AI-001 Form. Is an Acid Rain Permit Renewal Application included with this application?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
C8.	Are any emission units identified in the existing ROP subject to compliance assurance monitoring (CAM)? If <b>Yes</b> , identify the specific emission unit(s) subject to CAM on an AI-001 Form. If a CAM plan has not been previously submitted to EGLE, one must be included with the ROP renewal application on an AI-001 Form. If the CAM Plan has been updated, include an updated copy. Is a CAM plan included with this application? If a CAM Plan is included, check the type of proposed monitoring included in the Plan: 1. Monitoring proposed by the source based on performance of the control device, or 2. Presumptively Acceptable Monitoring, if eligible	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <input type="checkbox"/>
C9.	Does the source have any plans such as a malfunction abatement plan, fugitive dust plan, operation/maintenance plan, or any other monitoring plan that is referenced in an existing ROP, Permit to Install requirement, or any other applicable requirement? If <b>Yes</b> , then a copy must be submitted as part of the ROP renewal application.	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
C10.	Are there any specific requirements that the source proposes to be identified in the ROP as non-applicable? If <b>Yes</b> , then a description of the requirement and justification must be submitted as part of the ROP renewal application on an AI-001 Form.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<input checked="" type="checkbox"/>	Check here if an AI-001 Form is attached to provide more information for Part C. Enter AI-001 Form ID: <b>AI-PMP</b>	

**PART D: PERMIT TO INSTALL (PTI) EXEMPT EMISSION UNIT INFORMATION**

Review all emission units at the source and answer the question below.

D1. Does the source have any emission units that do not appear in the existing ROP but are required to be listed in the ROP application under R 336.1212(4) (Rule 212(4)) of the Michigan Air Pollution Control Rules? If Yes, identify the emission units in the table below.  Yes  No

If No, go to Part E.

*Note: Emission units that are subject to process specific emission limitations or standards, even if identified in Rule 212, must be captured in either Part G or H of this application form. Identical emission units may be grouped (e.g. PTI exempt Storage Tanks).*

Emission Unit ID	Emission Unit Description	Rule 212(4) Citation [e.g. Rule 212(4)(c)]	Rule 201 Exemption Rule Citation [e.g. Rule 282(2)(b)(i)]
EU-PORTABLE ENGINES	Portable gasoline engine. Used at various sites along the pipeline – including a portable generator engine (10 HP Tecumseh engine), portable generator (9 HP Honda), power washer (6.5 HP Honda engine), portable air compressor, snow blower and weed trimmer.	R336.1214(d)	R336.1285(2)(g)
EU-PORTABLE TOOLS	Portable power tools (4.5 HP angle grinder, bench grinder, drill press, electric hand tools, sawz-all, and circular saw.)	R336.1214(d)	336.1285(2)(l)(vi)(B)

Comments:  
Portable engines are not subject to ICE NSPS or RICE NESHAP.

Check here if an AI-001 Form is attached to provide more information for Part D. Enter AI-001 Form ID: **AI-**

**PART E: EXISTING ROP INFORMATION**

Review all emission units and applicable requirements (including any source wide requirements) in the existing ROP and answer the questions below as they pertain to all emission units and all applicable requirements in the existing ROP.

<p>E1. Does the source propose to make any additions, changes or deletions to terms, conditions and underlying applicable requirements as they appear in the existing ROP? If <u>Yes</u>, identify changes and additions on Part F, Part G and/or Part H.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>E2. For each emission unit(s) identified in the existing ROP, <u>all</u> stacks with applicable requirements are to be reported in MAERS. Are there any stacks with applicable requirements for emission unit(s) identified in the existing ROP that were <u>not</u> reported in the most recent MAERS reporting year? If <u>Yes</u>, identify the stack(s) that was/were not reported on applicable MAERS form(s).</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>E3. Have any emission units identified in the existing ROP been modified or reconstructed that required a PTI? If <u>Yes</u>, complete Part F with the appropriate information.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>E4. Have any emission units identified in the existing ROP been dismantled? If <u>Yes</u>, identify the emission unit(s) and the dismantle date in the comment area below or on an AI-001 Form.</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
<p>Comments:</p>	
<p><input type="checkbox"/> Check here if an AI-001 Form is attached to provide more information for Part E. Enter AI-001 Form ID: <b>AI-</b></p>	



**PART G: EMISSION UNITS MEETING THE CRITERIA OF RULES 281(2)(h), 285(2)(r)(iv), 287(2)(c), OR 290**

Review all emission units and applicable requirements at the source and answer the following questions.

G1. Does the source have any new and/or existing emission units which do not already appear in the existing ROP and which meet the criteria of Rules 281(2)(h), 285(2)(r)(iv), 287(2)(c), or 290.  
 If Yes, identify the emission units in the table below. If No, go to Part H.  Yes  No  
*Note: If several emission units were installed under the same rule above, provide a description of each and an installation/modification/reconstruction date for each.*

Origin of Applicable Requirements	Emission Unit Description – <i>Provide Emission Unit ID and a description of Process Equipment, Control Devices and Monitoring Devices</i>	Date Emission Unit was Installed/ Modified/ Reconstructed
<input type="checkbox"/> Rule 281(2)(h) or 285(2)(r)(iv) cleaning operation		
<input type="checkbox"/> Rule 287(2)(c) surface coating line		
<input type="checkbox"/> Rule 290 process with limited emissions		

Comments:

Check here if an AI-001 Form is attached to provide more information for Part G. Enter AI-001 Form ID: **AI-**

**PART H: REQUIREMENTS FOR ADDITION OR CHANGE**

Complete this part of the application form for all proposed additions, changes or deletions to the existing ROP. This includes state or federal regulations that the source is subject to and that must be incorporated into the ROP or other proposed changes to the existing ROP. **Do not include additions or changes that have already been identified in Parts F or G of this application form.** If additional space is needed copy and complete an additional Part H.

Complete a separate Part H for each emission unit with proposed additions and/or changes.

H1. Are there changes that need to be incorporated into the ROP that have not been identified in Parts F and G? If <u>Yes</u> , answer the questions below.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
H2. Are there any proposed administrative changes to any of the existing emission unit names, descriptions or control devices in the ROP? If <u>Yes</u> , describe the changes in questions H8 – H16 below and in the affected Emission Unit Table(s) in the mark-up of the ROP.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
H3. Does the source propose to add a new emission unit or flexible group to the ROP not previously identified in Parts F or G? If <u>Yes</u> , identify and describe the emission unit name, process description, control device(s), monitoring device(s) and applicable requirements in questions H8 – H16 below and in a new Emission Unit Table in the mark-up of the ROP. See instructions on how to incorporate a new emission unit/flexible group into the ROP.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
H4. Does the source propose to add new state or federal regulations to the existing ROP? If <u>Yes</u> , on an AI-001 Form, identify each emission unit/flexible group that the new regulation applies to and identify <u>each</u> state or federal regulation that should be added. Also, describe the new requirements in questions H8 – H16 below and add the specific requirements to existing emission units/flexible groups in the mark-up of the ROP, create a new Emission Unit/Flexible Group Table, or add an AQD template table for the specific state or federal requirement.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
H5. Has a Consent Order/Consent Judgment (CO/CJ) been issued where the requirements were not incorporated into the existing ROP? If <u>Yes</u> , list the CO/CJ number(s) below and add or change the conditions and underlying applicable requirements in the appropriate Emission Unit/Flexible Group Tables in the mark-up of the ROP.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
H6. Does the source propose to add, change and/or delete <b>source-wide</b> requirements? If <u>Yes</u> , identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
H7. Are you proposing to <b>streamline</b> any requirements? If <u>Yes</u> , identify the streamlined and subsumed requirements and the EU ID, and provide a justification for streamlining the applicable requirement below.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**PART H: REQUIREMENTS FOR ADDITION OR CHANGE – (continued)**

H8. Does the source propose to add, change and/or delete **emission limit** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.  Yes  No

H9. Does the source propose to add, change and/or delete **material limit** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.  Yes  No

H10. Does the source propose to add, change and/or delete **process/operational restriction** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.  Yes  No

H11. Does the source propose to add, change and/or delete **design/equipment parameter** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.  Yes  No

H12. Does the source propose to add, change and/or delete **testing/sampling** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.  Yes  No

H13. Does the source propose to add, change and/or delete **monitoring/recordkeeping** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.  Yes  No

H14. Does the source propose to add, change and/or delete **reporting** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.  Yes  No

**PART H: REQUIREMENTS FOR ADDITION OR CHANGE – (continued)**

H15. Does the source propose to add, change and/or delete **stack/vent restrictions**? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.  Yes  No

H16. Does the source propose to add, change and/or delete any **other** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.  Yes  No

H17. Does the source propose to add terms and conditions for an alternative operating scenario or intra-facility trading of emissions? If Yes, identify the proposed conditions in a mark-up of the corresponding section of the ROP and provide a justification below.  Yes  No

Check here if an AI-001 Form is attached to provide more information for Part H. Enter AI-001 Form ID: **AI-**



# 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: N6838

Section Number (if applicable):

1. Additional Information ID  
**AI-MARK-UP**

### Additional Information

2. Is This Information Confidential?

Yes  No

**Attached is the ROP Mark-Up. It indicates that no changes are being requested at this time.**

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

**KEEP ALL CONDITIONS**  
**NO CHANGES, ADDITIONS OR DELETIONS**

EFFECTIVE DATE: June 18, 2019

ISSUED TO

**Vector Pipeline L.P., Highland Compressor Station**

State Registration Number (SRN): N6838

LOCATED AT

2282 South Duck Lake Road, Highland, Michigan 48356

**RENEWABLE OPERATING PERMIT**

Permit Number: MI-ROP-N6838-2019

Expiration Date: June 18, 2024

Administratively Complete ROP Renewal Application  
Due Between December 18, 2022 and December 18, 2023

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 Rule 210(1) of the administrative rules promulgated under Act 451, 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-N6838-2019

This Permit to Install (PTI) is issued in accordance with and subject to Section 5505(1) of Act 451. Pursuant to Rule 214a of the administrative rules promulgated under Act 451, 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.

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Joyce Zhu, Warren District Supervisor

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## AUTHORITY AND ENFORCEABILITY

For the purpose of this permit, the **permittee** is defined as any person who owns or operates an emission unit at a stationary source for which this permit has been issued. The **department** is defined in Rule 104(d) as the Director of the Michigan Department of Environment, Great Lakes, and Energy (EGLE) or his or her designee.

The permittee shall comply with all specific details in the permit terms and conditions and the cited underlying applicable requirements. All terms and conditions in this ROP are both federally enforceable and state enforceable unless otherwise footnoted. Certain terms and conditions are applicable to most stationary sources for which an ROP has been issued. These general conditions are included in Part A of this ROP. Other terms and conditions may apply to a specific emission unit, several emission units which are represented as a flexible group, or the entire stationary source which is represented as a Source-Wide group. Special conditions are identified in Parts B, C, D and/or the appendices.

In accordance with Rule 213(2)(a), all underlying applicable requirements are identified for each ROP term or condition. All terms and conditions that are included in a PTI are streamlined, subsumed and/or is state-only enforceable will be noted as such.

In accordance with Section 5507 of Act 451, the permittee has included in the ROP application a compliance certification, a schedule of compliance, and a compliance plan. For applicable requirements with which the source is in compliance, the source will continue to comply with these requirements. For applicable requirements with which the source is not in compliance, the source will comply with the detailed schedule of compliance requirements that are incorporated as an appendix in this ROP. Furthermore, for any applicable requirements effective after the date of issuance of this ROP, the stationary source will meet the requirements on a timely basis, unless the underlying applicable requirement requires a more detailed schedule of compliance.

Issuance of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.

## A. GENERAL CONDITIONS

### Permit Enforceability

- All conditions in this permit are both federally enforceable and state enforceable unless otherwise noted. **(R 336.1213(5))**
- Those conditions that are hereby incorporated in a state-only enforceable Source-Wide PTI pursuant to Rule 201(2)(d) are designated by footnote one. **(R 336.1213(5)(a), R 336.1214a(5))**
- Those conditions that are hereby incorporated in a federally enforceable Source-Wide PTI pursuant to Rule 201(2)(c) are designated by footnote two. **(R 336.1213(5)(b), R 336.1214a(3))**

### General Provisions

1. The permittee shall comply with all conditions of this ROP. Any ROP noncompliance constitutes a violation of Act 451, and is grounds for enforcement action, for ROP revocation or revision, or for denial of the renewal of the ROP. All terms and conditions of this ROP that are designated as federally enforceable are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and by citizens under the provisions of the federal Clean Air Act (CAA). Any terms and conditions based on applicable requirements which are designated as "state-only" are not enforceable by the USEPA or citizens pursuant to the CAA. **(R 336.1213(1)(a))**
2. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this ROP. **(R 336.1213(1)(b))**
3. This ROP may be modified, revised, or revoked for cause. The filing of a request by the permittee for a permit modification, revision, or termination, or a notification of planned changes or anticipated noncompliance does not stay any ROP term or condition. This does not supersede or affect the ability of the permittee to make changes, at the permittee's own risk, pursuant to Rule 215 and Rule 216. **(R 336.1213(1)(c))**
4. The permittee shall allow the department, or an authorized representative of the department, upon presentation of credentials and other documents as may be required by law and upon stating the authority for and purpose of the investigation, to perform any of the following activities: **(R 336.1213(1)(d))**
  - a. Enter, at reasonable times, a stationary source or other premises where emissions-related activity is conducted or where records must be kept under the conditions of the ROP.
  - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the ROP.
  - c. Inspect, at reasonable times, any of the following:
    - i. Any stationary source.
    - ii. Any emission unit.
    - iii. Any equipment, including monitoring and air pollution control equipment.
    - iv. Any work practices or operations regulated or required under the ROP.
  - d. As authorized by Section 5526 of Act 451, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the ROP or applicable requirements.
5. The permittee shall furnish to the department, within a reasonable time, any information the department may request, in writing, to determine whether cause exists for modifying, revising, or revoking the ROP or to determine compliance with this ROP. Upon request, the permittee shall also furnish to the department copies of any records that are required to be kept as a term or condition of this ROP. For information which is claimed by the permittee to be confidential, consistent with the requirements of the 1976 PA 442, MCL §15.231 et seq., and known as the Freedom of Information Act, the person may also be required to furnish the records directly to the USEPA together with a claim of confidentiality. **(R 336.1213(1)(e))**

6. A challenge by any person, the Administrator of the USEPA, or the department to a particular condition or a part of this ROP shall not set aside, delay, stay, or in any way affect the applicability or enforceability of any other condition or part of this ROP. **(R 336.1213(1)(f))**
7. The permittee shall pay fees consistent with the fee schedule and requirements pursuant to Section 5522 of Act 451. **(R 336.1213(1)(g))**
8. This ROP does not convey any property rights or any exclusive privilege. **(R 336.1213(1)(h))**

### **Equipment & Design**

9. Any 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 Rule 370(2).<sup>2</sup> **(R 336.1370)**
10. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**

### **Emission Limits**

11. Unless otherwise specified in this ROP, the permittee shall comply with Rule 301, which states, in part, "Except as provided in Subrules 2, 3, and 4 of this rule, a person shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following:"<sup>2</sup> **(R 336.1301(1))**
  - a. A 6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity.
  - b. A limit specified by an applicable federal new source performance standard.

The grading of visible emissions shall be determined in accordance with Rule 303.

12. The permittee shall not cause or permit the emission of an air contaminant or water vapor in quantities that cause, alone or in reaction with other air contaminants, either of the following:
  - a. Injurious effects to human health or safety, animal life, plant life of significant economic value, or property.<sup>1</sup> **(R 336.1901(a))**
  - b. Unreasonable interference with the comfortable enjoyment of life and property.<sup>1</sup> **(R 336.1901(b))**

### **Testing/Sampling**

13. The department may require the owner or operator of any source of an air contaminant to conduct acceptable performance tests, at the owner's or operator's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001(1).<sup>2</sup> **(R 336.2001)**
14. Any required performance testing shall be conducted in accordance with Rule 1001(2), Rule 1001(3) and Rule 1003. **(R 336.2001(2), R 336.2001(3), R 336.2003(1))**
15. Any required test results shall be submitted to the Air Quality Division (AQD) in the format prescribed by the applicable reference test method within 60 days following the last date of the test. **(R 336.2001(5))**

## Monitoring/Recordkeeping

16. Records of any periodic emission or parametric monitoring required in this ROP shall include the following information specified in Rule 213(3)(b)(i), where appropriate. **(R 336.1213(3)(b))**
  - a. The date, location, time, and method of sampling or measurements.
  - b. The dates the analyses of the samples were performed.
  - c. The company or entity that performed the analyses of the samples.
  - d. The analytical techniques or methods used.
  - e. The results of the analyses.
  - f. The related process operating conditions or parameters that existed at the time of sampling or measurement.
17. All required monitoring data, support information and all reports, including reports of all instances of deviation from permit requirements, shall be kept and furnished to the department upon request for a period of not less than 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings, or other original data records, for continuous monitoring instrumentation and copies of all reports required by the ROP. **(R 336.1213(1)(e), R 336.1213(3)(b)(ii))**

## Certification & Reporting

18. Except for the alternate certification schedule provided in Rule 213(3)(c)(iii)(B), any document required to be submitted to the department as a term or condition of this ROP shall contain an original certification by a Responsible Official which states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**
19. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**
20. The certification of compliance shall be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**
21. The permittee shall promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP. **(R 336.1213(3)(c))**
  - a. For deviations that exceed the emissions allowed under the ROP, prompt reporting means reporting consistent with the requirements of Rule 912 as detailed in Condition 25. All reports submitted pursuant to this paragraph shall be promptly certified as specified in Rule 213(3)(c)(iii).
  - b. For deviations which exceed the emissions allowed under the ROP and which are not reported pursuant to Rule 912 due to the duration of the deviation, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe reasons for each deviation and the actions taken to minimize or correct each deviation.
  - c. For deviations that do not exceed the emissions allowed under the ROP, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe the reasons for each deviation and the actions taken to minimize or correct each deviation.

22. For reports required pursuant to Rule 213(3)(c)(ii), prompt certification of the reports is described in Rule 213(3)(c)(iii) as either of the following: **(R 336.1213(3)(c))**
  - a. Submitting a certification by a Responsible Official with each report which states that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
  - b. Submitting, within 30 days following the end of a calendar month during which one or more prompt reports of deviations from the emissions allowed under the ROP were submitted to the department pursuant to Rule 213(3)(c)(ii), a certification by a Responsible Official which states that; “based on information and belief formed after reasonable inquiry, the statements and information contained in each of the reports submitted during the previous month were true, accurate, and complete.” The certification shall include a listing of the reports that are being certified. Any report submitted pursuant to Rule 213(3)(c)(ii) that will be certified on a monthly basis pursuant to this paragraph shall include a statement that certification of the report will be provided within 30 days following the end of the calendar month.
23. Semiannually for the term of the ROP as detailed in the special conditions, or more frequently if specified, the permittee shall submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period shall be clearly identified in the reports. **(R 336.1213(3)(c)(i))**
24. On an annual basis, the permittee shall report the actual emissions, or the information necessary to determine the actual emissions, of each regulated air pollutant as defined in Rule 212(6) for each emission unit utilizing the emissions inventory forms provided by the department. **(R 336.1212(6))**
25. 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 appropriate AQD District Office. The notice shall be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice shall be by any reasonable means, including electronic, telephonic, or oral communication. Written reports, if required under Rule 912, must be submitted to the appropriate AQD District Supervisor 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 conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5) and shall be certified by a Responsible Official in a manner consistent with the CAA.<sup>2</sup> **(R 336.1912)**

## Permit Shield

26. Compliance with the conditions of the ROP shall be considered compliance with any applicable requirements as of the date of ROP issuance if either of the following provisions is satisfied. **(R 336.1213(6)(a)(i), R 336.1213(6)(a)(ii))**
  - a. The applicable requirements are included and are specifically identified in the ROP.
  - b. The permit includes a determination or concise summary of the determination by the department that other specifically identified requirements are not applicable to the stationary source.

Any requirements identified in Part E of this ROP have been identified as non-applicable to this ROP and are included in the permit shield.

27. Nothing in this ROP shall alter or affect any of the following:
  - a. The provisions of Section 303 of the CAA, emergency orders, including the authority of the USEPA under Section 303 of the CAA. **(R 336.1213(6)(b)(i))**
  - b. The liability of the owner or operator of this source for any violation of applicable requirements prior to or at the time of this ROP issuance. **(R 336.1213(6)(b)(ii))**
  - c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**

- d. The ability of the USEPA to obtain information from a source pursuant to Section 114 of the CAA. **(R 336.1213(6)(b)(iv))**
28. The permit shield shall not apply to provisions incorporated into this ROP through procedures for any of the following:
  - a. Operational flexibility changes made pursuant to Rule 215. **(R 336.1215(5))**
  - b. Administrative Amendments made pursuant to Rule 216(1)(a)(i)-(iv). **(R 336.1216(1)(b)(iii))**
  - c. Administrative Amendments made pursuant to Rule 216(1)(a)(v) until the amendment has been approved by the department. **(R 336.1216(1)(c)(iii))**
  - d. Minor Permit Modifications made pursuant to Rule 216(2). **(R 336.1216(2)(f))**
  - e. State-Only Modifications made pursuant to Rule 216(4) until the changes have been approved by the department. **(R 336.1216(4)(e))**
29. Expiration of this ROP results in the loss of the permit shield. If a timely and administratively complete application for renewal is submitted not more than 18 months, but not less than 6 months, before the expiration date of the ROP, but the department fails to take final action before the end of the ROP term, the existing ROP does not expire until the renewal is issued or denied, and the permit shield shall extend beyond the original ROP term until the department takes final action. **(R 336.1217(1)(c), R 336.1217(1)(a))**

## Revisions

30. For changes to any process or process equipment covered by this ROP that do not require a revision of the ROP pursuant to Rule 216, the permittee must comply with Rule 215. **(R 336.1215, R 336.1216)**
31. A change in ownership or operational control of a stationary source covered by this ROP shall be made pursuant to Rule 216(1). **(R 336.1219(2))**
32. For revisions to this ROP, an administratively complete application shall be considered timely if it is received by the department in accordance with the time frames specified in Rule 216. **(R 336.1210(10))**
33. Pursuant to Rule 216(1)(b)(iii), Rule 216(2)(d) and Rule 216(4)(d), after a change has been made, and until the department takes final action, the permittee shall comply with both the applicable requirements governing the change and the ROP terms and conditions proposed in the application for the modification. During this time period, the permittee may choose to not comply with the existing ROP terms and conditions that the application seeks to change. However, if the permittee fails to comply with the ROP terms and conditions proposed in the application during this time period, the terms and conditions in the ROP are enforceable. **(R 336.1216(1)(c)(iii), R 336.1216(2)(d), R 336.1216(4)(d))**

## Reopenings

34. A ROP shall be reopened by the department prior to the expiration date and revised by the department under any of the following circumstances:
  - a. If additional requirements become applicable to this stationary source with three or more years remaining in the term of the ROP, but not if the effective date of the new applicable requirement is later than the ROP expiration date. **(R 336.1217(2)(a)(i))**
  - b. If additional requirements pursuant to Title IV of the CAA become applicable to this stationary source. **(R 336.1217(2)(a)(ii))**
  - c. If the department determines that the ROP contains a material mistake, information required by any applicable requirement was omitted, or inaccurate statements were made in establishing emission limits or the terms or conditions of the ROP. **(R 336.1217(2)(a)(iii))**
  - d. If the department determines that the ROP must be revised to ensure compliance with the applicable requirements. **(R 336.1217(2)(a)(iv))**

## Renewals

35. For renewal of this ROP, an administratively complete application shall be considered timely if it is received by the department not more than 18 months, but not less than 6 months, before the expiration date of the ROP. **(R 336.1210(9))**

## Stratospheric Ozone Protection

36. If the permittee is subject to Title 40 of the Code of Federal Regulations (CFR), Part 82 and services, maintains, or repairs appliances except for motor vehicle air conditioners (MVAC), or disposes of appliances containing refrigerant, including MVAC and small appliances, or if the permittee is a refrigerant reclaimer, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee shall comply with all applicable standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F.
37. If the permittee is subject to 40 CFR Part 82 and performs a service on motor (fleet) vehicles when this service involves refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed by the original equipment manufacturer. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used for refrigerated cargo or an air conditioning system on passenger buses using Hydrochlorofluorocarbon-22 refrigerant.

## Risk Management Plan

38. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall register and submit to the USEPA the required data related to the risk management plan for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR 68.130. The list of substances, threshold quantities, and accident prevention regulations promulgated under 40 CFR Part 68, do not limit in any way the general duty provisions under Section 112(r)(1).
39. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates as provided in 40 CFR 68.10(a):
- June 21, 1999,
  - Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
  - The date on which a regulated substance is first present above a threshold quantity in a process.
40. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall submit any additional relevant information requested by any regulatory agency necessary to ensure compliance with the requirements of 40 CFR Part 68.
41. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall annually certify compliance with all applicable requirements of Section 112(r) as detailed in Rule 213(4)(c)). **(40 CFR Part 68)**

## Emission Trading

42. Emission averaging and emission reduction credit trading are allowed pursuant to any applicable interstate or regional emission trading program that has been approved by the Administrator of the USEPA as a part of Michigan's State Implementation Plan. Such activities must comply with Rule 215 and Rule 216. **(R 336.1213(12))**

## Permit to Install (PTI)

43. The process or process equipment included in this permit shall not be reconstructed, relocated, or modified unless a PTI authorizing such action is issued by the department, except to the extent such action is exempt from the PTI requirements by any applicable rule.<sup>2</sup> **(R 336.1201(1))**
44. The department may, after notice and opportunity for a hearing, revoke PTI terms or conditions if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of the PTI or is violating the department's rules or the CAA.<sup>2</sup> **(R 336.1201(8), Section 5510 of Act 451)**
45. The terms and conditions of a PTI 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 the PTI. If a new owner or operator submits a written request to the department pursuant to Rule 219 and the department approves the request, this PTI 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 Rule 219. The written request shall be sent to the appropriate AQD District Supervisor, EGLE.<sup>2</sup> **(R 336.1219)**
46. If the installation, reconstruction, relocation, or modification of the equipment for which PTI terms and conditions have been approved has not commenced within 18 months of the original PTI issuance date, or has been interrupted for 18 months, the applicable terms and conditions from that PTI, as incorporated into the ROP, shall become void unless otherwise authorized by the department. Furthermore, the person to whom that PTI was issued, or the designated authorized agent, shall notify the department via the Supervisor, Permit Section, EGLE, AQD, P. O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or modification of the equipment allowed by the terms and conditions from that PTI.<sup>2</sup> **(R 336.1201(4))**

### **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).

## **B. SOURCE-WIDE CONDITIONS**

Part B outlines the Source-Wide Terms and Conditions that apply to this stationary source. The permittee is subject to these special conditions for the stationary source 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 to this source, NA (not applicable) has been used in the table. If there are no Source-Wide Conditions, this section will be left blank.

## SOURCE-WIDE CONDITIONS

### DESCRIPTION

All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.

### POLLUTION CONTROL EQUIPMENT

NA

#### I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Carbon Monoxide (CO)	224 Tons <sup>2</sup>	Rolling 12-month time period	EUTURBINE1 EUTURBINE2 EUSPU3	Appendix 7	40 CFR 52.21 R 336.1205(3)

#### II. MATERIAL LIMIT(S)

NA

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

NA

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

NA

#### V. TESTING/SAMPLING

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

NA

#### VI. MONITORING/RECORDKEEPING

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

- The permittee shall monitor and record the usage of natural gas fired in FGTURBINES and EUSPU3 during each day. These records shall be maintained for a period of at least five years.<sup>2</sup> (R 336.1201(3))

See Appendices 3 and 7

#### VII. REPORTING

- Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. (R 336.1213(3)(c)(ii))
- 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))**

See Appendix 8

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

NA

### **IX. OTHER REQUIREMENT(S)**

1. The permittee shall comply with all applicable requirements of Consent Agreement and Final Order (CAFO), CAA Docket No. CAA-05-2005 0014, filed on February 11, 2005. The conditions contained in this ROP for which a Consent Agreement and Final Order is the only identified underlying applicable requirement shall be considered null and void upon the effective date of termination of the Consent Judgment.<sup>3</sup> **(CAFO, CAA Docket No. CAA-05-2005-0014 )**

#### **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).

<sup>3</sup>The CAFO, CAA Docket No. CAA -05-2005-0014 imposed no on-going operational requirements and/or conditions.

### C. EMISSION UNIT SPECIAL CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit 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 conditions specific to individual emission units, this section will be left blank.

#### EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EUTURBINE1	Solar MARS 100 natural gas fired turbine driven Solar C65 compressor, rated at 15,000 horsepower and equipped with dry low NOx emission controls. (PTI No. 221-04)	01/10/02	FGTURBINES
EUTURBINE2	Solar MARS 100 natural gas fired turbine driven Solar C65 compressor, rated at 15,000 horsepower and equipped with dry low NOx emission controls. (PTI No. 221-04)	01/10/02	FGTURBINES
EUSPU3	Natural gas fired Cummins GTA50G2 internal combustion engine standby power unit, rated at 9.654 MMBTU/hr maximum heat release. (PTI No. 221-04)	01/10/02	NA
EURULE285(2)(mm)	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 285(2)(mm)	NA	FGRULE285(2)(mm)

**EUSPU3  
 EMISSION UNIT CONDITIONS**

**DESCRIPTION**

Natural gas fired Cummins GTA50G2 internal combustion engine standby power unit, rated at 9.654 million British Thermal Units per hour maximum heat release.

Flexible Group ID: NA

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Oxides of Nitrogen (NOx)	39.4 pounds <sup>2</sup>	Hourly	EUSPU3	SC V.2 SC VI.2	<b>40 CFR 52.21</b>
2. Oxides of Nitrogen (NOx)	9.85 tons <sup>2</sup>	Rolling 12-month time period as determined at end of each calendar month	EUSPU3	SC V.2 SC VI.1 SC VI.2	<b>40 CFR 52.21</b>
3. Carbon Monoxide (CO)	3.06 pounds <sup>2</sup>	Hourly	EUSPU3	SC V.2 SCVI.2	<b>40 CFR 52.21</b>

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall only fire natural gas through EUSPU3, as defined in 40 CFR Part 72.2.<sup>2</sup> **(R 336.1201(3))**
2. The permittee shall not operate EUSPU3 for more than 500 hours per calendar year.<sup>2</sup> **(40 CFR Part 52.21, R 336.1201(3))**
3. For any existing Stationary RICE, located at an area source of HAP emissions, the permittee shall comply with the requirements in Table 2d, Item 5 of 40 CFR 63, Subpart ZZZZ.
  - a. Change oil and filter every 500 hours of operation or annually, whichever comes first, and except as allowed in **SC V.1.**
  - b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and
  - c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
  - d. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of 40 CFR 63, Subpart ZZZZ, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable

risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable. **(40 CFR 63.6603(a), 40 CFR 63, Subpart ZZZZ (Table 2d, Item 5)**

4. For any existing Stationary RICE, located at an area source of HAP emissions, the permittee shall comply with the emission limitations, operating limitations, and other requirements of 40 CFR 63, Subpart ZZZZ at all times. **(40 CFR 63.6605(a))**
5. The permittee at all times, must operate and maintain any existing stationary RICE, located at an area source of HAP emissions, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by 40 CFR 63, Subpart ZZZZ have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **(40 CFR 63.6605(b))**
6. For an existing stationary RICE, the permittee must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in 40 CFR 63, Subpart ZZZZ-Table 2d apply. **(40 CFR 63.6625(h))**
7. The permittee may operate each engine in EUSPU3 for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. **(40 CFR 63.6640(f)(2))**
8. Each engine in EUSPU3 may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing as provided in §63.6640(f)(2). The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for the permittee to supply non-emergency power as part of a financial arrangement with another entity. **(40 CFR 63.6640(f)(3))**
9. For existing emergency stationary RICE located at an area source of HAP, the permittee must continuously comply with the Work or Management practices below:
  - a. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or
  - b. Develop and follow the permittee's own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 63.6625(e)(3), 40 CFR 63, Subpart ZZZZ, Table 6, Item 9)**

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

1. The permittee shall install and maintain the existing emergency stationary RICE located at an area source of HAP emissions, with a non-resettable hour meter if one is not already installed. **(40 CFR 63.6625(f))**

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

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

1. For an existing stationary SI RICE located at an area source of HAP emissions, that is subject to the work, operation or management practices in item 5 of Table 2d of 40 CFR 63, Subpart ZZZZ, the permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in 2d. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2d. The analysis program must at a minimum analyze the following three parameters:

- a. Total Acid Number
- b. Viscosity
- c. Percent water content

The condemning limits for these parameters are as follows:

- a. Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new;
- b. Viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new;
- c. Percent water content (by volume) is greater than 0.5

If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. **(40 CFR 63.6625(j))**

- 2. Upon request from the AQD District Supervisor the permittee shall verify NOx and CO emission rates from EUSPU3, by testing at owner's expense, in accordance with the Department requirements. Testing shall be performed using an approved EPA Method listed in:

Pollutant	Test Method Reference
NOx	40 CFR Part 60, Appendix A
CO	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 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. **(R 336.1213(3), 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 336.1213(3)(b)(ii))**

- 1. The permittee shall calculate Oxides of Nitrogen (NOx) and Carbon Monoxide (CO) emissions in tons based on a 12-month rolling time period, as determined at the end of each calendar month. **(R 336.1213(3))**
- 2. The permittee shall record the total operating hours and fuel consumption for EUSPU3 on a rolling 12-month time period as determined at the end of each calendar month.<sup>2</sup> **(R 336.1201(3))**
- 3. The permittee must keep the records required in 40 CFR 63, Subpart ZZZZ, Table 6 to show continuous compliance with each applicable emission or operating limitation specified in **SC III.9. (40 CFR 63.6655(d), 40 CFR 63.6660)**
- 4. The permittee must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that the permittee operated and maintained the following stationary RICE and after-treatment control device (if any) according to the permittee's own maintenance plan.
  - a. An existing stationary emergency RICE
  - b. An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in 40 CFR 63, Subpart ZZZZ-Table 2d. **(40 CFR 63.6655(e))**

- For the existing emergency stationary RICE located at an area source of HAP emissions, the permittee must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The permittee must document how many hours are spent for emergency operation including what classified the operation as emergency and how many hours are spent for non-emergency operation. . If the engine is used for the purposes specified in 40 CFR 63.6640(f)(4)(ii), the permittee must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes. **(40 CFR 63.6655(f))**

See Appendices 3 and 7

**VII. REPORTING**

- Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
- 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))**
- 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))**

See Appendix 8

**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. SV1-SPU	8 <sup>2</sup>	35 <sup>2</sup>	<b>R 336.1201(3)</b>
2. SV2-SPU	8 <sup>2</sup>	35 <sup>2</sup>	<b>R 336.1201(3)</b>

**IX. OTHER REQUIREMENT(S)**

- The permittee shall maintain on site and implement a Preventative Maintenance Plan (PMP) that ensures EUSPU3 can operate in compliance with the above emission limits. **(R 336.1213(3)(a))**
- The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZ, for Stationary Reciprocating Internal Combustion Engines. **(40 CFR 63.6595(a)(1), 40 CFR Part 63, Subparts A and ZZZZ)**

**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).

## D. FLEXIBLE GROUP SPECIAL 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

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGTURBINES	Two (2) Solar MARS 100 natural gas fired turbine driver Solar C65 compressors, rated at 15,000 (ISO) horsepower each. Each turbine is equipped with dry low NOx emission control.	EUTURBINE1 and EUTURBINE2
FGRULE285(2)(mm)	Any emission unit that emit air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 285(2)(mm)	EURULE285(2)(mm)

**FGTURBINES  
 FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Two (2) Solar MARS 100 natural gas fired turbine driver Solar C65 compressors, rated at 15,000 (ISO) horsepower each. Each turbine is equipped with dry low NOx emission control.

**Emission Units:** EUTURBINE1, EUTURBINE2

**POLLUTION CONTROL EQUIPMENT**

Low NOx Burners

**I. EMISSION LIMIT(S)**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Oxides of Nitrogen (NOx)	37.9 pounds <sup>2</sup>	Hourly	FGTURBINES***	SC V.1 and VI.1	<b>40 CFR 60.332(a)(2) R 336.1205(3)</b>
2. Oxides of Nitrogen (NOx)	126.7 tons <sup>2</sup>	Rolling 12-month time period	FGTURBINES***	SC V.1 and VI.1	<b>R 336.1205(3)</b>
3. Sulfur dioxide (SO <sub>2</sub> )	150 ppm, by volume at 15% oxygen and on a dry gas basis and at 100% load <sup>2</sup>	Instantaneous	FGTURBINES	SC VI.2 and VI.3	<b>40 CFR 60.333(a)</b>
4. Sulfur dioxide (SO <sub>2</sub> )	13.52 pounds <sup>2</sup>	Hourly	FGTURBINES***	SC VI.2, VI.3 and VI.5	<b>40 CFR Part 60 Subpart GG</b>
5. Sulfur dioxide (SO <sub>2</sub> )	59.21 tons <sup>2</sup>	Rolling 12-month period	FGTURBINES***	SC VI.5	<b>40 CFR Part 60 Subpart GG</b>
6. Carbon Monoxide (CO)*	800 pounds <sup>2</sup>	Hourly	FGTURBINES***	SC V.1 and VI.1	<b>40 CFR Part 52.21</b>
7. Carbon Monoxide (CO)**	25.14 pounds <sup>2</sup>	Hourly	FGTURBINES***	SC V.1 and VI.1	<b>40 CFR Part 52.21</b>

\* This limit is applicable at any time that the turbine is operating in the range of 86% to 92% of Natural Gas Producer Speed.  
 \*\* This limit is applicable any time the turbines are operating at or above 92% of Natural Gas Producer Speed.  
 \*\*\* Represents the total emission limit for both turbines. Individual turbine limits are one half the listed values.

**II. MATERIAL LIMITS**

NA

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

1. Except for periods of startup and shutdown, the permittee shall not operate the turbines at loads less than 86% NGP. NGP is defined as the rotational speed (measured in revolutions per minute [RPM]) of the gas producer. The turbines produce 100% NGP at 10,405 RPM. Startup is defined as the period of time from first ignition to when the turbine reaches 86% NGP. Shutdown is defined as that period of time from the initial lowering of turbine speeds less than 86% NGP with the intent to shut down.<sup>2</sup> **(R 336.1205(3))**

2. The permittee shall only fire natural gas, as defined in 40 CFR Part 72.2, through FGTURBINES.<sup>2</sup> **(R 336.1201(3))**
3. The sulfur content of the natural gas shall not exceed 0.8 percent by weight. **(40 CFR 60.333(b))**
4. FGTURBINES shall be operated at all times within the range of gas producer speed, based on an hourly average, established by the permittee to assure compliance with the above applicable NOx and CO emission limits. **(R 336.1213(3)(b))**

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

1. Hourly and rolling 12-month rolling emission limits identified above represent total emission limits for FGTURBINES. Emission limits for EUTURBINE1 and EUTURBINE2, individually, are one-half of the listed values.<sup>2</sup> **(R 336.1201(3))**

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

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

1. The permittee shall verify NOx and CO emission rates from EUTURBINE1 and EUTURBINE2 by testing at owner's expense, in accordance with the Department requirements. 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 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. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
2. The permittee shall verify the NOx and CO emission rates from EUTURBINE1 and EUTURBINE2, at a minimum, every five years from the date of the last test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**
3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**
4. Within 180 days of issuance of this Renewal ROP, the permittee shall establish those ranges of gas producer speed and percent load within which the two turbines can operate in compliance with their emission limits. **(R 336.1213(3)(b))**
5. All testing, sampling, analytical and calibration procedures used for the NOx and CO test programs shall be performed in accordance with 40 CFR, Part 60, Subpart GG and 40 CFR 60, Appendix A, Methods 7E, 10 or other acceptable reference methods approved by the AQD. **(R 336.1213(3))**

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

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

1. The permittee shall maintain the following records for FGTURBINES on site:<sup>2</sup> **(R 336.1201(3))**
  - a. Turbine Gas Producer Speed (%NGP) for each turbine, recorded on an averaging period not exceeding an hourly basis.
  - b. An indicator as to whether or not each turbine is operating in Solonox (e.g.: "Solonox-ON") or non-Solonox (e.g.: "Solonox-OFF") mode.
  - c. The carbon monoxide and NOx emission rates (lb/hour) for each turbine, calculated on an hourly basis. The carbon monoxide and NOx emission rates shall be calculated in accordance with the procedures specified in Appendix 7.

- d. Carbon monoxide and NOx emission rates (tons per year, based upon a rolling 12-month time period), calculated on a monthly basis.
  - e. A current and valid Federal Energy Regulatory Commission Gas Tariff for the facility.
2. Monitoring and recording of emission and operating information for EUTURBINES is required to comply with the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subparts A and GG. In addition, Subpart GG also requires the monitoring of the nitrogen and sulfur content in the natural gas. The fuel monitoring procedure shall comply with the Custom Fuel Monitoring Plan (CFMP) included within Appendix 3 of the ROP. All source emissions data and operating data shall be submitted to the District Supervisor in an acceptable format within 30 days following the end of the calendar quarter in which the data were collected.<sup>2</sup> **(R 336.1201(3), 40 CFR Subparts A and GG)**
  3. The permittee shall monitor the nitrogen and sulfur content of the natural gas by following the approved custom fuel monitoring plan as described in Appendix 3. **(40 CFR 60, Subparts A and GG)**
  4. The permittee shall utilize FGTURBINES performance test results in the calculation of reportable emissions. **(R 336.1213(3))(b)**
  5. The permittee shall calculate the hourly and tons per year SO<sub>2</sub> emissions. **(R 336.1213(3))**

See Appendices 3 and 7

**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. The permittee shall submit any performance test reports to the AQD Technical Programs Unit and District Office, in a format approved by the AQD. **(R 336.1213(3)(c), R 336.2001(5))**

See Appendix 8

**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 Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVTURBINE1	144 <sup>2</sup>	59 <sup>2</sup>	<b>R 336.1201(3)</b>
2. SVTURBINE2	144 <sup>2</sup>	59 <sup>2</sup>	<b>R 336.1201(3)</b>

**IX. OTHER REQUIREMENT(S)**

1. FGTURBINES shall be operated in accordance with the requirements of 40 CFR Part 60, Subparts A and GG, unless otherwise stated. **(40 CFR Part 60, Subparts A and GG)**

2. The permittee shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of FGTURBINES, any malfunction of the air pollution control equipment; or any periods during which a continuous monitoring system or monitoring device is inoperative. **(40 CFR 60.7(b), R 336.1213(3))**
3. The permittee shall maintain on site and implement a preventative maintenance plan (PMP) that ensures FGTURBINES can operate in compliance with the above emission limits. **(R 336.1213(3)(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).

**FGRULE 285(2)(mm)**  
**FLEXIBLE GROUP CONDITIONS**

**DESCRIPTION**

Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 285(2)(mm)

**Emission Unit:** EURULE285(2)(mm)

**POLLUTION CONTROL EQUIPMENT**

NA

**I. EMISSION LIMITS**

NA

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. For venting of natural gas for routine maintenance or relocation of transmission and distribution systems in amounts greater than 1,000,000 standard cubic feet, the permittee shall, at a minimum, implement measures to assure safety of employees and the public and minimize impacts to the environment. **(R 336.1285 (2)(mm)(ii)(B))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

NA

**V. TESTING/SAMPLING**

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

NA

**VI. MONITORING/RECORDKEEPING**

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

NA

**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. For venting of natural gas for routine maintenance or relocation of transmission and distribution systems in amounts greater than 1,000,000 standard cubic feet, the permittee shall notify the AQD District Supervisor prior to a scheduled pipeline venting. **(R 336.1285(2)(mm)(ii)(A))**
5. For venting of natural gas for routine maintenance or relocation of transmission and distribution systems in amounts greater than 1,000,000 standard cubic feet, the permittee shall provide necessary notification in accordance with the Michigan gas safety standards, the federal pipeline and hazardous materials safety administration standards, and the federal energy regulatory commission standards, as applicable. The permittee is not required to copy the AQD on the notifications. **(R 336.1285(2)(mm)(ii)(B))**
6. For emergency venting of natural gas in amounts greater than 1,000,000 standard cubic feet per event, the permittee shall notify the pollution emergency alert system (PEAS) within 24 hours of an emergency pipeline venting. For purposes of this requirement, an emergency is considered an unforeseen event that disrupts normal operating conditions and poses a threat to human life, health, property, or the environment if not controlled immediately. **(R 336.1285(2)(mm)(iv))**

See Appendix 8

#### **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:

NA

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

NA

#### **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).

## **E. NON-APPLICABLE REQUIREMENTS**

At the time of the ROP issuance, the AQD has determined that no non-applicable requirements have been identified for incorporation into the permit shield provision set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii).

## APPENDICES

### Appendix 1. Acronyms and Abbreviations

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
CEMS	Continuous Emission Monitoring System	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
Department/ department	Michigan Department of Environment, Great Lakes, and Energy	gr	Grains
EGLE	Michigan Department of Environment, Great Lakes, and Energy	HAP	Hazardous Air Pollutant
EU	Emission Unit	Hg	Mercury
FG	Flexible Group	hr	Hour
GACS	Gallons of Applied Coating Solids	HP	Horsepower
GC	General Condition	H <sub>2</sub> S	Hydrogen Sulfide
GHGs	Greenhouse Gases	kW	Kilowatt
HVLP	High Volume Low Pressure*	lb	Pound
ID	Identification	m	Meter
IRSL	Initial Risk Screening Level	mg	Milligram
ITSL	Initial Threshold Screening Level	mm	Millimeter
LAER	Lowest Achievable Emission Rate	MM	Million
MACT	Maximum Achievable Control Technology	MW	Megawatts
MAERS	Michigan Air Emissions Reporting System	NMOC	Non-methane Organic Compounds
MAP	Malfunction Abatement Plan	NO <sub>x</sub>	Oxides of Nitrogen
MSDS	Material Safety Data Sheet	ng	Nanogram
NA	Not Applicable	PM	Particulate Matter
NAAQS	National Ambient Air Quality Standards	PM10	Particulate Matter equal to or less than 10 microns in diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NSPS	New Source Performance Standards	pph	Pounds per hour
NSR	New Source Review	ppm	Parts per million
PS	Performance Specification	ppmv	Parts per million by volume
PSD	Prevention of Significant Deterioration	ppmw	Parts per million by weight
PTE	Permanent Total Enclosure	%	Percent
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.

## Appendix 2. 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. Monitoring Requirements

The following monitoring procedures, methods, or specifications are the details to the monitoring requirements identified and referenced in FGTURBINES.

### **Custom Fuel Monitoring Program (CFMP) Developed Pursuant to the Custom Fuel Monitoring Requirements of 40 CFR Part 60 Subpart GG**

#### **1. Nitrogen Content Monitoring:**

Monitoring of fuel nitrogen content required by 40 CFR Part 60 Subpart GG **will not be performed** while natural gas, as defined in 40 CFR 60.331, is the only fuel fired in the two natural gas turbines covered by this Permit, and while Vector Pipeline L.P. does not claim an allowance for fuel bound nitrogen.

#### **2. Sulfur Content Monitoring:**

Sulfur content monitoring required by 40 CFR Part 60 Subpart GG **will not be performed**, 1) during the period of time that Vector Pipeline L.P. maintains valid tariffs in place with the Federal Energy Regulatory Commission (FERC) that limit the sulfur content of natural gas combusted within the two gas turbines covered by this Permit to not more than 20 grains of total sulfur per 100 standard cubic feet of natural gas or, in the absence of such tariffs being in place, 2) Vector Pipeline L.P. performs representative fuel sampling consistent with the requirements of Sections 2.3.1.4 or 2.3.2.4 of appendix D of 40 CFR Part 75, the data from which showing that the sulfur content of the gaseous fuel does not exceed 20.0 grains of total sulfur per 100 standard cubic feet of natural gas.

### **Reinstatement of the Requirement for Vector Pipeline L.P. to Monitor Nitrogen and Sulfur Content of Natural Gas Combusted at the Highland Compressor Station Facility, Highland Township, Michigan:**

In the event the above provisions cannot be met that allow Vector Pipeline L.P. to forego nitrogen and/or sulfur content monitoring called for within 40 CFR Part 60.334(h) at the Highland Compressor Station facility, Vector Pipeline L.P. shall immediately initiate nitrogen and/or sulfur content monitoring, as appropriate, on a frequency consistent with 40 CFR Part 60.334(i), with reports of periods of excess emissions and monitor downtime being submitted in accordance with and at a frequency established within 40 CFR Part 60.334(j).

## Appendix 4. 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. Testing Procedures

There are no specific testing requirement plans or procedures for this ROP. Therefore, this appendix is not applicable.

**Appendix 6. 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-N6838-2008. 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.

Source-Wide PTI No MI-PTI-N6838-2014a is being reissued as Source-Wide PTI No. MI-PTI-N6838-2019.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
NA			

**Appendix 7. Emission Calculations**

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the applicable requirements referenced in FGTURBINES.

**Determination of Hourly and 12-Monthly Rolling Time Period Emissions, Based on Stack Test Data**

Compliance with the carbon monoxide (CO) hourly as well as the CO and NOx rolling 12-month rolling time period emission limits shall be demonstrated as follows:

1. Monitoring System
  - a. The permittee shall utilize an automated data acquisition system (ADAS) to track natural gas producer speed (NGP) as a percentage of maximum design producer speed at the Highland Compressor Station for each of the natural gas turbines (EUTURBINE1 and EUTURBINE2), and will track operating hours of the backup generator (EUSPU3). NGP of the gas turbines will be logged on an averaging period not exceeding an hourly basis within the ADAS. Maximum design gas producer speed (100%) of EUTURBINE1 and EUTURBINE2 will be defined as the operation of each of the two (2) gas producer turbines at a rotational speed of 10,405 revolutions per minute (RPM).
2. Method of calculation
  - a. Hourly CO and NOx emissions associated with EUTURBINE1 and EUTURBINE2 will be calculated based on recorded NGP of each of the operating turbines and assigned emission factors based on previous or future stack test data. Hourly CO emissions associated with EUSPU3 will be based on the recorded operating hours and an appropriate emission factor (e.g. stack test data, AP-42 emissions factor or the 3.06 pounds per hour emission limit within the ROP).
  - b. The 12-month rolling time period CO emissions associated with SOURCE-WIDE CONDITIONS will be calculated cumulatively for EUTURBINE1, EUTURBINE2, and EUSPU3. The 12-month rolling time period sum also includes those emissions associated with startup and shutdown of the turbines, as defined in the ROP.
  - c. For each gas producer turbine, two modes of operation are defined by the turbine manufacturer. These modes of operation are designated as “Solonox-ON” and “Solonox-OFF” modes. The “Solonox-ON” mode is defined as those gas producer operating ranges, as defined by NGP in which NOx emissions are controlled by the lean burn natural gas combustion process within the combustor of the turbines and, coincidentally, CO emissions in the effluent do not exceed the 12.57 pounds per hour emission factor and NOx emissions in the effluent do not exceed 18.95 pounds per hour emission factor assigned to each turbine, as determined by the hourly NGP and previous stack testing of the gas producer turbines. Conversely, “Solonox-OFF” mode refers to those periods of time, as determined by NGP, in which NOx emissions are not controlled by the lean burn natural gas combustion process within the combustor of the turbines and, coincidentally, CO emission in the effluent exceed the 12.57 pound per hourly emission factor, but not the 400 pounds per hour

and the NOx emissions in the effluent do not exceed the 18.95 pounds per hour emission factor assigned to each turbine, again as determined by the hourly NGP and previous stack testing of the gas producer turbines.

- d. Stack testing over a range of turbine loads (as measured by NGP) has been performed by the permittee to differentiate between “Solonox-ON” mode and “Solonox-OFF” mode for EUTURBINE1 and EUTURBINE2. Based on this testing EUTURBINE1 and EUTURBINE2 are assumed to be in “Solonox-ON” mode at turbine speeds of 92% or greater NGP. At NGP of less than 92%, the turbines are assumed to be in “Solonox-OFF” mode. In the event that additional stack testing is performed, the results of that stack testing shall be used to establish new emission factors for step 2c above, upon review and approval of the AQD District Staff.
- e. The permittee shall record total calculated emissions from the operation of FGTURBINES (EUTURBINE1 and EUTURBINE2) for each hourly time period. The permittee shall record, hourly, NGP for each gas producer within the ADAS, identifying whether EUTURBINE1 and EUTURBINE2 are operating within Solonox-ON or Solonox-OFF mode for the recorded hour. The permittee shall assign a CO emission rate of 12.57 pounds per hour per turbine for Solonox-ON mode (92% NGP and above), and a CO emission rate of 400 pounds per hour per turbine for Solonox-OFF mode (less than 92% NGP). The permittee shall record those times that EUSPU3 is in operation, and multiply hours of operation by an appropriate carbon monoxide emission rate (e.g. stack test data, AP-42 emission factor, or the 3.06 pounds per hour emission limit within the ROP) and NOx emission rate (e.g. stack test data, AP-42 emission factor, or the 39.4 pounds per hour emission limit within the ROP).

### 3. Schedule

- a. The permittee shall maintain a 12-month rolling time period sum of CO emissions for SOURCE-WIDE CONDITIONS calculated at the end of each calendar month. The 12-month rolling time period CO emissions for SOURCE-WIDE CONDITIONS will be calculated by the 15th day of each month for the previous 12-month period ending with the previous month.

## Appendix 8. 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.



## 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: N6838

Section Number (if applicable):

1. Additional Information ID

AI-PMP

### Additional Information

2. Is This Information Confidential?

Yes  No

Attached is a copy of the existing, approved Preventive Maintenance Plan.,

# Preventive Maintenance Plan Highland Compressor Station

Vector Pipeline L.P.  
Highland, Michigan

Project No. 180104  
August 2018





**Vector Pipeline™**

# **Preventive Maintenance Plan Highland Compressor Station**

**Vector Pipeline L.P.  
Highland, Michigan**

**Vector Pipeline L.P.  
38705 Seven Mile Road, Suite 490  
Livonia, Michigan 48152**

**August 2018  
Project No. 180104**



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## List of Abbreviations/Acronyms

CFR	Code of Federal Regulations
CO	carbon monoxide
DLN	dry low-NO <sub>x</sub>
HP	horsepower
hr/yr	hours per year
ISO	ISO standard day conditions means 288° Kelvin, 60% relative humidity and 101.3 kilopascals pressure
KOH	potassium hydroxide
lb/hr	pounds per hour
MMBtu/hr	million British thermal units per hour
NGP	natural gas producer
NO <sub>x</sub>	nitrogen oxides
O&M	operation and maintenance
PMP	Preventive Maintenance Plan
RICE MACT	40 CFR 63 Subpart ZZZZ
SI RICE	spark-ignition reciprocating internal combustion engine
tpy	tons per year
Vector	Vector Pipeline L.P.

## 1.0 Introduction

---

Vector Pipeline L.P. (Vector) operates a natural gas compressor station, Highland Compressor Station, in Highland, Michigan. This facility operates two natural gas-fired turbines and a standby generator.

This Preventive Maintenance Plan (PMP) meets the requirements of implementing a preventive maintenance plan as required by FGTURBINES, Condition IX.3 of Renewable Operating Permit MI-ROP-N6638-2014a. This PMP has been developed to reflect facility operation and maintenance (O&M) of emission generating equipment. The Plan includes:

1. Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices
2. A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions
3. Identification and quantity of replacement parts that will be maintained in inventory for quick replacement

This PMP will be updated as deemed necessary, such as in the event a malfunction occurs which needs to be addressed by the PMP or if there is a change in plant operations.

## 2.0 General Plan Information

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The Highland Compressor Station emission unit and pollution control equipment consists of two natural gas-fired Solar® Mars Turbines, each rated at 15,000 (ISO) horsepower (HP) and controlled by dry low-nitrogen oxide (DLN) emission controls. The compressor station also includes a natural gas-fired, standby power unit (Cummins GTA50F2) rated at 9.654 million British thermal units per hour (MMBtu/hr).

The following information pertains to the equipment covered under the PMP, including limits or operating restrictions as required by the air permit.

### 2.1 Description of Malfunction

A **malfunction** is defined in Michigan Rule 113(a) as *Any sudden, infrequent and not reasonably preventable failure of a source, process, process equipment or air pollution control equipment to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.*

### 2.2 Description of Equipment/Limitations

The Solar Turbines, identified as Turbines 1 and 2, are fired with natural gas; discharge to the atmosphere from stacks SVTURBINE1 and SVTURBINE2, respectively; and use DLN control technology. A continuous monitoring system for measuring natural gas producer (NGP) speed is maintained and operated for each turbine. During normal operation, NGP is maintained above 86%. In addition, between 86% and 92% NGP carbon monoxide (CO) emissions are restricted to 400 pounds per hour (lb/hr) each.

The Solar Turbines, identified as Turbines 1 and 2, have emission limits as stated in the air permit, including:

**Table 1 - Turbine Permit Limits**

Pollutant	Limit	Time Period/Operating Scenario	Equipment
1. NO <sub>x</sub>	37.9 pounds	Hourly	FGTURBINES***
2. NO <sub>x</sub>	126.7 tons	Rolling 12-month period	FGTURBINES***
3. SO <sub>2</sub>	150 ppm, by volume at 15% oxygen and on a dry gas basis and at 100% load <sup>2</sup>	Instantaneous	FGTURBINES
4. SO <sub>2</sub>	13.52 pounds	Hourly	FGTURBINES***
5. SO <sub>2</sub>	59.21 tons	Rolling 12-month period	FGTURBINES***
6. CO*	800 pounds	Hourly	FGTURBINES***
7. CO**	25.14 pounds	Hourly	FGTURBINES***

\* This limit is applicable at any time that the turbine is operating in the range of 86% to 92% of Natural Gas Producer Speed.

\*\* This limit is applicable any time the turbines are operating at or above 92% of Natural Gas Producer Speed.

\*\*\* Represents the total emission limit for both turbines. Individual turbine limits are one half the listed values.

The standby generator is also fired with natural gas. The ROP limits the standby generator to 39.4 lb/hr NO<sub>x</sub>, 3.06 lb/hr CO and 500 hours of operation per year. In addition, the standby generator must meet the definition of an **emergency stationary spark ignition internal combustion engine**, which includes:

- Limiting operation (except for actual emergencies) to less than 100 hours per year (hr/yr). This 100 hr/yr includes any testing or maintenance checks.
- Installation of a non-resettable hour meter to track hours of operation.
- Tracking the reason for operating, as well as number of hours of operation, to demonstrate compliance with the operating hour limits.

Total facility emissions are limits to 224 tons per year (tpy) CO. Emissions are tracked using a parameter tracking system further described in Section 2.5.

## 2.3 Contact Names

As the Highland Compressor Station operates 24 hours a day, 7 days a week, air pollution control equipment is inspected and maintained by various plant personnel. On any given day, the operator(s) or maintenance personnel will conduct the required inspections and make repairs or replacements as necessary. Table 2 summarizes the individuals responsible for inspecting, maintaining, and repairing the emission sources and emission controls.

**Table 2 - Individuals Responsible for Maintenance**

Name	Title	Contact Information
Joseph Richardson	Manager Vector Operations	269.729.4419 Work 219.793.3042 Mobile <a href="mailto:joe.richardson@enbridge.com">joe.richardson@enbridge.com</a>
James Reno	Technical Maintenance Coordinator	219.778.8116 Work 219.775.5611 Mobile <a href="mailto:james.reno@enbridge.com">james.reno@enbridge.com</a>
Matt DiPaola	Operations Coordinator	Work 248.218.4807 Mobile <a href="mailto:matt.dipaola@enbridge.com">matt.dipaola@enbridge.com</a>

## 2.4 Inspection and Maintenance Schedule

The turbines and standby generator will follow the inspection schedule recommended in the manufacturer's O&M Manuals and based on equipment history. The manufacturer's manuals for the turbines and the standby generator are located at the Highland Compressor Station. Routine maintenance includes turbine washes, filter replacements, coil cleaning, belt changing, bearing greasing, oil analysis, etc., as recommended by Solar, the turbine manufacturer. In addition, combustor change outs are performed on a routine basis to keep emissions low and ensure proper operation of the equipment. Routine maintenance for the standby generator includes filter changes, fluid level checks, battery checks, and belt replacements, as recommended by the manufacturer.

In addition, the standby generator will be maintained in accordance with the applicable provisions of 40 CFR 63 Subpart ZZZZ (RICE MACT) for area source emergency generators. The standby generator is subject to 40 CFR 63.6603 Table 2d for emergency spark-ignition reciprocating internal combustion engines (SI RICE), which requires the following:

- A. Utilize an oil analysis program in accordance with 40 CFR 63.6625(i) or change the engine oil every 500 hours of operation or annually, whichever comes first.<sup>1</sup>
- B. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.
- C. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

## 2.5 Parameters to be Monitored

The facility takes an active role to ensure complete compliance with its ROP. Turbine parameters that are monitored to ensure compliance include:

### 2.5.1 Natural Gas Producers Speed for the Turbines

The average hourly NGP for each turbine will be recorded using an automated data acquisition system.

### 2.5.2 Horsepower Levels for the Turbines

The average horsepower levels for each turbine is calculated within the data acquisition system. To show compliance with emission limits included in the permit, the method outlined in Section 2.2 must be followed.

### 2.5.3 Startup, Shutdown, or Malfunction

The Highland Compressor Station shall record the occurrence and duration of any startup, shutdown, or malfunction for each turbine. A malfunction only occurs when an exceedance for an emission limit or operating parameter occurs.

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<sup>1</sup> Sources have the option to utilize an oil analysis program to extend the specified oil change requirement in Table 2d of this subpart (ZZZZ). The oil analysis must be performed at the same frequency specified for changing the oil. The analysis program must, at minimum, analyze the following three parameters: total acid number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 mg of KOH per gram from the Total Acid Number of the oil when new; viscosity of the oil has changed more than 20% from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

## 2.5.4 Operating Hours

The Highland Compressor Station records the total operating hours of each turbine as well as of the emergency engine. The reason for operating the emergency engine will also be recorded.

## 2.5.5 Fuel Usage

The Highland Compressor Station shall monitor and record the amount of fuel combusted in each turbine during each calendar day and shall monitor and record the amount of fuel combusted in the emergency engine each calendar month.

## 2.5.6 Sulfur Content of Fuel

The Highland Compressor Station currently demonstrates compliance with sulfur in fuel limits using a current, valid tariff sheet, though purchase contracts or transportation contracts showing the sulfur in fuel can be used as well. The facility can also choose to monitor the total sulfur content of the fuel fired in each turbine using methods described in 40 CFR 60.4415; sulfur in fuel shall not exceed 0.8% by weight.

## 2.6 Spare Parts Inventory

The spare parts inventory, which is maintained for quick replacement, is summarized in Attachment 1.

## 2.7 Corrective Action Measures

The Highland Compressor Station will implement preventive maintenance practices recommended in the manufacturer's manuals, and based on equipment history, to prevent permit noncompliance. In the event a malfunction causing excess emissions occurs, staff will take corrective actions to restore the unit to proper operating conditions.

## 2.8 Emissions Tracking

Emissions are tracked to demonstrate compliance as follows.

Monthly CO emissions for Turbines 1 and 2, combined, are calculated using the following equation:

$$COMX = [(EFNGP > 92\% \times HRNGP > 92\%) + (EFNGP < 92\% \times HRNG < 92\%)] \times 1/2,000 \text{ (lb/ton)}$$

Where:

- COMX = CO emissions from the month (tons/month)
- EFNGP>92% = Emission factor when the NGP speed is greater than 92% full load (lb CO/hr)
- HRNPG>92% = Operating hours for the month, as obtained from the automated data acquisition system, when the NGP speed is greater than 92% of full load.
- EFNGP<92% = Emission factor when the NGP speed is less than 92% full load (lb CO/hr)
- HRNPG<92% = Operating hours for the month, as obtained from the automated data acquisition system, when the NGP speed is less than 92% of full load.

Monthly NO<sub>x</sub> emissions for Turbines 1 and 2, combined, using the following equation:

$$NO_xMX = [(EFNO_x \times HR) + (EFNGP < 92\% \times HRNG < 92\%)] \times 1/2,000 \text{ (lb/ton)}$$

Where:

- NO<sub>x</sub>MX = NO<sub>x</sub> emissions from the month (tons/month)
- EFNO<sub>x</sub> = Emission factor (lb NO<sub>x</sub>/hr)
- HR = Hours of operation for the month, as obtained from the automated data acquisition system.

The emission factors used for CO and NO<sub>x</sub> emissions shall be the following:

1. EF<sub>NGP>92%</sub> = 13.43 lb CO/hr
2. EF<sub>NGP<92%</sub> = 400 lb CO/hr
3. EF<sub>NO<sub>x</sub></sub> = 20.0 lb NO<sub>x</sub>/hr

Emissions from the most recent stack test can be substituted for the emissions listed above.

## 3.0 Monitoring Operating Conditions

---

A number of operating conditions must be followed as part of the Highland Compressor Station air permits. As part of this PMP, the following information must be recorded:

- The automated data acquisition system will record average hourly NGP for each turbine. This system will be properly calibrated and maintained to ensure information recorded is accurate.
- Monthly operating hours for each turbine and the emergency engine. The reason for operating the emergency engine will also be recorded.
- Monthly fuel consumption for each turbine and the emergency engine. Fuel consumption will be used with emission factors to calculate the rolling 12-month total emissions.

# Attachment 1

## Solar® Spare Parts List

Vector Pipeline, Highland Compressor Station, Highland, Michigan

Quantity	Part Number	Description
3	1014598	Sensor, RTD, Non-Spring Loaded
1	1027212	Sensor, RTD, Single Element
30	1028903	Gasket, T5
1	10124347-1	Sensor, Speed
4	1025324-1	Element, PICO Fuel Filter Kit
4	1025324-2	Element, PICO Fuel Filter Top
4	173942-1	Gasket, Injector
6	1090886-1600	Lube Oil Filter
20	195017-1	Gasket, Fuel Injector
36	6B735-6	Enclosure Fan Filter
2	903316C1	CS-Spark Plug
1	917560C2	Ignition, Exciter
1	919340C2	Cable, Ignition
1	918801C1	Sensor High Temp RTD T1
1	1788-CN2DN	Controlnet to devicenet linking device
1	1756-L73	Control logix 8 MB card
1	1756CN2R	Control Logix Comm Module
1	1756-DHRIO	Control logix DH plus/RIO comms module
1	1606-XLDC92D	14 to 34 V DC IN
1	1794-OB8EPXT	Flex XT 8 point digital input module
1	1794-1B16XT	Flex XT 16 point digital input module
1	1794-IR8	8 point RTD in
1	1794-IB10X0B6XT	Flex XT 10 in 6 out digital Module
2	1794-IE8XT	Flex I/O analog
1	1794-OB16PXT	Flex XT 16 point digital output module
1	1794-IF2XOF21XT	Flex 2 in 2 out analog module
1	1756-EN2T	Ethernet IP comm module
1	1794-ACNR15	Flex XT Controlnet Adpt.
1	1794-IB16	24v DC sink input
2	1794-OE4	Flex I/O 4 output analog module
1	1785-ENET	Ethernet interface module
3	1794-OW8	Flex I/O 8 output relay module
2	1794-TB3	Flex I/O terminal base
1	1440-ACNR	Network adaptor
1	1794-ACNR15XT	Flex redundant media adaptor
1	1440-DYN02-01RJ	XM Dynamic measurement module
1	1794-IRT8XT	Flex XT 8 point
1	1794-OB16	24v 16 source output

updated 3/17/2017

