EGLE

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	SIC Code	NAICS Code	Existing ROP Number	Section Number (if applicable)
N5991		562212	MI-ROP-N5991-2016	01

Source Name: Republic Services of Michigan I, LLC-Citizens Disposal

Street Address: 2361 West Grand Blanc Road

City	State	ZIP Code	County
Grand Blanc	MI	48439	Genesee

Section/Town/Range (if address not available):

Source Description: Municipal Solid Waste Landfill

☐ 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	Section Number (if applicable)
Republic Services of Michigan I, LLC-Citizens Disposal, Inc.	01

Mailing address (☒ check if same as source address)

City	State	ZIP Code	County	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: N5991	Section Number (if applicable): 01

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			Title	
Robb Moore, P.E.			Environmental Manager	
Company Name & Mailing address (☒ check if same as source address)				
2361 West Grand Blanc Road				
City	State	ZIP Code	County	Country
Grand Blanc	MI	48439	Genesee	USA
Phone number		E-mail address		
586-495-6762		rmoore@republicservices.com		

Contact 2 Name (optional)			Title	
Company Name & Mailing address (☐ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name			Title	
Metrel Demps			General Manager	
Company Name & Mailing address (☐ check if same as source address)				
City	State	ZIP Code	County	Country
Pontiac	MI	48340	Oakland	USA
Phone number		E-mail address		
810-768-2232		MDemps@republicservices.com		

Responsible Official 2 Name (optional)			Title	
Company Name & Mailing address (☐ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		

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

SRN: N5991	Section Number (if applicable): 01

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.

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

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)

Metrel Demps, General Manager

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.

Metrel Demps — 5-4-21

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 **all** 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 not been reported in MAERS for the most recent emissions reporting year? If Yes, 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.	☐ Yes ☒ No
C2.	Is this source subject to the federal regulations on ozone-depleting substances? (40 CFR Part 82)	☐ Yes ☒ 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 Yes, a Risk Management Plan (RMP) and periodic updates must be submitted to the USEPA. Has an updated RMP been submitted to the USEPA?	☐ Yes ☒ No ☐ Yes ☒ No
C4.	Has this stationary source **added or modified** equipment since the last ROP renewal that changes the potential to emit (PTE) for criteria pollutant (CO, NOx, PM10, PM2.5, SO_2, VOC, lead) emissions? If Yes, 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 No, criteria pollutant potential emission calculations do not need to be included.	☐ Yes ☒ No
C5.	Has this stationary source **added or modified** 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 Yes, 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 must be included in HAP emission calculations. If No, HAP potential emission calculations do not need to be included.	☐ Yes ☒ No
C6.	Are any emission units subject to the Cross-State Air Pollution Rule (CSAPR)? If Yes, identify the specific emission unit(s) subject to CSAPR on an AI-001 Form.	☐ Yes ☒ No
C7.	Are any emission units subject to the federal Acid Rain Program? If Yes, 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?	☐ Yes ☒ No ☐ Yes ☒ No
C8.	Are any emission units identified in the existing ROP subject to compliance assurance monitoring (CAM)? If Yes, 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	☐ Yes ☒ No ☐ Yes ☐ No ☐ ☐
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 Yes, then a copy must be submitted as part of the ROP renewal application.	☒ Yes ☐ No
C10.	Are there any specific requirements that the source proposes to be identified in the ROP as non-applicable? If Yes, then a description of the requirement and justification must be submitted as part of the ROP renewal application on an AI-001 Form.	☐ Yes ☒ No
☐	Check here if an AI-001 Form is attached to provide more information for Part C. Enter AI-001 Form ID: **AI-**	

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)]
EUDIESELFUEL	Two 1000 Gallon Diesel Fuel Tanks and One 500 Gallon Diesel Fuel Tank	R 336.1284(i)	R 336.1212(4)c
EUWASTEOIL	500 Gallon Waste Oil Tank	R 336.1284(i)	R 336.1212(4)c
EUMOTOROIL	335 Gallon Motor Oil Tank	R 336.1284(i)	R 336.1212(4)c
EUHYDRAULICOIL	Two 335 Gallon Hydraulic Oil Tanks	R 336.1284(i)	R 336.1212(4)c
EUFURNACE	70,000 BTU Propane Furnace	R 336.1282(b)(i)	R 336.1212(4)(b)
EUWATERHEATER	10,000 BTU Propane Water Heater	R 336.1282(b)(i)	R 336.1212(4)(b)
EUPROPANE	One 500 Gallon Propane Storage Tank and One 250 Gallon Propane Storage Tank	R 336.1284(b)	R 336.1212(4)(c)

Comments:

☐ 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.

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 Yes, identify changes and additions on Part F, Part G and/or Part H.	☐ Yes ☒ No
E2. For each emission unit(s) identified in the existing ROP, all 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 not reported in the most recent MAERS reporting year? If Yes, identity the stack(s) that was/were not reported on applicable MAERS form(s).	☐ Yes ☒ No
E3. Have any emission units identified in the existing ROP been modified or reconstructed that required a PTI? If Yes, complete Part F with the appropriate information.	☐ Yes ☒ No
E4. Have any emission units identified in the existing ROP been dismantled? If Yes, identify the emission unit(s) and the dismantle date in the comment area below or on an AI-001 Form.	☐ Yes ☒ No

Comments:

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

PART F: PERMIT TO INSTALL (PTI) INFORMATION

Review all emission units and applicable requirements at the source and answer the following questions as they pertain to **all** emission units with PTIs. Any PTI(s) identified below must be attached to the application.

F1. Has the source obtained any PTIs where the applicable requirements from the PTI have not been incorporated into the existing ROP? If Yes, complete the following table. If No, go to Part G. ☐ Yes ☒ No

Permit to Install Number	Emission Units/Flexible Group ID(s)	Description (*Include Process Equipment, Control Devices and Monitoring Devices*)	Date Emission Unit was Installed/ Modified/ Reconstructed

F2. Do any of the PTIs listed above change, add, or delete terms/conditions to **established emission units** in the existing ROP? If Yes, identify the emission unit(s) or flexible group(s) affected in the comments area below or on an AI-001 Form and identify all changes, additions, and deletions in a mark-up of the existing ROP. ☐ Yes ☐ No

F3. Do any of the PTIs listed above identify **new emission units** that need to be incorporated into the ROP? If Yes, submit the PTIs as part of the ROP renewal application on an AI-001 Form, and include the new emission unit(s) or flexible group(s) in the mark-up of the existing ROP. ☐ Yes ☐ No

F4. Are there any stacks with applicable requirements for emission unit(s) identified in the PTIs listed above that were not reported in MAERS for the most recent emissions reporting year? If Yes, identity the stack(s) that were not reported on the applicable MAERS form(s). ☐ Yes ☐ No

F5. Are there any proposed administrative changes to any of the emission unit names, descriptions or control devices in the PTIs listed above for any emission units not already incorporated into the ROP? If Yes, describe the changes on an AI-001 Form. ☐ Yes ☐ No

Comments:

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

SRN: N5991	Section Number (if applicable): 01

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 – *Provide Emission Unit ID and a description of Process Equipment, Control Devices and Monitoring Devices***	**Date Emission Unit was Installed/ Modified/ Reconstructed**
☐ Rule 281(2)(h) or 285(2)(r)(iv) cleaning operation		
☐ Rule 287(2)(c) surface coating line		
☐ 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-**

SRN: N5991	Section Number (if applicable): 01

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 Yes, answer the questions below.	☒ Yes ☐ No
H2. Are there any proposed administrative changes to any of the existing emission unit names, descriptions or control devices in the ROP? If Yes, describe the changes in questions H8 – H16 below and in the affected Emission Unit Table(s) in the mark-up of the ROP.	☐ Yes ☒ 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 Yes, 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.	☐ Yes ☒ No
H4. Does the source propose to add new state or federal regulations to the existing ROP? If Yes, on an AI-001 Form, identify each emission unit/flexible group that the new regulation applies to and identify each 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.	☒ Yes ☐ No
H5. Has a Consent Order/Consent Judgment (CO/CJ) been issued where the requirements were not incorporated into the existing ROP? If Yes, 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.	☐ Yes ☒ No
H6. Does the source propose to add, change and/or delete **source-wide** 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
H7. Are you proposing to **streamline** any requirements? If Yes, identify the streamlined and subsumed requirements and the EU ID, and provide a justification for streamlining the applicable requirement below.	☐ Yes ☒ 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

A new rule has been promulgated that will be applicable to this site after September 28, 2021. 40 CFR, Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. The specific requirements are: 40 CFR 60.1959, 40 CFR 63.1960

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

A new rule has been promulgated that will be applicable to this site after September 28, 2021. 40 CFR, Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. The specific requirements are: 40 CFR 60.1957, 40 CFR 60.1958, 40 CFR 63.1961,

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

A new rule has been promulgated that will be applicable to this site after September 28, 2021. 40 CFR, Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. The specific requirements are: 40 CFR 63.1962, 40 CFR 63.1960(b)

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

A new rule has been promulgated that will be applicable to this site after September 28, 2021. 40 CFR, Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. The specific requirements are: 40 CFR 63.1959(a)(3), 40 CFR 63.1959(a)(4), 40 CFR 63.1959(a)(5), 40 CFR 63.1960(a)(4)(i)(D), 40 CFR 63.1960(c)

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

A new rule has been promulgated that will be applicable to this site after September 28, 2021. 40 CFR, Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. The specific requirements are: 40 CFR 63.1965, 40 CFR 63.1975, 40 CFR 63.1962, 40 CFR 63.1963, 40 CFR 63.1960(a)(4)(i)(A)-(D)

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

A new rule has been promulgated that will be applicable to this site after September 28, 2021. 40 CFR, Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. The specific requirement is: 40 CFR 63.1961

SRN: N5991	Section Number (if applicable): 01

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

A new rule has been promulgated that will be applicable to this site after September 28, 2021. 40 CFR, Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. The specific requirements are: 40 CFR 63.1985, 40 CFR 63.1990

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-**

EGLE

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: N5991	Section Number (if applicable): 01

1. Additional Information ID
AI-001

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

A new rule has been promulgated that will be applicable to this site after September 28, 2021. 40 CFR, Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. This will be applicable to the entire site and will affect The specific requirements are: 40 CFR 60.1959, 40 CFR 63.1960, 40 CFR 60.1957, 40 CFR 60.1958, 40 CFR 63.1961, 40 CFR 63.1962, 40 CFR 63.1960(b), 40 CFR 63.1959(a)(3), 40 CFR 63.1959(a)(4), 40 CFR 63.1959(a)(5), 40 CFR 63.1960(a)(4)(i)(D), 40 CFR 63.1960(c), 40 CFR 63.1965, 40 CFR 63.1975, 40 CFR 63.1962, 40 CFR 63.1963, 40 CFR 63.1960(a)(4)(i)(A)-(D), 40 CFR 63.1961, 40 CFR 63.1985, 40 CFR 63.1990

Citizens Disposal, Inc. will be subject to 40 CFR, Part 63, Subpart AAAA – National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills after September 28, 2021. Conditions will be updated based on new AQD templates currently in development.

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

EFFECTIVE DATE: ~~November 16, 2016~~

ISSUED TO

Citizens Disposal, Incorporated and Granger Electric of Grand Blanc, LLC

State Registration Number (SRN): N5991

LOCATED AT

2361 West Grand Blanc Road, Grand Blanc, Michigan 48439

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-N5991-~~2016~~

Expiration Date: ~~November 16, 2021~~

Administratively Complete ROP Renewal Application Due Between ~~May 16, 2020 and May 16, 2021~~

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

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-N5991-~~2016~~

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

Operation of all emission units identified in the PTI is subject to all applicable future or amended rules and regulations pursuant to Act 451 and the federal Clean Air Act.

Michigan Department of Environmental Quality

_____

Brad Myott, Lansing District Supervisor

TABLE OF CONTENTS

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 Environmental Quality (MDEQ) 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 are 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.

ROP No: MI-ROP-N5991-2016
Expiration Date: November 16, 2021
PTI No: MI-PTI-N5991-2016

SECTION 1 - Citizens Disposal, Incorporated

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).[2] **(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:" [2] **(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 percent 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.[1] **(R 336.1901(a))**
    b. Unreasonable interference with the comfortable enjoyment of life and property.[1] **(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).[2] **(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. **(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. Semi-annually 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.[2] **(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))**

Re-openings

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(8))**

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):
    a. June 21, 1999,
    b. Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
    c. 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.[2] **(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.[2] **(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, MDEQ.[2] **(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, MDEQ, 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.[2] **(R 336.1201(4))**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]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.

C. EMISSION UNIT 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
EULANDFILL	This emission unit represents the general Municipal Solid Waste (MSW) Landfill in which the collected landfill gas is sent primarily to a treatment system.	12-13-1995	NA
EUACTIVECOLL	This emission unit represents the active landfill gas collection system at the landfill that uses gas mover equipment to draw landfill gas from the wells and moves the gas to the control equipment.	12-13-1995	NA
EUGROFFLARE	A 600 CFM open flare for backup control of the landfill gas. An open flare is an open combustor without enclosure or shroud.	04-01-2000	NA
EUZINKFLARE	A 3,000 CFM utility flare (open flare) for backup control of the landfill gas. An open flare is an open combustor without enclosure or shroud.	02-03-2009	NA
EUASBESTOS	Any active or inactive asbestos disposal site.	01-01-1981	NA

EULANDFILL
EMISSION UNIT CONDITIONS

DESCRIPTION

This emission unit represents the general Municipal Solid Waste (MSW) Landfill in which the collected landfill gas is sent primarily to a treatment system.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

A treatment system provides primary control for the landfill gas to be used as fuel at the on-site engine plant or sold for subsequent use. Two (2) open flares serve as control when the landfill gas is not sent to the engine plant.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Methane concentration	500 ppm above background level	Calendar quarter	Surface of Landfill	SC V.1, SC V.2	**40 CFR 60.753(d), 40 CFR 60.755(c), 40 CFR 63.1955(a)(1)**

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall comply with the requirements in 40 CFR 63.1955(b) and 40 CFR 63.1960 through §63.1980. **(40 CFR 63.1945(d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall have installed a collection and control system that captures the landfill gas generated within the landfill as required by 40 CFR 60.752(b)(2)(i)(C), 40 CFR 60.752(b)(2)(ii), and 40 CFR 60.752(b)(2)(iii). **(40 CFR 60.752(b)(2)(i)(C), 40 CFR 60.752(b)(2)(ii), 40 CFR 60.752(b)(2)(iii), 40 CFR 63.1955(a)(1))**

2. The permittee shall route all the collected landfill gas to at least one of the following:
   a. A flare designed in accordance with §60.18 except as noted in 40 CFR 60.754(e). **(40 CFR 60.752(b)(2)(iii)(A), 40 CFR 63.1955(a)(1))**
   b. A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 ppm by volume, dry basis as hexane at 3 percent oxygen. The reduction efficiency or ppm by volume shall be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in §60.754(d). **(40 CFR 60.752(b)(2)(iii)(B), 40 CFR 63.1955(a)(1))**

c. To a treatment system that processes the collected gas for subsequent sale or use. The treatment system shall be designed so that all emissions from any atmospheric vent(s) shall be subject to 40 CFR 60.752(b)(2)(iii)(A) or (B). **(40 CFR 60.752(b)(2)(iii)(C), 40 CFR 63.1955(a)(1))**

V. TESTING/SAMPLING

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

1. To determine if the methane concentration is less than 500 ppm above background at the surface of the landfill is exceeded, the permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. **(40 CFR 60.753(d), 40 CFR 63.1955(a)(1))**

2. The permittee shall use the following procedures for compliance with the surface methane operational standard as provided in §60.753(d).
   a. The permittee shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30-meter intervals (or a site-specific established spacing approved by the AQD) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in §60.755(d). **(40 CFR 60.755(c)(1), 40 CFR 63.1955(a)(1))**
   b. The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. **(40 CFR 60.755(c)(2), 40 CFR 63.1955(a)(1))**
   c. Surface emission monitoring shall be performed in accordance with Section 4.3.1 of Method 21 of Appendix A of 40 CFR Part 60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. **(40 CFR 60.755(c)(3), 40 CFR 63.1955(a)(1))**
   d. Any reading of 500 ppm or more above background at any location shall be recorded as a monitored exceedance and the actions specified below shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of §60.753(d). **(40 CFR 60.755(c)(4), 40 CFR 63.1955(a)(1))**
      i. The location of each monitored exceedance shall be marked and the location recorded. **(40 CFR 60.755(c)(4)(i), 40 CFR 63.1955(a)(1))**
      ii. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance. **(40 CFR 60.755(c)(4)(ii), 40 CFR 63.1955(a)(1))**
      iii. If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in §60.755(c)(4)(v) (below in SC **V.2.d.v**) shall be taken, and no further monitoring of that location is required until the action specified in §60.755(c)(4)(v) (below in SC **V.2.d.v**) has been taken. **(40 CFR 60.755(c)(4)(iii), 40 CFR 63.1955(a)(1))**
      iv. Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in 60.755(c)(4) (ii) or (iii) (above in SC **V.2.d.ii** or **iii**) shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 ppm above backgrounds, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in §60.755(c)(4)(iii) (above in SC **V.2.d.iii.**) or in §60.755(c)(4)(v) (below in SC **V.2.d.v**) shall be taken. **(40 CFR 60.755(c)(4)(iv), 40 CFR 63.1955(a)(1))**
      v. For any location where monitored methane concentration equals or exceeds 500 ppm above backgrounds three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to the AQD for approval. **(40 CFR 60.755(c)(4)(v), 40 CFR 63.1955(a)(1))**

3. The permittee shall comply with the provisions in §60.755(c) with the following instrumentation specifications and procedures for surface emission monitoring devices:
   a. The portable analyzer shall meet the instrument specifications provided in Section 3 of Method 21 of Appendix A of 40 CFR Part 60, except that "methane" shall replace all references to VOC. **(40 CFR 60.755(d)(1), 40 CFR 63.1955(a)(1))**
   b. The calibration gas shall be methane, diluted to a nominal concentration of 500 ppm in air. **(40 CFR 60.755(d)(2), 40 CFR 63.1955(a)(1))**
   c. To meet the performance evaluation requirements in Section 3.1.3 of Method 21 of Appendix A of 40 CFR Part 60, the instrument evaluation procedures of Section 4.4 of Method 21 of Appendix A of 40 CFR Part 60 shall be used. **(40 CFR 60.755(d)(3), 40 CFR 63.1955(a)(1))**
   d. The calibration procedures provided in Section 4.2 of Method 21 of Appendix A of 40 CFR Part 60 shall be followed immediately before commencing a surface monitoring survey. **(40 CFR 60.755(d)(4), 40 CFR 63.1955(a)(1))**

4. The permittee shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in §60.755(d). Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring. **(40 CFR 60.756(f), 40 CFR 63.1955(a)(1))**

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 implement a program to monitor on a monthly basis for cover integrity and implement cover repairs as necessary. **(40 CFR 60.755(c)(5), 40 CFR 63.1955(a)(1))**

2. Except as provided in §60.752(b)(2)(i)(B), the permittee shall maintain up-to-date, readily accessible, on-site records of the design capacity report which triggered §60.752(b), the current amount of solid waste in place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable. **(40 CFR 60.758(a), 40 CFR 63.1955(a)(1))**

3. The permittee shall calculate and record the NMOC emission rate for purposes of determining when the system can be removed as provided in 40 CFR 60.752(b)(2)(v), using the equation presented in 40 CFR 60.754(b). **(40 CFR 60.754(b))**

4. If the permittee adds any liquids other than leachate in a controlled fashion to the waste mass and does not comply with the bioreactor requirements in 40 CFR 63.1947, §63.1955(c), and §63.1980(c) through (f), the permittee shall keep a record of calculations showing that the percent moisture by weight expected in waste mass to which liquid is added is less than 40 percent. The calculation must consider the waste mass, moisture content of the incoming waste, mass of the water added to the waste including leachate recirculation and other liquids addition, and precipitation, and the mass of water removed through leachate or other water losses. Moisture level sampling or mass balances calculations can be used. The permittee shall document the calculations and the basis of the assumptions. **(40 CFR 63.1980(g))**

5. The permittee shall keep the following written records pertaining to surface methane monitoring:
   a. The route traversed including any areas not monitored because of unsafe conditions (i.e., truck traffic, construction, active face, dangerous areas, etc.) and areas included where visual observations indicate elevated levels of landfill gas, **(R 336.1213(3))**
   b. The location(s) and concentrations of any reading above 500 ppm above background, **(40 CFR 60.755(c)(4)(i), R 336.1213(3))**
   c. The meteorological conditions the day of the testing including wind speed, wind direction, temperature, and cloud cover). **(R 336.1213(3))**

VII. REPORTING

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

2. Semi-annual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. 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. 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 an equipment removal report to the appropriate AQD District Supervisor 30 days prior to removal or cessation of operation of the control equipment.
   a. The equipment removal report shall contain all of the following items:
      i. A copy of the closure report submitted in accordance with §60.757(d); **(40 CFR 60.757(e)(1)(i), 40 CFR 63.1955(a)(1))**
      ii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year; and **(40 CFR 60.757(e)(1)(iii), 40 CFR 63.1955(a)(1))**
      iii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired. **(40 CFR 60.757(e)(1)(ii), 40 CFR 63.1955(a)(1))**
   b. The AQD may request such additional information as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met. **(40 CFR 60.757(e)(2), 40 CFR 63.1955(a)(1))**

5. The permittee shall submit a closure report to the appropriate AQD District Office within 30 days of waste acceptance cessation. The AQD may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the AQD, no additional wastes may be placed into the landfill without filing a notification of modification as described under §60.7(a)(4). **(40 CFR 60.757(d), 40 CFR 63.1955(a)(1))**

6. The permittee shall submit reports which shall be postmarked or received by 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. The report shall include the location of each exceedance of the 500 ppm methane concentrations as provided in §60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. The report shall also contain include information on all deviations that occurred during the 6-month reporting period. **(40 CFR 60.757(f)(5), 40 CFR 63.1955(a)(1), 40 CFR 63.1955(c), 40 CFR 63.1980(a))**

7. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENTS

1. The collection and control system may be capped or removed provided that all the following conditions are met:
   a. The landfill shall be a closed landfill as defined in §60.751. A closure report shall be submitted to the appropriate AQD District Office as provided in §60.757(d); **(40 CFR 60.752(b)(2)(v)(A), 40 CFR 63.1955(a)(1))**
   b. The collection and control system shall have been in operation a minimum of 15 years; and **(40 CFR 60.752(b)(2)(v)(B), 40 CFR 63.1955(a)(1))**
   c. Following the procedures specified in §60.754(b), the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart. **(40 CFR 60.752(b)(2)(v)(C), 40 CFR 63.1955(a)(1))**

2. The permittee shall submit a closure report to the appropriate AQD District Office within 30 days of waste acceptance cessation. The AQD may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the AQD, no additional wastes may be placed into the landfill without filing a notification of modification as described under §60.7(a)(4). **(40 CFR 60.757(d), 40 CFR 63.1955(a)(1))**

3. If monitoring demonstrates that the operational requirements as specified in §60.753(b), (c), or (d) are not met, corrective action shall be taken as specified in §60.755(a)(3) through (5) or §60.755(c). **(40 CFR 60.753(g), 40 CFR 63.1955(a)(1))**

4. For the approval of collection and control systems that includes any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, the permittee shall follow the procedures in 40 CFR 60.752(b)(2). **(40 CFR 63.1955(c))**

5. The permittee shall comply with the requirements of 40 CFR 60, Subpart WWW. **(40 CFR 63.1955(a)(1))**

6. The permittee shall comply with the requirements of 40 CFR Part 63, Subpart AAAA, including the general provisions specified in Table 1 and the SSM requirements in 40 CFR 63.6. **(40 CFR 63.1955, 40 CFR 63.6)**

7. The permittee is no longer required to comply with the requirements of 40 CFR 63, Subpart AAAA when it is no longer required to apply controls as specified in 40 CFR 60.752(b)(2)(v) of Subpart WWW. **(40 CFR 63.1950)**

EUACTIVECOLL
EMISSION UNIT CONDITIONS

DESCRIPTION

This emission unit represents the active landfill gas collection system at the landfill that uses gas mover equipment to draw landfill gas from the wells and moves the gas to the control equipment.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

A treatment system provides primary control for the landfill gas to be used as fuel at the on-site engine plant or sold for subsequent use. Two (2) open flares serve as control when the landfill gas is not sent to the engine plant.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour. **(40 CFR 60.753(e), 40 CFR 63.1955(a))**

2. The permittee shall operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:
   a. 5 years or more if active; or **(40 CFR 60.753(a)(1), 40 CFR 63.1955(a))**
   b. 2 years or more if closed or at final grade. **(40 CFR60.753(a)(2), 40 CFR 63.1955(a))**

3. The permittee shall operate the collection system with negative pressure at each wellhead except under the following conditions:
   a. A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the semiannual reports as provided in §60.757(f)(1). **(40 CFR 60.753(b)(1), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
   b. Use of a geo-membrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan. **(40 CFR 60.753(b)(2), 40 CFR 63.1955(a))**
   c. A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the AQD. **(40 CFR 60.753(b)(3), 40 CFR 63.1955(a))**

4. The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55°C and with an oxygen level less than 5 percent. The owner or operator may establish a higher operating temperature or oxygen value at a particular well. A higher operating value demonstration shall be submitted to the appropriate Air Quality Division District for approval and it shall include supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens. **(40 CFR 60.753(c), 40 CFR 60.756(e), 40 CFR 63.1955(a))**

5. The permittee shall operate the installed collection system in accordance with the provisions of §60.753, §60.755, and §60.756. **(40 CFR 60.752(b)(2)(iv), 40 CFR 63.1955(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. An active collection system shall:
   a. Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment. **(40 CFR 60.752(b)(2)(ii)(A)(1), 40 CFR 63.1955(a))**
   b. The permittee shall place each well or design component in the collection system as specified in the approved design plan as provided in §60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of 5 years or more if active; or 2 years or more if closed at final grade. **(40 CFR 60.755(b), 40 CFR 60.752(b)(2)(ii)(A)(2), 40 CFR 63.1955(a))**
   c. Collect gas at a sufficient extraction rate. **(40 CFR 60.752(b)(2)(ii)(A)(3), 40 CFR 63.1955(a))**
   d. Be designed to minimize off-site migration of subsurface gas. **(40 CFR 60.752(b)(2)(ii)(A)(4), 40 CFR 63.1955(a))**

2. The permittee shall design the collection system so that all collected gases are vented to a control system designed and operated in compliance with §60.752(b)(2)(iii). **(40 CFR 60.753(e), 40 CFR 63.1955(a))**

3. When adding gas collectors to the active gas collection system, a sufficient density of gas collectors shall be installed in compliance with §60.752(b)(2)(ii)(A)(2) (as specified above in SC **IV.1**). The permittee shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the appropriate AQD District Office, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards in 40 CFR 60, Subpart WWW. **(40 CFR 60.755(a)(2), 40 CFR 63.1955(a))**
   a. If the permittee is seeking to demonstrate compliance through the use of a collection system not conforming to the specifications provided in §60.759, then the permittee shall provide information that satisfies the AQD District Supervisor as specified in §60.752(b)(2)(i)(C), demonstrating that off-site migration is being controlled. **(40 CFR 60.755(a)(6), 40 CFR 63.1955(a))**

4. The permittee shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead. **(40 CFR 60.756(a), 40 CFR 63.1955(a))**

5. The permittee shall site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the appropriate AQD District Supervisor as provided in §60.752(b)(2)(i)(C) and (D):
   a. The collection devices within the interior and along the perimeter areas shall be certified, by a professional engineer, to achieve comprehensive control of surface gas emissions. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat. **(40 CFR 60.759(a)(1), 40 CFR 63.1955(a))**
   b. The sufficient density of gas collection devices determined in §60.759(a)(1) (above in Condition **IV.5.a.**) shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior. **(40 CFR 60.759(a)(2), 40 CFR 63.1955(a))**

c. The placement of gas collection devices determined in §60.759(a)(1) (above in SC **IV.5.a.**) shall control all gas producing areas, except as provided in §60.759(a)(3)(i) and (ii) (below in SC **IV.5.c.i.** and **ii.**). **(40 CFR 60.759(a)(3), 40 CFR 63.1955(a))**
   i. Any segregated area of asbestos or non-degradable material may be excluded from collection if documented as provided under §60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or non-degradable material deposited in the area, and shall be provided to the District Supervisor upon request. **(40 CFR 60.759(a)(3)(i), 40 CFR 63.1955(a))**
   ii. Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the AQD District Supervisor upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the equation in Appendix 7. **(40 CFR 60.759(a)(3)(ii), 40 CFR 63.1955(a))**

6. The permittee shall construct the gas collection devices using the following equipment or procedures:
   a. The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration. **(40 CFR 60.759(b)(1), 40 CFR 63.1955(a))**
   b. Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations. **(40 CFR 60.759(b)(2), 40 CFR 63.1955(a))**
   c. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness. **(40 CFR 60.759(b)(3), 40 CFR 63.1955(a))**

7. The active gas collection system shall be designed so as to convey the landfill gas to a control system in compliance with §60.752(b)(2)(iii) through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures: **(40 CFR 60.759(c), 40 CFR 63.1955(a))**
   a. For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in §60.759(c)(2) shall be used. **(40 CFR 60.759(c)(1), 40 CFR 63.1955(a))**
   b. For new collection systems, the maximum flow rate shall be in accordance with §60.755(a)(1). **(40 CFR 60.759(c)(2), 40 CFR 63.1955(a))**

See Appendix 7

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))**

1. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with §60.752(b)(2)(ii)(A)(*3*), the permittee shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within five calendar days, except for the three conditions allowed under §60.753(b) (above in SC **III.3.a-c**). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the AQD for approval. **(40 CFR 60.755(a)(3), 40 CFR 60.756(a)(1), 40 CFR 63.1955(a))**

2. The permittee is not required to expand the gas collection system as required in §60.755(a)(3) (above in SC **VI.1**) during the first 180 days after gas collection system startup. **(40 CFR 60.755(a)(4), 40 CFR 63.1955(a))**

3. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee shall monitor each well monthly for temperature and oxygen as provided in §60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within five calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the AQD for approval.
   a. If monitoring demonstrates that the temperature and oxygen levels are not being met, then corrective action shall be taken as noted above and specified in §60.755(a)(5). If corrective actions are taken as specified in §60.755, the monitored exceedance is not a violation of the operational requirements. **(40 CFR 60.753(g), 40 CFR 63.1955(a))**
   b. Unless an alternative test method is established as allowed by §60.752(b)(2)(i), the oxygen shall be determined by an oxygen meter using Method 3A or 3C except that:
      i. The span shall be set so that the regulatory limit is between 20 and 50 percent of the span; **(40 CFR 60.753(c)(i), 40 CFR 63.1955(a))**
      ii. A data recorder is not required; **(40 CFR 60.753(c)(ii), 40 CFR 63.1955(a))**
      iii. Only two calibration gases are required, a zero and span, and ambient air may be used as the span; **(40 CFR 60.753(c)(iii), 40 CFR 63.1955(a))**
      iv. A calibration error check is not required; **(40 CFR 60.753(c)(iv), 40 CFR 63.1955(a))**
      v. The allowable sample bias, zero drift, and calibration drift are ±10 percent. **(40 CFR 60.753(c)(v), 40 CFR 63.1955(a))**

   (40 CFR 60.755(a)(5), 40 CFR 60.756(a)(2), 40 CFR 60.756(a)(3), 40 CFR 63.1955(a))

4. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in §60.758(b)(1) (below in SC **VI.4.a-b**) as measured during the compliance determination. Records of the control device vendor specifications shall be maintained until removal.
   a. The maximum expected gas generation flow rate as calculated in §60.755(a)(1). The permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the appropriate AQD District Office. **(40 CFR 60.758(b)(1)(i), 40 CFR 63.1955(a))**
   b. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in §60.759(a)(1). **(40 CFR 60.758(b)(1)(ii), 40 CFR 63.1955(a))**

5. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector; and the installation date and location of all newly installed collectors as specified under §60.755(b) (above in SC **IV.1.b**). **(40 CFR 60.758(d), 40 CFR 60.758(d)(1), 40 CFR 63.1955(a))**

6. The permittee shall keep readily accessible records of all collection and control system exceedances of the operational standards in §60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. **(40 CFR 60.758(e), 40 CFR 63.1955(a))**

7. The permittee shall maintain the following information:
   a. A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion. **(40 CFR 60.757(g)(1), 40 CFR 63.1955(a))**
   b. The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based. **(40 CFR 60.757(g)(2), 40 CFR 63.1955(a))**
   c. The documentation of the presence of asbestos or non-degradable material for each area from which collection wells have been excluded based on the presence of asbestos or non-degradable material. **(40 CFR 60.757(g)(3), 40 CFR 63.1955(a))**
   d. The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area. **(40 CFR60.757(g)(4), 40 CFR 63.1955(a))**
   e. The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill. **(40 CFR 60.757(g)(5), 40 CFR 63.1955(a))**
   f. The provisions for the control of off-site migration. **(40 CFR 60.757(g)(6), 40 CFR 63.1955(a))**
   g. The permittee shall maintain the dates of the landfill gas well installations, the age of the waste in which the landfill gas wells were installed, and the age of the in place waste for each portion of the landfill. **(R 336.1213(3))**

VII. REPORTING

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

2. Semi-annual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report shall be postmarked or received by 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. Report shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit to the appropriate AQD District Office semiannual reports for the gas collection system. Reports 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. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c). The semiannual reports for the gas collection system shall include the following information:
   a. Value and length of time for exceedance of applicable parameters monitored under §60.756(a), (above in SC **VI.1** and **VI.3**). **(40 CFR 60.757(f)(1))**
   b. All periods when the collection system was not operating in excess of five days. **(40 CFR 60.757(f)(4))**
   c. The date of installation and the location of each well or collection system expansion added pursuant to §60.755(a)(3), §60.755(b), and §60.755(c)(4), (above in SC **IV.1.b, VI.1** and **VI.3**) **(40 CFR 60.757(f)(6))**
   d. Any deviations as listed in 40 CFR 63.1965. **(40 CFR 63.1965)**
   e. The permittee shall record instances when a positive pressure occurs in efforts to avoid fire. **(40 CFR 60.753(b)(1))**

   (40 CFR 60.757(f), 40 CFR 63.1955(a), 40 CFR 63.1965, 40 CFR 63.1980(a))

5. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENTS

1. If monitoring demonstrates that the operational requirements in §60.753(b), (c), or (d) (above in SC **III.3** and **III.4**) are not met, corrective action shall be taken as specified above in §60.755(a)(3) through (5) or §60.755(c) (SC **VI.1** and **VI.3**). **(40 CFR 60.753(g), 40 CFR 63.1955(a)(1))**

2. The provisions of 40 CFR Part 60, Subpart WWW, apply at all times and the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems. **(40 CFR 60.755(e), 40 CFR 63.1955(a)(1))**

3. If the permittee is seeking to install a collection system that does not meet the specifications in §60.759 (above in SC **IV.5, IV.6 and IV.7**) or is seeking to monitor alternative parameters to those required by §60.753 through §60.756, they shall provide information satisfactory to the appropriate AQD District Office as provided in §60.752(b)(2)(i)(B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The AQD may specify additional appropriate monitoring procedures. **(40 CFR 60.756(e), 40 CFR 63.1955(a))**

4. The permittee shall have developed and implemented a written SSM plan according to the provision in 40 CFR 63.6(e)(3) for EUACTIVECOLL. A copy of the SSM plan shall be maintained on site. **(40 CFR 63.1960)**

5. The permittee shall comply with all applicable provisions of 40 CFR 63 Subparts A and AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. **(40 CFR 60 Subparts A and AAAA)**

EUGROFFLARE
EMISSION UNIT CONDITIONS

DESCRIPTION

A 600 CFM open flare for backup control of the landfill gas. An open flare is an open combustor without enclosure or shroud. The initial performance testing for the open flare has already been performed, and therefore, is not required by this table.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate the flare in accordance with §60.18 except as noted in 40 CFR 60.754(e). **(40 CFR 60.752(b)(2)(iii)(A), 40 CFR 63.1955(a))**

2. The permittee shall operate the flare at all times when the collected gas is routed to it. **(40 CFR 60.753(f), 40 CFR 63.1955(a)))**

3. The flare shall be operated with no visible emissions, as determined by the methods specified in 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. **(40 CFR 60.18(c)(1))**

4. The flare shall be operated with a flame present at all times, as determined by the methods specified in 40 CFR 60.18(f). **(40 CFR 60.18(c)(2))**

5. The flare shall be used only with the net heating value of the gas being combusted of 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted of 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f). **(40 CFR 60.18(c)(3))**

6. Steam-assisted and non-assisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4), less than 18.3 m/sec (60 ft/sec), except as provided in 40 CFR 60.18(c)(4)(ii) and (iii). **(40 CFR 60.18(c)(4)(i))**

a. Steam-assisted and non-assisted flares designed for and operated with an exit velocity, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf). **(40 CFR 60.18(c)(4)(ii))**
b. Steam-assisted and non-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in §60.18(f)(4) less than the velocity, Vmax, as determined by the method specified in §60.18(f)(5), and less than 122 m/sec (400 ft/sec) are allowed. **(40 CFR 60.18(c)(4)(iii))**

7. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, Vmax, as determined by the method specified in 40 CFR 60.18(f)(6). **(40 CFR 60.18(c)(5))**

8. Flares used to comply with provisions of 40 CFR Part 60, Subpart A shall be operated at all times when emissions may be vented to them. **(40 CFR 60.18(e))**

9. The permittee shall operate control system such that all collected gases are vented to a control system designed and operated in accordance with §60.752(b)(2)(iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system shall contributing to venting of the gas to the atmosphere shall be closed within one hour. **(40 CFR 60.753(e), 40 CFR 63.1955(a))**

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))**

1. The permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications, a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame. **(40 CFR 60.756(c)(1), 40 CFR 63.1955(a))**

2. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep up-to-date, readily accessible records for the life of the open flare of the data listed in §60.758(b)(4) (below in SC **VI.3**) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of five years. Records of the open flare vendor specifications shall be maintained until removal. **(40 CFR 60.758(b), 40 CFR 63.1955(a))**

3. The permittee shall maintain records regarding the flare type (i.e., steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in §60.18; continuous records of the open flare pilot flame or open flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent. **(40 CFR 60.758(b)(4), 40 CFR 63.1955(a))**

4. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep readily accessible continuous records of the equipment operating parameters specified to be monitored in §60.756 (above in SC **VI.1**), as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. **(40 CFR 60.758(c))**
   a. The permittee shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under §60.756. **(40 CFR 60.758(c)(2), 40 CFR 63.1955(a))**
   b. The permittee shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under §60.756(c) (SC **VI.1.a**), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent. **(40 CFR 60.758(c)(4), 40 CFR 63.1955(a))**

5. The following records for the flare shall be maintained onsite:
   a. Records indicating presence of flare pilot flame. **(40 CFR 60.18(f)(2))**
   b. The net heating value of the gas being combusted in the flare shall be calculated and recorded using the equation provided in Appendix 7. **(40 CFR 60.18(f)(3))**
   c. The actual exit velocity of the flare shall be calculated and recorded by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Federal Reference Test Methods 2, 2A, 2C, or 2D as appropriate, by the unobstructed (free) cross sectional area of the flare tip. **(40 CFR 60.18(f)(4))**
   d. The maximum permitted velocity, Vmax, for flares complying with 40 CFR 60.18(c)(4)(iii) shall be calculated and recorded using the equation provided in Appendix 7. **(40 CFR 60.18(f)(5))**
   e. The maximum permitted velocity, Vmax, for air-assisted flares shall be calculated and recorded using the equation provided in Appendix 7. **(40 CFR 60.18(f)(6))**

See Appendix 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. Semi-annual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report shall be postmarked or received by 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. Report shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit to the appropriate AQD District Office semiannual reports for the gas collection system. Reports shall be received by 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. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c). The semiannual report shall contain:
   a. Value and length of time for exceedance of applicable parameters monitored under §60.756(b). **(40 CFR 60.757(f)(1), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
   b. Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756. **(40 CFR 60.757(f)(2), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
   c. Description and duration of all periods when the control device was not operating for a period exceeding one hour and length of time the control device was not operating. **(40 CFR 60.757(f)(3), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**

5. The permittee shall submit an equipment removal report to the AQD 30 days prior to removal or cessation of operation of the open flare.
   a. The equipment removal report shall contain all of the following items:
      i. A copy of the closure report submitted in accordance with §60.757; **(40 CFR 60.757(e)(1)(i), 40 CFR 63.1955(a))**
      ii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired; **(40 CFR 60.757(e)(1)(ii), 40 CFR 63.1955(a))**
      iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year; **(40 CFR 60.757(e)(1)(iii), 40 CFR 63.1955(a))**
   b. Additional information may be requested as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met. **(40 CFR 60.757(e)(2), 40 CFR 63.1955(a))**

6. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of 40 CFR 60 Subparts A and WWW, Standard of Performance for Municipal Solid Waste Landfills as they apply to EUGROFFLARE. **(40 CFR 60 Subparts A and WWW)**

2. The permittee shall comply with all applicable provisions of 40 CFR 63 Subparts A and AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as they apply to EUGROFFLARE. **(40 CFR 60 Subparts A and AAAA)**

3. The duration of start-up, shutdown, or malfunction for the open flare shall not exceed 1 hour. **(40 CFR 60.755(e), 40 CFR 63.1955(a))**

4. Compliance of 40 CFR Part 63, Part AAAA is determined in the same way it is determined for 40 CFR Part 60, Subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data collected in §60.756(c)(1) (above in SC **VI.1**) are used to demonstrate compliance with the operating conditions for the open flare. The permittee shall have developed and implemented a written SSM for EUGROFFLARE. A copy of the SSM plan shall be maintained on site. **(40 CFR 63.1960)**

EUZINKFLARE
EMISSION UNIT CONDITIONS

DESCRIPTION

A 3,000 CFM utility flare (open flare) for backup control of the landfill gas. An open flare is an open combustor without enclosure or shroud. The initial performance testing for the open flare has already been performed and therefore is not required by this table.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. CO	146 tpy[2]	12-month rolling time period as determined at the end of each calendar month	EUZINKFLARE	SC VI.1, SC VI.8	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)**
2. SO_x	48 tpy[2]	12-month rolling time period as determined at the end of each calendar month	EUZINKFLARE	SC VI.1, SC VI.8	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)**

3. The landfill gas usage for EUZINKFLARE shall not exceed 1,570 MM cubic feet per 12-month rolling time period as determined at the end of each calendar month.[2] **(R 336.1205, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate the flare in accordance with §60.18.[2] **(40 CFR 60.752(b)(2)(iii)(A), 40 CFR 63.1955(a))**

2. The permittee shall operate the flare at all times when the collected gas is routed to it.[2] **(40 CFR 60.753(f), 40 CFR 63.1955(a)))**

3. The flare shall be operated with no visible emissions, as determined by the methods specified in 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.[2] **(40 CFR 60.18(c)(1))**

4. The flare shall be operated with a flame present at all times, as determined by the methods specified in 40 CFR 60.18(f).[2] **(40 CFR 60.18(c)(2))**

5. The flare shall be used only with the net heating value of the gas being combusted of 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted of 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f).[2] **(40 CFR 60.18(c)(3))**

6. Steam-assisted and non-assisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4), less than 18.3 m/sec (60 ft/sec), except as provided in 40 CFR 60.18(c)(4)(ii) and (iii).[2] **(40 CFR 60.18(c)(4)(i))**
   a. Steam-assisted and non-assisted flares designed for and operated with an exit velocity, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf). **(40 CFR 60.18(c)(4)(ii))**
   b. Steam-assisted and non-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in §60.18(f)(4) less than the velocity, Vmax, as determined by the method specified in §60.18(f)(5), and less than 122 m/sec (400 ft/sec) are allowed. **(40 CFR 60.18(c)(4)(iii))**

7. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, Vmax, as determined by the method specified in 40 CFR 60.18(f)(6).[2] **(40 CFR 60.18(c)(5))**

8. Flares used to comply with provisions of 40 CFR Part 60 Subpart A shall be operated at all times when emissions may be vented to them.[2] **(40 CFR 60.18(e))**

9. The permittee shall operate control system such that all collected gases are vented to a control system designed and operated in accordance with §60.752(b)(2)(iii). In event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system shall contributing to venting of the gas to the atmosphere shall be closed within one hour.[2] **(40 CFR 60.753(e), 40 CFR 63.1955(a))**

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))**

1. The permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications, a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.[2] **(40 CFR 60.756(c)(1), 40 CFR 63.1955(a))**

2. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep up-to-date, readily accessible records for the life of the open flare of the data listed below in SC **VI.3** as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the open flare vendor specifications shall be maintained until removal.[2] **(40 CFR 60.758(b), 40 CFR 63.1955(a))**

3. The permittee shall maintain records regarding the flare type (i.e., steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in §60.18; continuous records of the open flare pilot flame or open flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent.[2] **(40 CFR 60.758(b)(4), 40 CFR 63.1955(a))**

4. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep readily accessible continuous records of the equipment operating parameters specified to be monitored above in SC **VI.1**, as well as up-to-date, readily

accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.

a. The permittee shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under §60.756.[2] **(40 CFR 60.758(c)(2), 40 CFR 63.1955(a))**

b. The permittee shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under SC **VI.1.a**, and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.[2] **(40 CFR 60.758(c)(4), 40 CFR 63.1955(a))**

5. The permittee shall keep, in a satisfactory manner, records indicating the presence of flare pilot flame for EUZINKFLARE. All records shall be kept on file and made available to the Department upon request.[2] **(40 CFR 60.18(f)(2))**

6. The permittee shall install, calibrate, and maintain a gas flow measuring device that shall continuously record the total actual flow of landfill gas to EUZINKFLARE.[2] **(R 336.1205(3), 40 CFR 60.756(c)(2)(i), 40 CFR 63.1955(a))**

7. The permittee shall monitor and record on a monthly basis the average Btu content of the landfill gas burned in EUZINKFLARE. As an alternative, the permittee may use the monitored Btu value of the landfill gas burned in the Gas to Energy Plant. All records shall be kept on file and made available to the Department upon request.[2] **(R 336.1205(3), 40 CFR 52.21 (d))**

8. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling CO and SO_x emission calculations for EUZINKFLARE. The permittee shall keep all records on file at the facility and make them available to the Department upon request.[2] **(R 336.1205(3), 40 CFR 52.21(d))**

9. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling heat input calculations for EUZINKFLARE. The permittee shall keep all records on file at the facility and make them available to the Department upon request.[2] **(R 336.1205(3), 40 CFR 52.21(d))**

See Appendix 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. Semi-annual 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 to the appropriate AQD District Office semi-annual reports for the gas collection system. Reports shall be received by 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. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c). The semi-annual report shall contain:

a. Value and length of time for exceedance of applicable parameters monitored under §60.756(b).[2] **(40 CFR 60.757(f)(1), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**

b. Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.[2] **(40 CFR 60.757(f)(2), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**

c. Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating.[2] **(40 CFR 60.757(f)(3), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**

5. If the landfill is controlled, the permittee shall submit a closure report to the appropriate AQD District Supervisor within 30 days of waste acceptance cessation. The AQD may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the appropriate AQD District Supervisor, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4).[2] **(40 CFR 60.757(d), 40 CFR 63.1955(a))**

6. The permittee shall submit an equipment removal report to the AQD 30 days prior to removal or cessation of operation of the open flare.
   a. The equipment removal report shall contain all of the following items:
      i. A copy of the closure report submitted in accordance with §60.757.[2] **(40 CFR 60.757(e)(1)(i), 40 CFR 63.1955(a))**
      ii. A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired.[2] **(40 CFR 60.757(e)(1)(ii), 40 CFR 63.1955(a))**
      iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.[2] **(40 CFR 60.757(e)(1)(iii), 40 CFR 63.1955(a))**
   b. Additional information may be requested as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met.[2] **(40 CFR 60.757(e)(2), 40 CFR 63.1955(a))**

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. SVZINKFLARE	65[2]	40[2]	**R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of 40 CFR 60 Subparts A and WWW, Standard of Performance for Municipal Solid Waste Landfills as they apply to EUZINKFLARE. **(40 CFR 60 Subparts A and WWW)**

2. The permittee shall comply with all applicable provisions of 40 CFR 63 Subparts A and AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as they apply to EUZINKFLARE.[2] **(40 CFR 60 Subparts A and AAAA)**

3. The duration of start-up, shutdown, or malfunction for the open flare shall not exceed 1 hour.[2] **(40 CFR 60.755(e), 40 CFR 63.1955(a)(1))**

4. Compliance of 40 CFR Part 63, Part AAAA is determined in the same way it is determined for 40 CFR Part 60, subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data collected (above in SC **VI.1**) are used to demonstrate compliance with the operating conditions for the open flare. The permittee shall have developed and implemented a written SSM for EUZINKFLARE. A copy of the SSM plan shall be maintained on site.[2] **(40 CFR 63.1960)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
[2] This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

EUASBESTOS
EMISSION UNIT CONDITIONS

DESCRIPTION

Any active or inactive asbestos disposal site.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. If the landfill accepts asbestos-containing waste materials from a source covered under 40 CFR 61.149, 40 CFR 61.150, or 40 CFR 61.155, the permittee shall meet the following operational requirements:
   a. Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of 40 CFR 61.154(c) or (d) must be met. **(40 CFR 61.154(a))**
   b. Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the requirements of 40 CFR 61.154(c)(1) must be met. **(40 CFR 61.154(b))**
      i. Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:
         (1) Be posted in such a manner and location that a person can easily read the legend. **(40 CFR 61.154(b)(1)(i))**
         (2) Conform to the requirements of 51 cm by 36cm (20 inches by 14 inches) upright format signs specified in 29 CFR 1910.145(d)(4) and 40 CFR 61.154(b)(1). **(40 CFR 61.154(b)(1)(ii))**
         (3) The permittee shall display the legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in 40 CFR 61.154(b)(1). Spacing between any two lines must be at least equal to the height of the upper of the two lines. **(40 CFR 61.154(b)(1)(iii))**
      ii. The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public. **(40 CFR 61.154(b)(2))**
      iii. Upon request and supply of appropriate information, the appropriate AQD District Supervisor will determine whether a fence or a natural barrier adequately deters access by the general public. **(40 CFR 61.154(b)(3))**

c. Rather than meet the no visible emission requirement of 40 CFR 61.154(a), at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall:
   i. Be covered with at least 15 centimeters (6 inches) of compacted non-asbestos-containing material. **(40 CFR 61.154(c)(1))**, or
   ii. Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the appropriate AQD District Supervisor. For purposes of 40 CFR 61.154(c)(2), any used, spent, or other waste oil is not considered a dust suppression agent. **(40 CFR 61.154(c)(2))**

d. Rather than meet the no visible emission requirement of 40 CFR 61.154(a), use an alternative emissions control method that has received prior written approval by the appropriate AQD District Supervisor according to the procedures described in 40 CFR 61.149(c)(2). **(40 CFR 61.154(d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The placement of gas collection devices determined in paragraph §60.759(a)(1) shall control all gas producing areas, except as provided by §60.759 (a)(3)(i) and (a)(3)(ii).
   a. Any segregated area of asbestos or non-degradable material may be excluded from collection if documented as provided under §60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or non-degradable material deposited in the area, and shall be provided to the AQD upon request. **(40 CFR 60.759(a)(3)(i)) (40 CFR 60.759(a)(3))**

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))**

1. For all asbestos-containing waste material received, the permittee of the active waste disposal site shall:
   a. Maintain waste shipment records that include the following information: **(40 CFR 61.154(e)(1))**
      i. The name, address, and telephone number of the waste generator. **(40 CFR 61.154(e)(1)(i))**
      ii. The name, address, and telephone number of the transporter(s). **(40 CFR 61.154(e)(1)(ii)**
      iii. The quantity of the asbestos-containing waste material in cubic meters (cubic yards). **(40 CFR 61.154(e)(1)(iii))**
      iv. The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or USEPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or USEPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report. **(40 CFR 61.154(e)(1)(iv))**
      v. The date of the receipt. **(40 CFR 61.154(e)(1)(v))**
   b. As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator. **(40 CFR 61.154(e)(2))**
   c. Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or USEPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record) **(40 CFR 61.154(e)(3))**

2. The permittee shall maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area storage. **(40 CFR 61.154(f))**

3. The permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or non-degradable waste excluded from collection as provided in §60.759(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in §60.759(a)(3)(ii). **(40 CFR 60.758(d)(2))**

VII. REPORTING

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

2. Semi-annual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report shall be postmarked or received by 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. Report shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit to the appropriate AQD District Supervisor, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities. **(40 CFR 61.154(h))**

5. The permittee shall furnish upon request, and make available during normal business hours for inspection by the AQD, all records required by 40 CFR Part 61. **(40 CFR 61.154(i))**

6. Notify the AQD Technical Programs Unit and appropriate AQD District Office in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the appropriate AQD District Office at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:
   a. Scheduled starting and completion dates. **(40 CFR 61.154(j)(1))**
   b. Reason for disturbing the waste. **(40 CFR 61.154(j)(2))**
   c. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the AQD or may require changes in the emission control procedures to be used. **(40 CFR 61.154(j)(3))**
   d. Location of any temporary storage site and the final disposal site. **(40 CFR 61.154(j)(4))**

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
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

D. FLEXIBLE GROUP CONDITIONS

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

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

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGCOLDCLEANER	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.	NA
FGRULE290	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290.	NA

FGCOLDCLEANERS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

Emission Unit: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall not use cleaning solvents containing more than five percent by weight of the following halogenated compounds: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chloroform, or any combination thereof. **(R 336.1213(2))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Cleaned parts shall be drained for no less than 15 seconds or until dripping ceases. **(R 336.1611(2)(b), R 336.1707(3)(b))**

2. The permittee shall perform routine maintenance on each cold cleaner as recommended by the manufacturer. **(R 336.1213(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The cold cleaner must meet one of the following design requirements:
   a. The air/vapor interface of the cold cleaner is no more than ten square feet. **(R 336.1281(h))**
   b. The cold cleaner is used for cleaning metal parts and the emissions are released to the general in-plant environment. **(R 336.1285(r)(iv))**

2. The cold cleaner shall be equipped with a device for draining cleaned parts. **(R 336.1611(2)(b), R 336.1707(3)(b))**

3. All new and existing cold cleaners shall be equipped with a cover and the cover shall be closed whenever parts are not being handled in the cold cleaner. **(R 336.1611(2)(a), R 336.1707(3)(a))**

4. The cover of a new cold cleaner shall be mechanically assisted if the Reid vapor pressure of the solvent is more than 0.3 psia or if the solvent is agitated or heated. **(R 336.1707(3)(a))**

5. If the Reid vapor pressure of any solvent used in a new cold cleaner is greater than 0.6 psia; or, if any solvent used in a new cold cleaner is heated above 120 degrees Fahrenheit, then the cold cleaner must comply with at least one of the following provisions:
   a. The cold cleaner must be designed such that the ratio of the freeboard height to the width of the cleaner is equal to or greater than 0.7. **(R 336.1707(2)(a))**

b. The solvent bath must be covered with water if the solvent is insoluble and has a specific gravity of more than 1.0. **(R 336.1707(2)(b))**
c. The cold cleaner must be controlled by a carbon adsorption system, condensation system, or other method of equivalent control approved by the AQD. **(R 336.1707(2)(c))**

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))**

1. For each new cold cleaner in which the solvent is heated, the solvent temperature shall be monitored and recorded at least once each calendar week during routine operating conditions. **(R 336.1213(3))**

2. The permittee shall maintain the following information on file for each cold cleaner: **(R 336.1213(3))**
   a. A serial number, model number, or other unique identifier for each cold cleaner.
   b. The date the unit was installed, manufactured or that it commenced operation.
   c. The air/vapor interface area for any unit claimed to be exempt under Rule 281(h).
   d. The applicable Rule 201 exemption.
   e. The Reid vapor pressure of each solvent used.
   f. If applicable, the option chosen to comply with Rule 707(2).

3. The permittee shall maintain written operating procedures for each cold cleaner. These written procedures shall be posted in an accessible, conspicuous location near each cold cleaner. **(R 336.1611(3), R 336.1707(4))**

4. As noted in Rule 611(2)(c) and Rule 707(3)(c), if applicable, an initial demonstration that the waste solvent is a safety hazard shall be made prior to storage in non-closed containers. If the waste solvent is a safety hazard and is stored in non-closed containers, verification that the waste solvent is disposed of so that not more than 20 percent, by weight, is allowed to evaporate into the atmosphere shall be made on a monthly basis. **(R 336.1213(3), R 336.1611(2)(c), R 336.1707(3)(c))**

VII. REPORTING

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

2. Semi-annual 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)

NA

FGRULE290
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 290.

Emission Unit: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

1. Each emission unit that emits only noncarcinogenic volatile organic compounds or noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone if the total uncontrolled or controlled emissions of air contaminants are not more than 1,000 or 500 pounds per month, respectively. **(R 336.1290(a)(i))**

2. Each emission unit that the total uncontrolled or controlled emissions of air contaminants are not more than 1,000 or 500 pounds per month, respectively, and all the following criteria listed below are met: **(R 336.1290(a)(ii))**
   a. For noncarcinogenic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 2.0 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 1,000 or 500 pounds per month, respectively. **(R 336.1290(a)(ii)(A))**
   b. For noncarcinogenic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 0.04 microgram per cubic meter and less than 2.0 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively. **(R 336.1290(a)(ii)(B))**
   c. For carcinogenic air contaminants with initial risk screening levels greater than or equal to 0.04 microgram per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively. **(R 336.1290(a)(ii)(C))**
   d. The emission unit shall not emit any air contaminants, excluding non-carcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with an initial threshold screening level or initial risk screening level less than 0.04 microgram per cubic meter. **(R 336.1290(a)(ii)(D))**

3. Each emission unit that emits only noncarcinogenic particulate air contaminants and other air contaminants that are exempted under Rule 290(a)(i) and/or Rule 290(a)(ii), if all of the following provisions are met: **(R 336.1290(a)(iii))**
   a. The particulate emissions are controlled by an appropriately designed and operated fabric filter collector or an equivalent control system which is designed to control particulate matter to a concentration of less than or equal to 0.01 pound of particulate per 1,000 pounds of exhaust gases and which does not have an exhaust gas flow rate more than 30,000 actual cubic feet per minute. **(R 336.1290(a)(iii)(A))**
   b. The visible emissions from the emission unit are not more than five percent opacity in accordance with the methods contained in Rule 303. **(R 336.1290(a)(iii)(B))**
   c. The initial threshold screening level for each particulate air contaminant, excluding nuisance particulate, is more than 2.0 micrograms per cubic meter. **(R 336.1290(a)(iii)(C))**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The provisions of Rule 290 apply to each emission unit that is operating pursuant to Rule 290. **(R 336.1290)**

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))**

1. The permittee shall maintain records of the following information for each emission unit for each calendar month using the methods outlined in the DEQ, AQD Rule 290, Permit to Install Exemption Record form (EQP 3558) or in a format that is acceptable to the AQD District Supervisor. **(R 336.1213(3))**
   a. Records identifying each air contaminant that is emitted. **(R 336.1213(3))**
   b. Records identifying if each air contaminant is controlled or uncontrolled. **(R 336.1213(3))**
   c. Records identifying if each air contaminant is either carcinogenic or non-carcinogenic. **(R 336.1213(3))**
   d. Records identifying the ITSL and IRSL, if established, of each air contaminant that is being emitted under the provisions of Rules 290(a)(ii) and (iii). **(R 336.1213(3))**
   e. Material use and calculations identifying the quality, nature, and quantity of the air contaminant emissions in sufficient detail to demonstrate that the actual emissions of the emission unit meet the emission limits outlined in this table and Rule 290. **(R 336.1213(3), R 336.1290(c))**

2. The permittee shall maintain an inventory of each emission unit that is exempt pursuant to Rule 290. This inventory shall include the following information. **(R 336.1213(3))**
   a. The permittee shall maintain a written description of each emission unit as it is maintained and operated throughout the life of the emission unit. **(R 336.1213(3), R 336.1290(b))**
   b. For each emission unit that emits noncarcinogenic particulate air contaminants pursuant to Rule 290(a)(iii), the permittee shall maintain a written description of the control device, including the designed control efficiency and the designed exhaust gas flow rate**. (R 336.1213(3))**

3. For each emission unit that emits noncarcinogenic particulate air contaminants pursuant to Rule 290(a)(iii), the permittee shall perform a monthly visible emission observation of each stack or vent during routine operating conditions. This observation need not be performed using Method 9. The permittee shall keep a written record of the results of each observation. **(R 336.1213(3))**

See Appendix 4

VII. REPORTING

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

2. Semi-annual 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)

NA

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_2e	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
		gr	Grains
EU	Emission Unit	HAP	Hazardous Air Pollutant
FG	Flexible Group	Hg	Mercury
GACS	Gallons of Applied Coating Solids	hr	Hour
GC	General Condition	HP	Horsepower
GHGs	Greenhouse Gases	H_2S	Hydrogen Sulfide
HVLP	High Volume Low Pressure*	kW	Kilowatt
ID	Identification	lb	Pound
IRSL	Initial Risk Screening Level	m	Meter
ITSL	Initial Threshold Screening Level	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	NMOC	Non-methane Organic Compounds
MDEQ	Michigan Department of Environmental Quality	NO_x	Oxides of Nitrogen
		ng	Nanogram
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NA	Not Applicable	PM10	Particulate Matter equal to or less than 10 microns in diameter
NAAQS	National Ambient Air Quality Standards		
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	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonable Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO_2	Sulfur Dioxide
SCR	Selective Catalytic Reduction	TAC	Toxic Air Contaminant
SNCR	Selective Non-Catalytic Reduction	Temp	Temperature
SRN	State Registration Number	THC	Total Hydrocarbons
TEQ	Toxicity Equivalence Quotient	tpy	Tons per year
USEPA/EPA	United States Environmental Protection Agency	µg	Microgram
		µm	Micrometer or Micron
VE	Visible Emissions	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 336.1119(a)(ii), R 336.1213(4)(a))**

Appendix 3. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications 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 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

Specific testing requirement plans, procedures, and averaging times are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 6. Permits to Install

At the time of permit issuance, no Permits to Install have been issued to this facility. Therefore, this appendix is not applicable.

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 EULANDFILL, EUACTIVECOLL, EUGROFFLARE and EUZINKFLARE.

Calculation used to determine NMOC emissions from any nonproductive area

The following shall be used to determine if any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the District Supervisor upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the following equation: **(40 CFR 60.759(a)(3)(ii), 40 CFR 63.1955(a))**

Qi = 2 k Lo Mi (e-kt i) (CNMOC) (3.6 × 10−9) where,

Qi = NMOC emission rate from the ith section, megagrams per year

k = methane generation rate constant, year−1

Lo = methane generation potential, cubic meters per megagram solid waste

Mi = mass of the degradable solid waste in the ith section, megagram

ti = age of the solid waste in the ith section, years

CNMOC = concentration of non-methane organic compounds, parts per million by volume

3.6×10−9 = conversion factor

The values for k and CNMOC determined in field testing shall be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (this distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, LO and CNMOC provided in §60.754(a)(1) or the alternative values from §60.754(a)(5) shall be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in §60.759(a)(3)(i). **(40 CFR 60.759(a)(3)(iii), 40 CFR 63.1955(a))**

Net Heating Value of the gas being combusted in the flare:

The net heating value of the gas being combusted in the flare shall be calculated and recorded using the equation provided in 40 CFR 60.18(f)(3). **(40 CFR 60.18(f)(3))**

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

WHERE:

HT=Net heating value of the sample,
MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

$$K = \text{Constant}, 1.740 \times 10^{-7} \left(\frac{1}{ppm}\right) \left(\frac{g\ mole}{scm}\right) \left(\frac{MJ}{kcal}\right)$$

where the standard temperature for $\left(\frac{g\ mole}{scm}\right)$ is 20°C;

Ci=Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946–77 or 90 (Reapproved 1994) (Incorporated by reference as specified in §60.17); and

Hi=Net heat of combustion of sample component i, kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 (incorporated by reference as specified in §60.17) if published values are not available or cannot be calculated.

Calculation for Vmax steam-assisted and non-assisted flares
The maximum permitted velocity, Vmax, for flares complying with 40 CFR 60.18(c)(4)(iii) shall be calculated and recorded using the equation provided in 40 CFR 60.18(f)(5). **(40 CFR 60.18(f)(5))**

Log10 (Vmax) = (HT+28.8)/31.7

Vmax=Maximum permitted velocity, M/sec; 28.8=Constant; 31.7=Constant; HT=The net heating value as determined above.

Calculation for Vmax for air-assisted flares
The maximum permitted velocity, Vmax, for air-assisted flares shall be calculated and recorded using the equation provided in 40 CFR 60.18(f)(6). **(40 CFR 60.18(f)(6))**

Vmax = 8.706+0.7084 (HT)

Vmax=Maximum permitted velocity, m/sec; 8.706=Constant; 0.7084=Constant; HT=The net heating value as determined above.

Appendix 8. Reporting

A. Annual, Semi-annual, and Deviation Certification Reporting

The permittee shall use the MDEQ, AQD, Report Certification form (EQP 5736) and MDEQ, 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.

SECTION 2 - Granger Electric of Grand Blanc, LLC

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).[2] **(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:" [2] **(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 percent 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.[1] **(R 336.1901(a))**
    b. Unreasonable interference with the comfortable enjoyment of life and property.[1] **(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).[2] **(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. **(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. Semi-annually 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.[2] **(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))**

Re-openings

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(8))**

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):
    a. June 21, 1999,
    b. Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
    c. 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.[2] **(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.[2] **(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, MDEQ.[2] **(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, MDEQ, 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.[2] **(R 336.1201(4))**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]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.

C. EMISSION UNIT 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
EUTREATMENTSYS	Processing equipment that treats collected landfill gas for subsequent sale or use.	12-13-1995	NA
EUENGINE1	Caterpillar 3516 landfill gas-fired reciprocating engine located in Plant 1.	07-27-1994	FG3516ENGINES
EUENGINE2	Caterpillar 3516 landfill gas-fired reciprocating engine in Plant 1.	07-27-1994	FG3516ENGINES
EUENGINE3	Caterpillar 3516 landfill gas-fired reciprocating engine in Plant 1.	07-27-1994	FG3516ENGINES
EUENGINE4	Caterpillar 3516 landfill gas-fired reciprocating engine in Plant 1.	04-01-2000	FG3516ENGINES
EUENGINECITB(16)	Caterpillar 3516 landfill gas-fired reciprocating engine on a flatbed skid beside Plant 1.	08-04-2010	FGRICEMACT
EUENGINE6	Caterpillar 3520 landfill gas-fired reciprocating engine located in Plant 2.	08-06-2012	FGENGINES, FGRICEMACT
EUENGINE7	Caterpillar 3520 landfill gas-fired reciprocating engine located in Plant 2.	08-06-2012	FGENGINES, FGRICEMACT

EUTREATMENTSYS
EMISSION UNIT CONDITIONS

DESCRIPTION

This emission unit treats landfill gas before it is used for subsequent use or sale. The treatment system removes particulate to at least the 10 micron level, compresses the landfill gas, and removes enough moisture to ensure good combustion of gas for subsequent use, therefore guaranteeing that the intent of the destruction of the NMOC will be maintained.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Any emissions from any atmospheric vents or stacks associated with the treatment system shall be subject to §60.752(b)(2)(iii)(A) or (B).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate the treatment system at all times when the collected gas is routed to the treatment system. **(40 CFR 60.753(f))**

2. The permittee shall operate the treatment system so that any emissions from any atmospheric vents or stacks associated with the treatment system shall be subject to §60.752(b)(2)(iii)(A) or (B). **(40 CFR 60.752(b)(2)(iii)(C), 40 CFR 63.1955(a))**

3. The permittee shall maintain and implement an AQD approved malfunction abatement/preventative maintenance plan (PM/MAP) for EUTREATMENTSYS. At a minimum, the plan shall include a schedule of maintenance activities consistent with manufacturer's recommendations, and the operating variables that will be monitored to detect a malfunction or failure. A copy of the PM/MAP shall be maintained on site and made available upon request. If the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the PM/MAP to be inadequate, the AQD District Supervisor may request modification of the plan to address those inadequacies. **(R 336.1213(2), R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The treatment system shall be designed as approved by AQD. **(40 CFR 60.752(b)(2)(iii)(C), 40 CFR 60.752(b)(2)(i)(D), 40 CFR 63.1955(a))**

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))**

1. The permittee shall keep up-to-date, readily accessible records of all control or treatment system exceedances of the operational standards in §60.753(e) and (f). **(40 CFR 60.758(e), 40 CFR 63.1955(a))**

2. The permittee shall keep records of all preventative maintenance performed in accordance with the PM/MAP prepared pursuant to Condition **III.3** of this permit. **(R 336.1213(3), R 336.1911)**

VII. REPORTING

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

2. Semi-annual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report shall be postmarked or received by 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. Report shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit to the appropriate AQD District Office semiannual reports for the landfill gas treatment system. The report shall be received by 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. The report shall include:
   a. Value and length of time for exceedance of applicable parameters monitored under §60.756(d). **(R 336.1213(3), 40 CFR 60.757(f)(1), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
   b. Description and duration of all periods when the gas stream is diverted from the treatment system through a bypass line or the indication of bypass flow. **(R 336.1213(3))**
   c. Description and duration of all periods when the treatment system was not operating for a period exceeding 1 hour and length of time the control device was not operating. **(40 CFR 60.757(f)(3), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**

5. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The provisions of 40 CFR Part 60, Subpart WWW, apply at all times and the duration of start-up, shutdown, or malfunction shall not exceed 1 hour for the treatment system. **(40 CFR 60.755(e), 40 CFR 63.1955(a)(1))**

2. The permittee shall have developed and implemented a written SSM plan according to the provision in 40 CFR 63.6(e)(3) for EUTREATMENTSYS. A copy of the SSM plan shall be maintained on-site. **(40 CFR 63.1960, 40 CFR 63.1965(c))**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
[2] This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

D. FLEXIBLE GROUP CONDITIONS

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

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

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG3516ENGINES	Four (4) Caterpillar 3516, 1,138 hp, landfill gas-fired, lean burn, spark ignition (SI), reciprocating internal combustion engines (RICE) that are existing non-emergency engines greater than 500 hp fueled with landfill gas located at a major source of HAPs. Construction or reconstruction commenced before December 19, 2002.	EUENGINE1, EUENGINE2, EUENGINE3, EUENGINE4
FGENGINES	Two (2) Caterpillar G3520, 2,233 hp, landfill gas-fired, lean burn, spark ignition (SI), reciprocating internal combustion engines (RICE).	EUENGINE6, EUENGINE7
FGRICEMACT	New and reconstructed non-emergency engines greater than 500 hp fueled with landfill gas located at a major source of HAPs. Construction or reconstruction commenced on or after December 19, 2002.	EUENGINECITB(16), EUENGINE6, EUENGINE7

FG3516ENGINES
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Four (4) Caterpillar 3516, 1,138 hp, landfill gas-fired, lean burn, spark ignition (SI), reciprocating internal combustion engines (RICE) that are existing non-emergency engines greater than 500 hp fueled with landfill gas located at a major source of HAPs. Construction or reconstruction commenced before December 19, 2002.

Emission Units: EUENGINE1, EUENGINE2, EUENGINE3, EUENGINE4

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn treated landfill gas in FG3516ENGINES. **(R 336.1213(2))**

2. The permittee shall submit to the AQD District Supervisor, for review and approval, a malfunction abatement/preventative maintenance plan (PM/MAP) for FG3516ENGINES. After approval of the PM/MAP by the AQD District Supervisor, the permittee shall not operate FG3516ENGINES unless the PM/MAP, or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. At a minimum the plan shall include:
   a. Identification of the equipment and, if applicable, air-cleaning device, and the supervisory personnel responsible for overseeing the inspection, maintenance, and repair.
   b. Description of the items or conditions to be inspected and frequency of the inspections or repairs.
   c. Identification of the equipment and, if applicable, air-cleaning device, operating parameters that shall be monitored to detect a malfunction or failure, the normal operating range of these parameters and a description of the method of monitoring or surveillance procedures.
   d. Identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   e. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

   If the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the PM/MAP to be inadequate, the AQD District Supervisor may request modification of the plan to address those inadequacies. **(R 336.1213(2), R 336.1911)**

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))**

1. The permittee shall complete all required records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1213(3), R 336.1911)**

2. The permittee shall maintain the following record for each engine in FG3516ENGINES:
   a. Engine manufacturer;
   b. Date engine was manufactured;
   c. Engine model number and model year;
   d. Maximum engine power;
   e. Engine serial number;
   f. Engine specification sheet;
   g. Date of initial startup of the engine;
   h. Date engine was removed from service at this stationary source;
   i. Date replacement engine was installed at this stationary source;
   j. Manufacturer's data, specifications, and operating and maintenance procedures for each engine;
   k. Maintenance activities conducted according to the PM/MAP.

   The permittee shall keep the records on file in a format acceptable to the AQD District Supervisor and make them available to the Department upon request. **(R 336.1213(3), R 336.1911)**

VII. REPORTING

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

2. Semi-annual 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))**

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
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR 63, Subpart A and Subpart ZZZZ as they apply to FG3516ENGINES. **(40 CFR 63, Subparts A and ZZZZ)**

FGENGINES
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two (2) Caterpillar G3520, 2,233 hp, landfill gas-fired, lean burn, spark ignition (SI), reciprocating internal combustion engines (RICE).

Emission Units: EUENGINE6, EUENGINE7

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	1.0 g/hp-hr[2]	Test Method	Each Engine in FGENGINES	SC V.1 SC V.2	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d), 40 CFR 60, Subpart JJJJ**
2. SOx	1.7 lb/hr[2]	Test Method	Each Engine in FGENGINES	SC V.1	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)**
3. CO	3.0 g/hp-hr[2]	Test Method	Each Engine in FGENGINES	SC V.1 SC V.2	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d), 40 CFR 60, Subpart JJJJ**
4. VOC	1.0 g/hp-hr[2]	Test Method	Each Engine in FGENGINES	SC V.1 SC V.2	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d), 40 CFR 60, Subpart JJJJ**

II. MATERIAL LIMIT(S)

1. The kilowatt-hour output for each engine included in FGENGINES shall not exceed 14 million kilowatt-hour per 12-month rolling time period as determined at the end of each calendar month. This limit is not applicable if the engine has add-on control equipment.[2] **(R 336.1205, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn treated landfill gas in FGENGINES.[2] **(40 CFR 60.752(b)(2)(iii)(c))**

2. The permittee shall not operate FGENGINES unless the malfunction abatement/preventative maintenance plan (PM/MAP), or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. At a minimum the plan shall include:
   a. Identification of the equipment and, if applicable, air-cleaning device, and the supervisory personnel responsible for overseeing the inspection, maintenance, and repair.
   b. Description of the items or conditions to be inspected and frequency of the inspections or repairs.
   c. Identification of the equipment and, if applicable, air-cleaning device, operating parameters that shall be monitored to detect a malfunction or failure, the normal operating range of these parameters and a description of the method of monitoring or surveillance procedures.
   d. Identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   e. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

   If the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the PM/MAP to be inadequate, the AQD District Supervisor may request modification of the plan to address those inadequacies.[2] **(R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, R 336.2803, R 336.2804, 40 CFR 60 Subpart JJJJ, 40 CFR 52.21(c) and (d))**

3. Based on each engine's kilowatt output, the permittee shall adjust the engine's air/fuel ratio, as needed, to ensure that the engine operates at its maximum design output.[2] **(R 336.1702(a), R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate any engine in FGENGINES unless the engines air-to-fuel ratio controller is installed, maintained and operated in a satisfactory manner.[2] **(R 336.1702, R 336.1910)**

2. The permittee shall equip and maintain any engine in FGENGINES with non-resettable hours meters to track the operating hours. **(40 CFR 60.4245)**

V. TESTING/SAMPLING

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

1. Upon request by the AQD District Supervisor, the permittee shall verify NOx, VOC, SO_x and CO emission rates from one or more engine(s) in FGENGINES, by testing at owner's expense, in accordance with Department requirements. 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. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test.[2] **(R 336.2001, R 336.2803, R 336.2804, R 336.2003, R 336.2004, 40 CFR 52.21(c) and (d))**

2. Except as provided in 40 CFR 60.4243(b), the permittee shall conduct an initial performance test for each engine in FGENGINES within one year after startup of the engine and every 8760 hours of operation or three years, whichever occurs first, to demonstrate compliance unless the engines have been certified by the manufacturer as required by 40 CFR 60 Subpart JJJJ and the permittee maintains the engine as required by 40 CFR 60.4243(a)(1). If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4244. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD Technical Programs Unit and District Office. The final plan must be approved by the AQD prior to testing.[2] **(40 CFR 60.4243, 40 CFR 60.4244, 40 CFR 60 Subpart JJJJ)**

See Appendix 5

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 complete all required records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1213(3))**

2. The permittee shall continuously monitor and record, in a satisfactory manner, the landfill gas usage for each engine in FGENGINES. [2] **(R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

3. The permittee shall continuously monitor, in a satisfactory manner, the kilowatt output from each engine in FGENGINES.[2] **(R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

4. The permittee shall maintain a log of all maintenance activities conducted according to the PM/MAP pursuant to SC III.2. The permittee shall keep this log on file at the facility and make it available to the Department upon request.[2] **(R 336.1702(a), R 336.1911, R 336.1912, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

5. The permittee shall keep, in a satisfactory manner, records of the landfill gas usage for each engine in FGENGINES on a monthly and 12-month rolling time period basis as determined at the end of each calendar month, as required by SC VI.2. The permittee shall keep all records on file at the facility and make them available to the Department upon request.[2] **(R 336.1225, R 336.1702, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

6. The permittee shall record the kilowatt output from each engine in FGENGINES, a minimum of once per day, excluding holidays and weekends when an engine operator is not scheduled, or called in, to be on site, as required by SC VI.3. A list of excluded holidays shall be maintained on site and made available to the Air Quality Division upon request. The permittee shall keep all records on file at the facility and make them available to the Department upon request.[2] **(R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

7. The permittee shall monitor emissions and operating information for FGENGINES in accordance with the federal Standards of Performance for New Stationary Sources as specified in 40 CFR 60 Subparts A and JJJJ. The permittee shall keep records of all source emissions data and operating information on file at the facility and make them available upon request.[2] **(40 CFR 60 Subparts A and JJJJ, 40 CFR 60.4245)**

VII. REPORTING

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

2. Semi-annual 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)

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. SVENGINE1	16[2]	36[2]	**R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)**
2. SVENGINE2	16[2]	36[2]	**R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the New Source Performance Standards, as specified in 40 CFR 60, Subpart A and Subpart JJJJ as they apply to each engine in FGENGINES.[2] **(40 CFR 60, Subparts A and JJJJ)**

2. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR 63, Subpart A and Subpart ZZZZ as they apply to FGENGINES. **(40 CFR 63, Subparts A and ZZZZ)**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FGRICEMACT
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

New and reconstructed non-emergency engines greater than 500 hp fueled with landfill gas, located at a major source of HAPs. Construction or reconstruction commenced on or after December 19, 2002.

Emission Units: EUENGINECITB(16), EUENGINE6, EUENGINE7

POLLUTION CONTROL EQUIPMENT

Air-to-fuel ratio controller on each engine.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn treated landfill gas in FGRICEMACT. **(R 336.1213(2))**

2. Each engine in FGRICEMACT shall be operated in a manner which reasonably minimizes HAP emissions. **(40 CFR 63.6625(c))**

3. Each engine in FGRICEMACT shall be operated in a manner which minimizes time spent at idle during startup and minimize the startup time to a period needed for appropriate and safe loading of each engine, not to exceed 30 minutes. **(40 CFR 63.6625(h))**

4. The permittee shall submit to the AQD District Supervisor, for review and approval, a malfunction abatement/preventative maintenance plan (PM/MAP) for FGRICEMACT. After approval of the PM/MAP by the AQD District Supervisor, the permittee shall not operate FGRICEMACT unless the PM/MAP, or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. At a minimum the plan shall include:
   a. Identification of the equipment and, if applicable, air-cleaning device, and the supervisory personnel responsible for overseeing the inspection, maintenance, and repair.
   b. Description of the items or conditions to be inspected and frequency of the inspections or repairs.
   c. Identification of the equipment and, if applicable, air-cleaning device, operating parameters that shall be monitored to detect a malfunction or failure, the normal operating range of these parameters and a description of the method of monitoring or surveillance procedures.
   d. Identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   e. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the PM/MAP to be inadequate, the AQD District Supervisor may request modification of the plan to address those inadequacies. **(R 336.1213(2), R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Each engine in FGRICEMACT shall be equipped and maintained with separate fuel meters to monitor and record the daily fuel usage and volumetric flow rate of each fuel used. **(40 CFR 63.6625(c))**

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))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1213(3), R 336.1911)**

2. The permittee shall keep, in a satisfactory manner, records of the landfill gas usage for each engine in FGRICEMACT on a daily, monthly and 12-month rolling time period basis as determined at the end of each calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 63.6625(c))**

3. The permittee shall maintain the following record for each engine in FGRICEMACT:
   a. Engine manufacturer;
   b. Date engine was manufactured;
   c. Engine model number and model year;
   d. Maximum engine power;
   e. Engine serial number;
   f. Engine specification sheet;
   g. Date of initial startup of the engine;
   h. Date engine was removed from service at this stationary source;
   i. Date replacement engine was installed at this stationary source;
   j. Manufacturer's data, specifications, and operating and maintenance procedures for each engine;
   k. Maintenance activities conducted according to the PM/MAP.

   The permittee shall keep the records on file in a format acceptable to the AQD District Supervisor and make them available to the Department upon request. **(R 336.1213(3), R 336.1911)**

VII. REPORTING

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

2. Semi-annual 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 an annual report in accordance with Table 7 of 40 CFR 63, Subpart ZZZZ to the appropriate AQD district office by no later than March 15. The following information shall be included in this annual report:
   a. The fuel flow rate and the heating values that were used in the permittee's calculations. Also, the permittee must demonstrate that the percentage of heat input provided by landfill gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.
   b. The operating limits provided in the permittee's federally enforceable permit, and any deviations from these limits.
   c. Any problems or errors suspected from the fuel flow rate meters.

   (40 CFR 63.6650(b)(5), 40 CFR 63.6650(g))

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
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR 63, Subpart A and Subpart ZZZZ, as they apply to each engine in FGRICEMACT. **(40 CFR 63 Subparts A and ZZZZ)**

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 1-2. 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_2e	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
		gr	Grains
EU	Emission Unit	HAP	Hazardous Air Pollutant
FG	Flexible Group	Hg	Mercury
GACS	Gallons of Applied Coating Solids	hr	Hour
GC	General Condition	HP	Horsepower
GHGs	Greenhouse Gases	H_2S	Hydrogen Sulfide
HVLP	High Volume Low Pressure*	kW	Kilowatt
ID	Identification	lb	Pound
IRSL	Initial Risk Screening Level	m	Meter
ITSL	Initial Threshold Screening Level	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	NMOC	Non-methane Organic Compounds
MDEQ	Michigan Department of Environmental Quality	NO_x	Oxides of Nitrogen
		ng	Nanogram
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NA	Not Applicable	PM10	Particulate Matter equal to or less than 10 microns in diameter
NAAQS	National Ambient Air Quality Standards		
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	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonable Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO_2	Sulfur Dioxide
SCR	Selective Catalytic Reduction	TAC	Toxic Air Contaminant
SNCR	Selective Non-Catalytic Reduction	Temp	Temperature
SRN	State Registration Number	THC	Total Hydrocarbons
TEQ	Toxicity Equivalence Quotient	tpy	Tons per year
USEPA/EPA	United States Environmental Protection Agency	µg	Microgram
		µm	Micrometer or Micron
VE	Visible Emissions	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 336.1119(a)(ii), R 336.1213(4)(a))**

Appendix 3. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications 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 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

Specific testing requirement plans, procedures, and averaging times are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 6. Permits to Install

At the time of permit issuance, no Permits to Install have been issued to this facility. Therefore, this appendix is not applicable.

Appendix 7. Emission Calculations

Specific emission calculations to be used with monitoring, testing or recordkeeping data are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible group Special Conditions. Therefore, this appendix is not applicable.

Appendix 8. Reporting

A. Annual, Semi-annual, and Deviation Certification Reporting

The permittee shall use the MDEQ, AQD, Report Certification form (EQP 5736) and MDEQ, 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 Renewal Application

June 2021
4211024.003

PRESENTED TO

Energy Developments Grand Blanc, LLC
2361 West Grand Blanc Road
Grand Blanc, MI 48439

SUBMITTED BY

Cornerstone Environmental Group, LLC
39395 W. Twelve Mile Road, Suite 103
Farmington Hills, MI 48331

REPORT CERTIFICATION

The material and data in this report were prepared under the supervision and direction of the undersigned.

Jessica Palmer — 6/17/2021
Project Manager

Khaled Mahmood, P.E. — 6/17/2021
Client Manager

EXECUTIVE SUMMARY

Energy Developments Grand Blanc, LLC (EDGB) is the owner and operator of the Energy Developments Grand Blanc Landfill-Gas-to-Energy Plant (Plant) located adjacent to the Citizen's Landfill, in Grand Blanc, Michigan. The Plant uses landfill gas (LFG) generated by the landfill as fuel for seven internal combustion engines (ICE), which combust the LFG to create electricity for sale. The Citizen's Landfill is owned and operated by Citizen's Landfill Incorporated and includes two open flare units used as backup control devices for the LFG when the Plant is not able to process the LFG.

Citizen's Landfill Incorporated is the holder of the current Title V permit (MI-ROP-N5991-2016) Section 1. EDGB submits this Renewable Operating Permit (ROP) Renewal Application to the Michigan Department of Environment, Great Lakes, and Energy – Air Quality Division (EGLE-AQD) for renewal of Section 2 of the ROP. The source has not obtained any Permit-to-Installs or Title V Permit Modifications since this initial issuance.

Included in this application package are all required documents for an administratively complete ROP renewal package including:

- A description of the subject facility
- Emission calculations
- All required EGLE Forms
- Existing ROP mark-up for requested revisions
- Existing Startup, Shutdown and Malfunction (SSM) Plan and Malfunction Abatement and Preventative Maintenance Plans required by the currently effective Title V Permit

This application is being provided by May 16th, 2021 in order to fulfill the requirements for the submittal of an admiratively complete ROP Renewal Application per Rule 336. However, a compliance plan and schedule of compliance, as defined in Rule103(dd) and Rule 119(a), is being actively negotiated between EDGB and EGLE Enforcement Section at this time, and will be finalized separately from this submittal. As of the date of submittal of this ROP Renewal Application a compliance plan is not finalized yet. At this time, it is anticipated that the plan will include provisions for sulfur control to be included in the ROP under Rule 213(2). Once a compliance plan and schedule of compliance is signed, an updated compliance plan will be provided including complete A-001 forms and any additional information which may be required based on the agreed-upon Plan and Schedule.

TABLE OF CONTENTS

APPENDICES

1.0 FACILITY INFORMATION

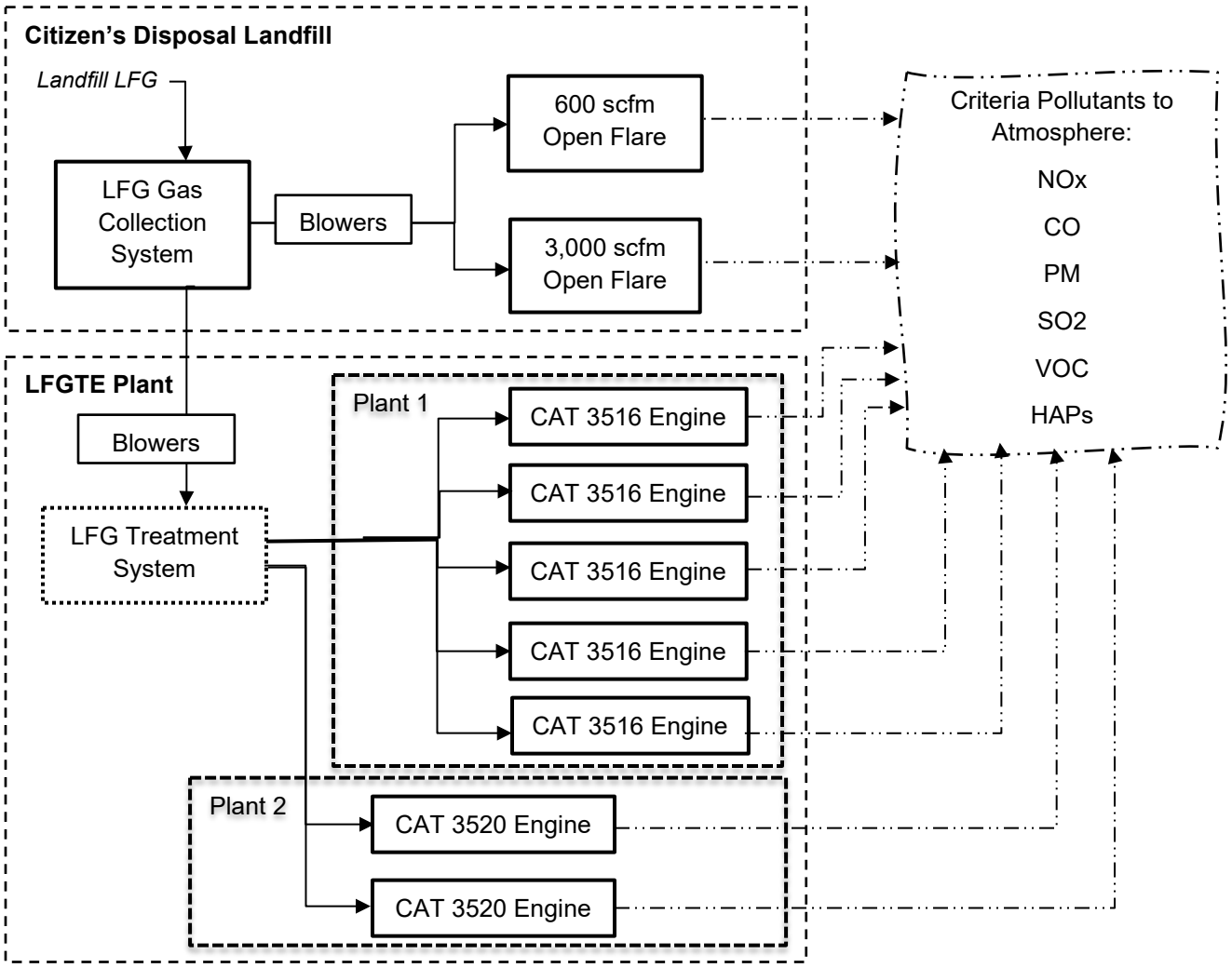
1.1 GENERAL FACILITY DESCRIPTION

EDGB is the owner and operator of the Energy Developments Grand Blanc Landfill-Gas-to-Energy Plant (Plant) located adjacent to the Citizen's Landfill, in Grand Blanc, Michigan. The facility operates under Section 2 of ROP (MI-ROP-N5991-2016) issued on November 16, 2016.

The Plant uses landfill gas (LFG) generated by the landfill as fuel for seven internal combustion engines (ICE), which combust the LFG to create electricity for sale. The Citizen's Landfill is owned and operated by Citizen's Landfill Incorporated, a subsidiary of Republic Services, and includes two open flare units used as backup control devices for the LFG when the Plant is not able to process the gas.

The EDGB facility consists of an LFG treatment system which processes the LFG prior to combustion, two (2) 2,233 hp Caterpillar 3520C LFG fired ICEs and five (5) 1,138 hp Caterpillar 3516 LFG fired ICE.

1.2 FACILITY PROCESS FLOW DIAGRAM



1.3 EMISSION UNITS AND CONTROL DEVICES

The following identifies the individual emission units located at the EDGB Plant:

Table 1: Plant Emission Units

Emission Unit ID	Emission Unit Description	Installation Date/ Modification Date	Build Date
EUTREATMENTSYS	Processing equipment that treats collected landfill gas for subsequent sale or use.	12-13-1995	12-13-1995
EUENGINE1	Caterpillar 3516 landfill gas-fired reciprocating engine located in Plant 1.	07-27-1994	10-15-1990
EUENGINE2	Caterpillar 3516 landfill gas-fired reciprocating engine in Plant 1.	07-27-1994	12-10-1993
EUENGINE3	Caterpillar 3516 landfill gas-fired reciprocating engine in Plant 1.	07-27-1994	3-23-1995
EUENGINE4	Caterpillar 3516 landfill gas-fired reciprocating engine in Plant 1.	04-01-2000	2-14-1995
EUENGINE5	Caterpillar 3516 landfill gas-fired reciprocating engine in Plant 1.	01-31-2017	10-12-1990
EUENGINE6	Caterpillar 3520 landfill gas-fired reciprocating engine located in Plant 2.	08-06-2012	11-22-2011
EUENGINE7	Caterpillar 3520 landfill gas-fired reciprocating engine located in Plant 2.	08-06-2012	9-1-2005

2.0 REGULATORY DISCUSSION

2.1 GENERAL APPLICABILITY

The following is a table of the rules/regulations which are generally applicable to the facility. As all engines combust solely treated landfill gas, they are not subject to NSPS Subpart WWW or NESHAP Subpart AAAA.

Table 2: Federally Enforceable Regulations

APPLICABLE RULE	RULE SUMMARY	APPLICABLE EMISSION UNIT & CURRENT AUTHORIZING DOCUMENTS
40 CFR Part 60 Subpart A & Subpart WWW	New Source Performance Standards for MSW landfills	LFG Treatment System MI-ROP-N5991-2016
40 CFR Part 63 Subpart AAAA (& Subpart A as defined in AAAA)	Maximum Achievable Control Technology Standards for MSW Landfills	LFG Treatment System MI-ROP-N5991-2016
40 CFR 60, Subparts A and JJJJ	New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines	EUENGINE6 and EUENGINE7 MI-ROP-N5991-2016
40 CFR 63, Subparts A and ZZZZ	National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines	EUENGINE1*, EUENGINE2*, EUENGINE3*, EUENGINE4*, EUENGINE5, EUENGINE6 and EUENGINE7 MI-ROP-N5991-2016

*Not classified as a “New” engine per NESHAP Subpart ZZZZ due to build date and therefore not subject to annual reporting requirements.

2.2 NSPS SUBPART JJJJ FOR STATIONARY SPARK IGNITION ENGINES

On January 18, 2008, the Environmental Protection Agency (EPA) promulgated the New Source Performance Standards (NSPS) Subpart JJJJ for spark ignition reciprocating internal combustion engines (SI ICE). The rule was amended on June 28, 2011. These engines use a spark plug or other sparking device for ignition. They typically will use gasoline, ethanol, natural gas, LPG, landfill gas, and/or digester gas for fuel. SI ICE that commences modification or reconstruction after June 12, 2006 are subject to NSPS Subpart JJJJ.

A new SI ICE that was ordered from the manufacturer (commences construction) after June 12, 2006, is subject to Subpart JJJJ if the engine was manufactured after the following dates (based on horsepower and engine type). All SI ICE constructed after the following dates are subject to Subpart JJJJ:

Table 3: Subpart JJJJ Applicability

HP	Engine type	Constructed date	Manufactured date
≥500	All units except lean-burn	June 12, 2006	July 1, 2007
≥1350	Lean-burn	June 12, 2006	July 1, 2007
≥500 hp and <1350	Lean-burn	June 12, 2006	January 1, 2008
<500	Non-emergency	June 12, 2006	July 1, 2008
≤ 25	Emergency	June 12, 2006	July 1, 2008
> 25	Emergency	June 12, 2006	January 1, 2009

The engines (Caterpillar Model G3520C) specifications are as follows:

- Fueled by landfill gas, approximately 538 scfm inlet (each engine)
- Lean burn
- 2,233 horsepower (each engine)
- 1,600 kilowatts electrical output (each engine)

The CAT 3520 engines are subject to Subpart JJJJ.

The engine (Caterpillar Model G3516) specifications are as follows:

- Fueled by landfill gas, approximately 302 scfm inlet
- Lean burn
- 1,138 horsepower
- 542 kilowatts electrical output

All five CAT 3516 engines are not subject to Subpart JJJJ based on build dates.

2.2.1 Compliance Requirements

Each SI internal combustion lean burn engines with a maximum horsepower greater than 500 hp constructed after June 12, 2007 must comply with the emission standards specified in §60.4233(e) and detailed in Table 1 to Subpart JJJJ.

Below are the applicable monitoring, recordkeeping, testing and reporting requirements for these engines

2.2.2 Testing Requirements

Conduct an initial performance test within 1 year of engine startup and conduct subsequent performance testing every 8,760 hours or 3 years, whichever comes first, thereafter to demonstrate compliance [§ 60.4243(a)(2)(iii)].

2.2.3 Monitoring/Recordkeeping Requirements

1. For non-certified engines keep a maintenance plan and records of conducted maintenance and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. § 60.4243(b)(2)(i)
2. All notifications submitted to comply with this subpart and all documentation supporting any notification. Documentation that the engine meets the emission standards. § 60.4245(a)

2.2.4 Reporting Requirements

1. Submit an initial notification as required in §60.4245(c). The notification must include the following information:

   (1) Name and address of the owner or operator;

   (2) The address of the affected source;

   (3) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

   (4) Emission control equipment; and

   (5) Fuel used.

2. Owners and operators of stationary SI ICE that are subject to performance testing must submit a copy of each performance test as conducted in §60.4244 within 60 days after the test has been completed.

2.3 NESHAP SUBPART ZZZZ - STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

NESHAP for Reciprocating Internal Combustion Engines ("RICE") in 40 CFR §63 Subpart ZZZZ, amended August 20, 2011, establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand. The following definitions are given by the rule:

> *A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.*
>
> *A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.*
>
> *A "New" stationary RICE is a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.*

Per these definitions, the LFGTE facility, as part of a larger stationary source that includes the landfill, is categorized as a major source of hazardous air pollutant (HAP) emissions since its potential emissions of a single

HAP exceed the major source threshold of 10 tons per year. All seven EDW engines are subject to Subpart ZZZZ as stationary sources at a major source of HAPs. **Three engines (EUENGINE5, EUENGINE6, and EUENGINE7) are classified as "new" engines due to engine build date (see Table 1).**

2.3.1 Compliance Requirements

Below are the applicable monitoring, recordkeeping, testing and reporting requirements for these engines.

2.3.1.1 Emission and Operating Limitations

As solely LFG-fired "existing" engines, the five "existing" engines are subject to the rule's limited applicability clause per 63.6590(b)(3):

The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements*: …(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;*

As solely LFG-fired engines, the three "new" engines are subject to the rule's limited applicability clause per 63.6590(b)(2):

> *A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c).* ***These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.***

2.3.1.2 Testing Requirements

As stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, all "new" engines are subject to § 63.6610(a). All stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions must conduct the applicable initial performance test or other initial compliance demonstrations in Table 4 to this subpart that within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

2.3.1.3 Monitoring/Recordkeeping Requirements

As LFG-fired "new" stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, EUENGINE5, EUENGINE6, and EUENGINE7 are subject to § 63.6625(c) and 63.6655(c). LFG-fired "new" stationary RICE must monitor and record fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, the facility must operate stationary RICE in a manner which reasonably minimizes HAP emissions.

As stationary RICE, EUENGINE5, EUENGINE6, and EUENGINE7 are are subject to § 63.6625(h). All stationary RICE 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.

2.3.1.4 Reporting Requirements

As LFG-fired "new" stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, EUENGINE5, EUENGINE6, and EUENGINE7 are subject to initial notification requirements per § 63.6645(c). Initial notifications must be submitted no later than 120 days after applicability and must include the

information in §63.9 (b)(2)(i) through (v) in addition to a statement that the stationary RICE has no additional requirements per 63.6590(b)(2).

As LFG-fired "new" stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, EUENGINE5, EUENGINE6, and EUENGINE7 are subject to reporting requirements per § 63.6650(g). Annual reports must be submitted according to Table 7 of this subpart (included as Table 4 below).

2.4 MICHIGAN AIR POLLUTION CONTROL REGULATIONS

The following State of Michigan Air Pollution Control Regulations are applicable:

R 336.1216 – Application for ROP due to installation of new equipment.

This rule is not applicable for this renewal.

R 336.1224 – This rule requires Best Available Control Technology for toxics (T-BACT) be applied to sources emitting air toxics.

EDGB currently implements reasonable measures to reduce air toxics.

R336.1301: The process shall not discharge visible emissions of a density greater than the most stringent of a 6-minute average of 20% opacity, or a limit specified by an applicable federal NSPS or as a condition of the Permit to Install.

EDGB currently implements reasonable measures to reduce opacity and emission monitoring will continue to be conducted to demonstrate compliance.

R336.1702: The process shall not cause or allow the emission of volatile organic compound emissions in excess of the lowest maximum allowable emission rate of the following:

> (a) The maximum allowable emission rate listed by the department on its own initiative or based upon the application of the best available control technology.
>
> (b) The maximum allowable emission rate specified by a new source performance standard promulgated by the United States environmental protection agency under authority enacted by title I, part A, section 111 of the clean air act, as amended, 42 U.S.C. §7413.
>
> (c) The maximum allowable emission rate specified as a condition of a permit to install or a permit to operate.
>
> (d) The maximum allowable emission rate specified in part 6 of these rules which would otherwise be applicable to the new source except for the date that the process or process equipment was placed into operation or for which an application for a permit to install, under the provisions of part 2 of these rules, was made to the department. If the part 6 allowable emission rate provides for a future compliance date, then the future compliance date shall also be applicable to a new source pursuant to this subdivision.

EDGB currently implements reasonable and effective measures to ensure compliance with the requirements of this rule for the IC Engines and will continue to do so after issuance of this renewal.

R336.1901: The process shall not emit air contaminants in quantities that cause, alone or in reaction with other air contaminants, either of

> (a) injurious effects to human health or safety, animal life, plant life of significant economic value or property; or
>
> (b) unreasonable interference with the comfortable enjoyment of life and property.

EDGB currently implements reasonable and effective measures to ensure compliance with the requirements of this rule for the IC Engines and will continue to do so after issuance of this renewal.

R336.1911: Upon request of the department, the owner/operator shall prepare a malfunction abatement plan to prevent, detect, and correct malfunctions or equipment failures resulting in emissions exceeding any applicable emission limitation.

The IC Engines already have a malfunction abatement plan to prevent, detect, and correct malfunctions or equipment failures.

R336.1912: The owner/operator shall operate the process equipment in a manner consistent with good air pollution control practices for minimizing emissions during periods of abnormal conditions, start-up, shutdown, and malfunctions. The owner/operator shall provide notice of an abnormal condition, start-up, shutdown, or a malfunction that results in emissions of a hazardous air pollutant which continue for more than 1 hour in excess of any applicable standard or limitation established by the clean air act or emissions of any air contaminant continuing for more than 2 hours in excess of a standard or limitation established by any applicable requirement. The time and date of the probable causes or reasons for, and the duration of, the abnormal conditions, start-up, shutdown, or malfunction and a summary of the actions taken to correct and to prevent a reoccurrence of the abnormal conditions or malfunction and the time taken to correct the malfunction.

The raw LFG is treated and meets the definition of landfill gas treatment. The IC Engines complies with NSPS Subpart JJJJ emission limitations and 40 CFR Part 63 Subpart AAAA.

R 336.1910: A pollution control device be operated properly.

The IC Engines operates per the manufacturer's instructions.

2.5 AREA ATTAINMENT STATUS

Air emission sources, such as the EDGB facility, are categorized by regulation as either major or minor (non-major) for purposes of federal and state pre-construction permitting or New Source Review (NSR). This categorization is done by calculating potential emissions (in tpy) on an individual emission unit basis and totaling emissions from all individual emission units located at the stationary source for specific regulated pollutants. Major source thresholds vary by geographic area and its attainment of the National Ambient Air Quality Standards (NAAQS).

The region where the EDGB facility is located, Genesee County, Michigan, is currently designated as attainment/unclassified area for particulate matter (PM), sulfur dioxide (SO2), nitrogen oxides (NOx), carbon monoxide (CO) and 8-hour ozone (O3), and volatile organic compounds (VOC).

2.6 PREVENTION OF SIGNIFICANT DETERIORATION

The stationary source is an existing Prevention of Significant Deterioration (PSD) source due to the potential to emit of greater than 250 tpy of any regulated air pollutant. Potential to emit of CO is greater than 250 tpy.

3.0 EMISSION CALCULATIONS

Emission calculations are included below to reflect the current emissions output from the EDGB facility for regulated air pollutants. Calculations of criteria pollutants and air toxic emissions used typical standard operating values for ICE, stack test data, technical data provided by the manufacturer and the USEPA AP-42 air pollutant emission factors.

Detailed potential emissions calculations for the Plant are included in Appendix A.

3.1 EMISSION LIMITS

FGENGINES Flexible Group Condition I.2 of the currently effective Title V Permit (#MI-ROP-N5991-2016, Section 2) requires each engine in FGENGINES (Two CAT 3520 engines designated EUENGINE6 and EUENGINE7) to maintain compliance with a 1.7 lb/hr limit for SO_2. In a Violation Notice dated March 28, 2018 and subsequent correspondence, EGLE has alleged that EUENGINE6 and EUENGINE7 have exceeded this limit.

A compliance plan and schedule of compliance, as defined in Rule103(dd) and Rule 119(a), is being actively negotiated between EDGB and EGLE Enforcement Section, and will be finalized separately from this submittal. As of the date of submittal of this ROP Renewal Application a compliance plan is not finalized yet. At this time, it is anticipated that the plan will include provisions for sulfur control to be included in the ROP under Rule 213(2), which would directly affect the facility's Potential to Emit for sulfur compounds. As the exact Potential to emit is uncertain at this time, the Plant's 2020 emissions inventory as reported through the Michigan Air Emissions Reporting System (MAERS) March 15, 2021 are provided to demonstrate the current (2020) emissions output. If necessary, updated Potential-to-Emit Calculations will be submitted by Energy Developments Grand Blanc as soon as a compliance plan and schedule of compliance is signed.

Table 4: 2020 MAERS Reported Emissions

Source	Approximate Capacity (scfm)	2020 MAERS Reported Emissions (Tons/year)						
		NO_2	CO	SO_2	PM_{10}	VOC	HAPs	Formaldehyde
EUENGINE 1-5	1,950	108.14	167.61	65.84	11.76	22.17	19.33	16.04
Comment: Five (5) CAT 3516 (Engines 1-5)								
EUENGINE 6-7	1,078	23.52	115.52	36.12	4.67	5.92	19.45	17.84
Comment: Two (2) CAT 3520 IC Engines (Engines 6 and 7).								
Totals:	**3,028**	**131.66**	**283.13**	**101.96**	**16.43**	**28.09**	**38.78**	**33.88**

4.0 PROPOSED CHANGES TO THE CURRENT ROP

EDGB proposes to make administrative changes to update references to the owner and operator of the LFGTE Facility from “Granger Electric of Grand Blanc, LLC”, to “Energy Developments Grand Blanc, LLC”. This change occurred in 2018, after the issuance of the current permit. At the time, an EQP 5775 Form was submitted to identify changes at a stationary source after a Renewable Operating Permit (ROP) is issued as required by R 336.1215 (Rule 215) and R 336.1216 (Rule 216), promulgated pursuant to Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. EDGB also proposes to make administrative changes as indicated in the markup ROP to update the engine unit ID of EUENGINECITB(16) to EUENGINE5 and update the unit’s corresponding installation date. On June 22, 2016, EGLE (at the time Michigan Department of Environmental Quality (MDEQ)) requested that EDGB replace the existing EUENGINECITB(16) with a stationary engine of the same make and model to resolve complications with the pending ROP renewal. On December 16, 2016, the MDEQ also requested EDGB submit two Rule 215 notifications to document the swap. These notifications were intended to address ROP changes. EUENGINECITB(16) was swapped with EUENGINE5 in 2017 per the notifications mailed to the Agency on January 20, 2017 and January 31, 2017. EUENGINE5 had an identical make and model, as well as identical regulatory applicability requirements to EUENGINECITB(16). As such, no further permit edits are necessary to reflect this change. As exempt engines, no changes were made to the permit at the time.

EDGB also proposes to update language to reflect the changes made to 60 CFR Part 63 Subpart AAAA in the latest version finalized March 26, 2020, which supersedes the previous version. 40 CFR 63.6(e)(3) cited by the current Title V permit no longer exists in the new rule. Per the new rule, requirements for an SSM Plan and SSM reporting expire September 28th, 2021.

The proposed changes to the ROP are provided in the ROP Mark-up.

Please note that a compliance plan and schedule of compliance, as defined in Rule103(dd) and Rule 119(a), is being actively negotiated between Energy Developments Grand Blanc and EGLE Enforcement Section due to an alleged exceedance of the currently effective permits’ SO_2 limitations, and will be finalized separately from this submittal. As of the date of submittal of this ROP Renewal Application a compliance plan is not finalized yet. At this time, it is anticipated that the plan will include provisions for sulfur control to be included in the ROP under Rule 213(2). Once a compliance plan and schedule of compliance is signed, further updates to the existing ROP language may be required.

5.0 MARK-UP COPY OF EXISTING ROP

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION

EFFECTIVE DATE: ~~November 16, 2016~~ TBD

ISSUED TO

Citizens Disposal, Incorporated and ~~Granger Electric of~~ Energy Developments Grand Blanc, LLC

State Registration Number (SRN): N5991

LOCATED AT

2361 West Grand Blanc Road, Grand Blanc, Michigan 48439

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-N5991-~~2016~~ TBD

Expiration Date: ~~November 16, 2021~~TBD

Administratively Complete ROP Renewal Application Due
Between ~~May 16, 2020~~ and ~~May 16, 2021~~ TBD

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

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-N5991-~~2016~~TBD

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

Michigan Department of Environmental Quality

Brad Myott, Lansing District Supervisor

TABLE OF CONTENTS

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 Environmental Quality (MDEQ) 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 are 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.

SECTION 1 - Citizens Disposal, Incorporated

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).[2] **(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:" [2] **(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 percent 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.[1] **(R 336.1901(a))**
    b. Unreasonable interference with the comfortable enjoyment of life and property.[1] **(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).[2] **(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. **(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. Semi-annually 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.[2] **(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))**

Re-openings

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(8))**

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):
    a. June 21, 1999,
    b. Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
    c. 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.[2] **(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.[2] **(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, MDEQ.[2] **(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, MDEQ, 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.[2] **(R 336.1201(4))**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]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.

C. EMISSION UNIT 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
EULANDFILL	This emission unit represents the general Municipal Solid Waste (MSW) Landfill in which the collected landfill gas is sent primarily to a treatment system.	12-13-1995	NA
EUACTIVECOLL	This emission unit represents the active landfill gas collection system at the landfill that uses gas mover equipment to draw landfill gas from the wells and moves the gas to the control equipment.	12-13-1995	NA
EUGROFFLARE	A 600 CFM open flare for backup control of the landfill gas. An open flare is an open combustor without enclosure or shroud.	04-01-2000	NA
EUZINKFLARE	A 3,000 CFM utility flare (open flare) for backup control of the landfill gas. An open flare is an open combustor without enclosure or shroud.	02-03-2009	NA
EUASBESTOS	Any active or inactive asbestos disposal site.	01-01-1981	NA

EULANDFILL
EMISSION UNIT CONDITIONS

DESCRIPTION

This emission unit represents the general Municipal Solid Waste (MSW) Landfill in which the collected landfill gas is sent primarily to a treatment system.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

A treatment system provides primary control for the landfill gas to be used as fuel at the on-site engine plant or sold for subsequent use. Two (2) open flares serve as control when the landfill gas is not sent to the engine plant.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Methane concentration	500 ppm above background level	Calendar quarter	Surface of Landfill	SC V.1, SC V.2	**40 CFR 60.753(d), 40 CFR 60.755(c), 40 CFR 63.1955(a)(1)**

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The permittee shall comply with the requirements in 40 CFR 63.1955(b) and 40 CFR 63.1960 through §63.1980. **(40 CFR 63.1945(d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The permittee shall have installed a collection and control system that captures the landfill gas generated within the landfill as required by 40 CFR 60.752(b)(2)(i)(C), 40 CFR 60.752(b)(2)(ii), and 40 CFR 60.752(b)(2)(iii). **(40 CFR 60.752(b)(2)(i)(C), 40 CFR 60.752(b)(2)(ii), 40 CFR 60.752(b)(2)(iii), 40 CFR 63.1955(a)(1))**

2. The permittee shall route all the collected landfill gas to at least one of the following:
   a. A flare designed in accordance with §60.18 except as noted in 40 CFR 60.754(e). **(40 CFR 60.752(b)(2)(iii)(A), 40 CFR 63.1955(a)(1))**
   b. A control system designed and operated to reduce NMOC by 98 weight-percent, or, when an enclosed combustion device is used for control, to either reduce NMOC by 98 weight-percent or reduce the outlet NMOC concentration to less than 20 ppm by volume, dry basis as hexane at 3 percent oxygen. The reduction efficiency or ppm by volume shall be established by an initial performance test to be completed no later than 180 days after the initial startup of the approved control system using the test methods specified in §60.754(d). **(40 CFR 60.752(b)(2)(iii)(B), 40 CFR 63.1955(a)(1))**

c. To a treatment system that processes the collected gas for subsequent sale or use. The treatment system shall be designed so that all emissions from any atmospheric vent(s) shall be subject to 40 CFR 60.752(b)(2)(iii)(A) or (B). **(40 CFR 60.752(b)(2)(iii)(C), 40 CFR 63.1955(a)(1))**

V. TESTING/SAMPLING

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

1. To determine if the methane concentration is less than 500 ppm above background at the surface of the landfill is exceeded, the permittee shall conduct surface testing around the perimeter of the collection area and along a pattern that traverses the landfill at 30 meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The permittee may establish an alternative traversing pattern that ensures equivalent coverage. A surface monitoring design plan shall be developed that includes a topographical map with the monitoring route and the rationale for any site-specific deviations from the 30 meter intervals. Areas with steep slopes or other dangerous areas may be excluded from the surface testing. **(40 CFR 60.753(d), 40 CFR 63.1955(a)(1))**

2. The permittee shall use the following procedures for compliance with the surface methane operational standard as provided in §60.753(d).
   a. The permittee shall monitor surface concentrations of methane along the entire perimeter of the collection area and along a pattern that traverses the landfill at 30-meter intervals (or a site-specific established spacing approved by the AQD) for each collection area on a quarterly basis using an organic vapor analyzer, flame ionization detector, or other portable monitor meeting the specifications provided in §60.755(d). **(40 CFR 60.755(c)(1), 40 CFR 63.1955(a)(1))**
   b. The background concentration shall be determined by moving the probe inlet upwind and downwind outside the boundary of the landfill at a distance of at least 30 meters from the perimeter wells. **(40 CFR 60.755(c)(2), 40 CFR 63.1955(a)(1))**
   c. Surface emission monitoring shall be performed in accordance with Section 4.3.1 of Method 21 of Appendix A of 40 CFR Part 60, except that the probe inlet shall be placed within 5 to 10 centimeters of the ground. Monitoring shall be performed during typical meteorological conditions. **(40 CFR 60.755(c)(3), 40 CFR 63.1955(a)(1))**
   d. Any reading of 500 ppm or more above background at any location shall be recorded as a monitored exceedance and the actions specified below shall be taken. As long as the specified actions are taken, the exceedance is not a violation of the operational requirements of §60.753(d). **(40 CFR 60.755(c)(4), 40 CFR 63.1955(a)(1))**
      i. The location of each monitored exceedance shall be marked and the location recorded. **(40 CFR 60.755(c)(4)(i), 40 CFR 63.1955(a)(1))**
      ii. Cover maintenance or adjustments to the vacuum of the adjacent wells to increase the gas collection in the vicinity of each exceedance shall be made and the location shall be re-monitored within 10 calendar days of detecting the exceedance. **(40 CFR 60.755(c)(4)(ii), 40 CFR 63.1955(a)(1))**
      iii. If the re-monitoring of the location shows a second exceedance, additional corrective action shall be taken and the location shall be monitored again within 10 days of the second exceedance. If the re-monitoring shows a third exceedance for the same location, the action specified in §60.755(c)(4)(v) (below in SC **V.2.d.v**) shall be taken, and no further monitoring of that location is required until the action specified in §60.755(c)(4)(v) (below in SC **V.2.d.v**) has been taken. **(40 CFR 60.755(c)(4)(iii), 40 CFR 63.1955(a)(1))**
      iv. Any location that initially showed an exceedance but has a methane concentration less than 500 ppm methane above background at the 10-day re-monitoring specified in 60.755(c)(4) (ii) or (iii) (above in SC **V.2.d.ii** or **iii**) shall be re-monitored 1 month from the initial exceedance. If the 1-month re-monitoring shows a concentration less than 500 ppm above backgrounds, no further monitoring of that location is required until the next quarterly monitoring period. If the 1-month re-monitoring shows an exceedance, the actions specified in §60.755(c)(4)(iii) (above in SC **V.2.d.iii.**) or in §60.755(c)(4)(v) (below in SC **V.2.d.v**) shall be taken. **(40 CFR 60.755(c)(4)(iv), 40 CFR 63.1955(a)(1))**
      v. For any location where monitored methane concentration equals or exceeds 500 ppm above backgrounds three times within a quarterly period, a new well or other collection device shall be installed within 120 calendar days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for

installation may be submitted to the AQD for approval. **(40 CFR 60.755(c)(4)(v), 40 CFR 63.1955(a)(1))**

3. The permittee shall comply with the provisions in §60.755(c) with the following instrumentation specifications and procedures for surface emission monitoring devices:
   a. The portable analyzer shall meet the instrument specifications provided in Section 3 of Method 21 of Appendix A of 40 CFR Part 60, except that "methane" shall replace all references to VOC. **(40 CFR 60.755(d)(1), 40 CFR 63.1955(a)(1))**
   b. The calibration gas shall be methane, diluted to a nominal concentration of 500 ppm in air. **(40 CFR 60.755(d)(2), 40 CFR 63.1955(a)(1))**
   c. To meet the performance evaluation requirements in Section 3.1.3 of Method 21 of Appendix A of 40 CFR Part 60, the instrument evaluation procedures of Section 4.4 of Method 21 of Appendix A of 40 CFR Part 60 shall be used. **(40 CFR 60.755(d)(3), 40 CFR 63.1955(a)(1))**
   d. The calibration procedures provided in Section 4.2 of Method 21 of Appendix A of 40 CFR Part 60 shall be followed immediately before commencing a surface monitoring survey. **(40 CFR 60.755(d)(4), 40 CFR 63.1955(a)(1))**

4. The permittee shall monitor surface concentrations of methane according to the instrument specifications and procedures provided in §60.755(d). Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring. **(40 CFR 60.756(f), 40 CFR 63.1955(a)(1))**

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 implement a program to monitor on a monthly basis for cover integrity and implement cover repairs as necessary. **(40 CFR 60.755(c)(5), 40 CFR 63.1955(a)(1))**

2. Except as provided in §60.752(b)(2)(i)(B), the permittee shall maintain up-to-date, readily accessible, on-site records of the design capacity report which triggered §60.752(b), the current amount of solid waste in place, and the year-by-year waste acceptance rate. Off-site records may be maintained if they are retrievable within 4 hours. Either paper copy or electronic formats are acceptable. **(40 CFR 60.758(a), 40 CFR 63.1955(a)(1))**

3. The permittee shall calculate and record the NMOC emission rate for purposes of determining when the system can be removed as provided in 40 CFR 60.752(b)(2)(v), using the equation presented in 40 CFR 60.754(b). **(40 CFR 60.754(b))**

4. If the permittee adds any liquids other than leachate in a controlled fashion to the waste mass and does not comply with the bioreactor requirements in 40 CFR 63.1947, §63.1955(c), and §63.1980(c) through (f), the permittee shall keep a record of calculations showing that the percent moisture by weight expected in waste mass to which liquid is added is less than 40 percent. The calculation must consider the waste mass, moisture content of the incoming waste, mass of the water added to the waste including leachate recirculation and other liquids addition, and precipitation, and the mass of water removed through leachate or other water losses. Moisture level sampling or mass balances calculations can be used. The permittee shall document the calculations and the basis of the assumptions. **(40 CFR 63.1980(g))**

5. The permittee shall keep the following written records pertaining to surface methane monitoring:
   a. The route traversed including any areas not monitored because of unsafe conditions (i.e., truck traffic, construction, active face, dangerous areas, etc.) and areas included where visual observations indicate elevated levels of landfill gas, **(R 336.1213(3))**
   b. The location(s) and concentrations of any reading above 500 ppm above background, **(40 CFR 60.755(c)(4)(i), R 336.1213(3))**
   c. The meteorological conditions the day of the testing including wind speed, wind direction, temperature, and cloud cover). **(R 336.1213(3))**

VII. REPORTING

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

2. Semi-annual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. 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. 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 an equipment removal report to the appropriate AQD District Supervisor 30 days prior to removal or cessation of operation of the control equipment.
   a. The equipment removal report shall contain all of the following items:
      i. A copy of the closure report submitted in accordance with §60.757(d); **(40 CFR 60.757(e)(1)(i), 40 CFR 63.1955(a)(1))**
      ii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year; and **(40 CFR 60.757(e)(1)(iii), 40 CFR 63.1955(a)(1))**
      iii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired. **(40 CFR 60.757(e)(1)(ii), 40 CFR 63.1955(a)(1))**
   b. The AQD may request such additional information as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met. **(40 CFR 60.757(e)(2), 40 CFR 63.1955(a)(1))**

5. The permittee shall submit a closure report to the appropriate AQD District Office within 30 days of waste acceptance cessation. The AQD may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the AQD, no additional wastes may be placed into the landfill without filing a notification of modification as described under §60.7(a)(4). **(40 CFR 60.757(d), 40 CFR 63.1955(a)(1))**

6. The permittee shall submit reports which shall be postmarked or received by 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. The report shall include the location of each exceedance of the 500 ppm methane concentrations as provided in §60.753(d) and the concentration recorded at each location for which an exceedance was recorded in the previous month. The report shall also contain include information on all deviations that occurred during the 6-month reporting period. **(40 CFR 60.757(f)(5), 40 CFR 63.1955(a)(1), 40 CFR 63.1955(c), 40 CFR 63.1980(a))**

7. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENTS

1. The collection and control system may be capped or removed provided that all the following conditions are met:
   a. The landfill shall be a closed landfill as defined in §60.751. A closure report shall be submitted to the appropriate AQD District Office as provided in §60.757(d); **(40 CFR 60.752(b)(2)(v)(A), 40 CFR 63.1955(a)(1))**
   b. The collection and control system shall have been in operation a minimum of 15 years; and **(40 CFR 60.752(b)(2)(v)(B), 40 CFR 63.1955(a)(1))**
   c. Following the procedures specified in §60.754(b), the calculated NMOC gas produced by the landfill shall be less than 50 megagrams per year on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart. **(40 CFR 60.752(b)(2)(v)(C), 40 CFR 63.1955(a)(1))**

2. The permittee shall submit a closure report to the appropriate AQD District Office within 30 days of waste acceptance cessation. The AQD may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the AQD, no additional wastes may be placed into the landfill without filing a notification of modification as described under §60.7(a)(4). **(40 CFR 60.757(d), 40 CFR 63.1955(a)(1))**

3. If monitoring demonstrates that the operational requirements as specified in §60.753(b), (c), or (d) are not met, corrective action shall be taken as specified in §60.755(a)(3) through (5) or §60.755(c). **(40 CFR 60.753(g), 40 CFR 63.1955(a)(1))**

4. For the approval of collection and control systems that includes any alternatives to the operational standards, test methods, procedures, compliance measures, monitoring, recordkeeping or reporting provisions, the permittee shall follow the procedures in 40 CFR 60.752(b)(2). **(40 CFR 63.1955(c))**

5. The permittee shall comply with the requirements of 40 CFR 60, Subpart WWW. **(40 CFR 63.1955(a)(1))**

6. The permittee shall comply with the requirements of 40 CFR Part 63, Subpart AAAA, including the general provisions specified in Table 1 and the SSM requirements in 40 CFR 63.6. **(40 CFR 63.1955, 40 CFR 63.6)**

7. The permittee is no longer required to comply with the requirements of 40 CFR 63, Subpart AAAA when it is no longer required to apply controls as specified in 40 CFR 60.752(b)(2)(v) of Subpart WWW. **(40 CFR 63.1950)**

EUACTIVECOLL
EMISSION UNIT CONDITIONS

DESCRIPTION

This emission unit represents the active landfill gas collection system at the landfill that uses gas mover equipment to draw landfill gas from the wells and moves the gas to the control equipment.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

A treatment system provides primary control for the landfill gas to be used as fuel at the on-site engine plant or sold for subsequent use. Two (2) open flares serve as control when the landfill gas is not sent to the engine plant.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system contributing to venting of the gas to the atmosphere shall be closed within 1 hour. **(40 CFR 60.753(e), 40 CFR 63.1955(a))**

2. The permittee shall operate the collection system such that gas is collected from each area, cell, or group of cells in the MSW landfill in which solid waste has been in place for:
   a. 5 years or more if active; or **(40 CFR 60.753(a)(1), 40 CFR 63.1955(a))**
   b. 2 years or more if closed or at final grade. **(40 CFR60.753(a)(2), 40 CFR 63.1955(a))**

3. The permittee shall operate the collection system with negative pressure at each wellhead except under the following conditions:
   a. A fire or increased well temperature. The owner or operator shall record instances when positive pressure occurs in efforts to avoid a fire. These records shall be submitted with the semiannual reports as provided in §60.757(f)(1). **(40 CFR 60.753(b)(1), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
   b. Use of a geo-membrane or synthetic cover. The owner or operator shall develop acceptable pressure limits in the design plan. **(40 CFR 60.753(b)(2), 40 CFR 63.1955(a))**
   c. A decommissioned well. A well may experience a static positive pressure after shut down to accommodate for declining flows. All design changes shall be approved by the AQD. **(40 CFR 60.753(b)(3), 40 CFR 63.1955(a))**

4. The permittee shall operate each interior wellhead in the collection system with a landfill gas temperature less than 55°C and with an oxygen level less than 5 percent. The owner or operator may establish a higher operating temperature or oxygen value at a particular well. A higher operating value demonstration shall be submitted to the appropriate Air Quality Division District for approval and it shall include supporting data that the elevated parameter does not cause fires or significantly inhibit anaerobic decomposition by killing methanogens. **(40 CFR 60.753(c), 40 CFR 60.756(e), 40 CFR 63.1955(a))**

5. The permittee shall operate the installed collection system in accordance with the provisions of §60.753, §60.755, and §60.756. **(40 CFR 60.752(b)(2)(iv), 40 CFR 63.1955(a))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. An active collection system shall:
   a. Be designed to handle the maximum expected gas flow rate from the entire area of the landfill that warrants control over the intended use period of the gas control or treatment system equipment. **(40 CFR 60.752(b)(2)(ii)(A)(1), 40 CFR 63.1955(a))**
   b. The permittee shall place each well or design component in the collection system as specified in the approved design plan as provided in §60.752(b)(2)(i). Each well shall be installed no later than 60 days after the date on which the initial solid waste has been in place for a period of 5 years or more if active; or 2 years or more if closed at final grade. **(40 CFR 60.755(b), 40 CFR 60.752(b)(2)(ii)(A)(2), 40 CFR 63.1955(a))**
   c. Collect gas at a sufficient extraction rate. **(40 CFR 60.752(b)(2)(ii)(A)(3), 40 CFR 63.1955(a))**
   d. Be designed to minimize off-site migration of subsurface gas. **(40 CFR 60.752(b)(2)(ii)(A)(4), 40 CFR 63.1955(a))**

2. The permittee shall design the collection system so that all collected gases are vented to a control system designed and operated in compliance with §60.752(b)(2)(iii). **(40 CFR 60.753(e), 40 CFR 63.1955(a))**

3. When adding gas collectors to the active gas collection system, a sufficient density of gas collectors shall be installed in compliance with §60.752(b)(2)(ii)(A)(2) (as specified above in SC **IV.1**). The permittee shall design a system of vertical wells, horizontal collectors, or other collection devices, satisfactory to the appropriate AQD District Office, capable of controlling and extracting gas from all portions of the landfill sufficient to meet all operational and performance standards in 40 CFR 60, Subpart WWW. **(40 CFR 60.755(a)(2), 40 CFR 63.1955(a))**
   a. If the permittee is seeking to demonstrate compliance through the use of a collection system not conforming to the specifications provided in §60.759, then the permittee shall provide information that satisfies the AQD District Supervisor as specified in §60.752(b)(2)(i)(C), demonstrating that off-site migration is being controlled. **(40 CFR 60.755(a)(6), 40 CFR 63.1955(a))**

4. The permittee shall install a sampling port and a thermometer, other temperature measuring device, or an access port for temperature measurements at each wellhead. **(40 CFR 60.756(a), 40 CFR 63.1955(a))**

5. The permittee shall site active collection wells, horizontal collectors, surface collectors, or other extraction devices at a sufficient density throughout all gas producing areas using the following procedures unless alternative procedures have been approved by the appropriate AQD District Supervisor as provided in §60.752(b)(2)(i)(C) and (D):
   a. The collection devices within the interior and along the perimeter areas shall be certified, by a professional engineer, to achieve comprehensive control of surface gas emissions. The following issues shall be addressed in the design: depths of refuse, refuse gas generation rates and flow characteristics, cover properties, gas system expandability, leachate and condensate management, accessibility, compatibility with filling operations, integration with closure end use, air intrusion control, corrosion resistance, fill settlement, and resistance to the refuse decomposition heat. **(40 CFR 60.759(a)(1), 40 CFR 63.1955(a))**
   b. The sufficient density of gas collection devices determined in §60.759(a)(1) (above in Condition **IV.5.a.**) shall address landfill gas migration issues and augmentation of the collection system through the use of active or passive systems at the landfill perimeter or exterior. **(40 CFR 60.759(a)(2), 40 CFR 63.1955(a))**

c. The placement of gas collection devices determined in §60.759(a)(1) (above in SC **IV.5.a.**) shall control all gas producing areas, except as provided in §60.759(a)(3)(i) and (ii) (below in SC **IV.5.c.i.** and **ii.**). **(40 CFR 60.759(a)(3), 40 CFR 63.1955(a))**
   i. Any segregated area of asbestos or non-degradable material may be excluded from collection if documented as provided under §60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or non-degradable material deposited in the area, and shall be provided to the District Supervisor upon request. **(40 CFR 60.759(a)(3)(i), 40 CFR 63.1955(a))**
   ii. Any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the AQD District Supervisor upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the equation in Appendix 7. **(40 CFR 60.759(a)(3)(ii), 40 CFR 63.1955(a))**

6. The permittee shall construct the gas collection devices using the following equipment or procedures:
   a. The landfill gas extraction components shall be constructed of polyvinyl chloride (PVC), high density polyethylene (HDPE) pipe, fiberglass, stainless steel, or other nonporous corrosion resistant material of suitable dimensions to: convey projected amounts of gases; withstand installation, static, and settlement forces; and withstand planned overburden or traffic loads. The collection system shall extend as necessary to comply with emission and migration standards. Collection devices such as wells and horizontal collectors shall be perforated to allow gas entry without head loss sufficient to impair performance across the intended extent of control. Perforations shall be situated with regard to the need to prevent excessive air infiltration. **(40 CFR 60.759(b)(1), 40 CFR 63.1955(a))**
   b. Vertical wells shall be placed so as not to endanger underlying liners and shall address the occurrence of water within the landfill. Holes and trenches constructed for piped wells and horizontal collectors shall be of sufficient cross-section so as to allow for their proper construction and completion including, for example, centering of pipes and placement of gravel backfill. Collection devices shall be designed so as not to allow indirect short circuiting of air into the cover or refuse into the collection system or gas into the air. Any gravel used around pipe perforations should be of a dimension so as not to penetrate or block perforations. **(40 CFR 60.759(b)(2), 40 CFR 63.1955(a))**
   c. Collection devices may be connected to the collection header pipes below or above the landfill surface. The connector assembly shall include a positive closing throttle valve, any necessary seals and couplings, access couplings and at least one sampling port. The collection devices shall be constructed of PVC, HDPE, fiberglass, stainless steel, or other nonporous material of suitable thickness. **(40 CFR 60.759(b)(3), 40 CFR 63.1955(a))**

7. The active gas collection system shall be designed so as to convey the landfill gas to a control system in compliance with §60.752(b)(2)(iii) through the collection header pipe(s). The gas mover equipment shall be sized to handle the maximum gas generation flow rate expected over the intended use period of the gas moving equipment using the following procedures: **(40 CFR 60.759(c), 40 CFR 63.1955(a))**
   a. For existing collection systems, the flow data shall be used to project the maximum flow rate. If no flow data exists, the procedures in §60.759(c)(2) shall be used. **(40 CFR 60.759(c)(1), 40 CFR 63.1955(a))**
   b. For new collection systems, the maximum flow rate shall be in accordance with §60.755(a)(1). **(40 CFR 60.759(c)(2), 40 CFR 63.1955(a))**

See Appendix 7

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))**

1. For the purpose of demonstrating whether the gas collection system flow rate is sufficient to determine compliance with §60.752(b)(2)(ii)(A)(*3*), the permittee shall measure gauge pressure in the gas collection header at each individual well, monthly. If a positive pressure exists, action shall be initiated to correct the exceedance within five calendar days, except for the three conditions allowed under §60.753(b) (above in SC **III.3.a-c**). If negative pressure cannot be achieved without excess air infiltration within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial measurement of positive pressure. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the AQD for approval. **(40 CFR 60.755(a)(3), 40 CFR 60.756(a)(1), 40 CFR 63.1955(a))**

2. The permittee is not required to expand the gas collection system as required in §60.755(a)(3) (above in SC **VI.1**) during the first 180 days after gas collection system startup. **(40 CFR 60.755(a)(4), 40 CFR 63.1955(a))**

3. For the purpose of identifying whether excess air infiltration into the landfill is occurring, the permittee shall monitor each well monthly for temperature and oxygen as provided in §60.753(c). If a well exceeds one of these operating parameters, action shall be initiated to correct the exceedance within five calendar days. If correction of the exceedance cannot be achieved within 15 calendar days of the first measurement, the gas collection system shall be expanded to correct the exceedance within 120 days of the initial exceedance. Any attempted corrective measure shall not cause exceedances of other operational or performance standards. An alternative timeline for correcting the exceedance may be submitted to the AQD for approval.
   a. If monitoring demonstrates that the temperature and oxygen levels are not being met, then corrective action shall be taken as noted above and specified in §60.755(a)(5). If corrective actions are taken as specified in §60.755, the monitored exceedance is not a violation of the operational requirements. **(40 CFR 60.753(g), 40 CFR 63.1955(a))**
   b. Unless an alternative test method is established as allowed by §60.752(b)(2)(i), the oxygen shall be determined by an oxygen meter using Method 3A or 3C except that:
      i. The span shall be set so that the regulatory limit is between 20 and 50 percent of the span; **(40 CFR 60.753(c)(i), 40 CFR 63.1955(a))**
      ii. A data recorder is not required; **(40 CFR 60.753(c)(ii), 40 CFR 63.1955(a))**
      iii. Only two calibration gases are required, a zero and span, and ambient air may be used as the span; **(40 CFR 60.753(c)(iii), 40 CFR 63.1955(a))**
      iv. A calibration error check is not required; **(40 CFR 60.753(c)(iv), 40 CFR 63.1955(a))**
      v. The allowable sample bias, zero drift, and calibration drift are ±10 percent. **(40 CFR 60.753(c)(v), 40 CFR 63.1955(a))**

   (40 CFR 60.755(a)(5), 40 CFR 60.756(a)(2), 40 CFR 60.756(a)(3), 40 CFR 63.1955(a))

4. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep up-to-date, readily accessible records for the life of the control equipment of the data listed in §60.758(b)(1) (below in SC **VI.4.a-b**) as measured during the compliance determination. Records of the control device vendor specifications shall be maintained until removal.
   a. The maximum expected gas generation flow rate as calculated in §60.755(a)(1). The permittee may use another method to determine the maximum gas generation flow rate, if the method has been approved by the appropriate AQD District Office. **(40 CFR 60.758(b)(1)(i), 40 CFR 63.1955(a))**
   b. The density of wells, horizontal collectors, surface collectors, or other gas extraction devices determined using the procedures specified in §60.759(a)(1). **(40 CFR 60.758(b)(1)(ii), 40 CFR 63.1955(a))**

5. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep for the life of the collection system an up-to-date, readily accessible plot map showing each existing and planned collector in the system and providing a unique identification location label for each collector; and the installation date and location of all newly installed collectors as specified under §60.755(b) (above in SC **IV.1.b**). **(40 CFR 60.758(d), 40 CFR 60.758(d)(1), 40 CFR 63.1955(a))**

6. The permittee shall keep readily accessible records of all collection and control system exceedances of the operational standards in §60.753, the reading in the subsequent month whether or not the second reading is an exceedance, and the location of each exceedance. **(40 CFR 60.758(e), 40 CFR 63.1955(a))**

7. The permittee shall maintain the following information:
   a. A diagram of the collection system showing collection system positioning including all wells, horizontal collectors, surface collectors, or other gas extraction devices, including the locations of any areas excluded from collection and the proposed sites for the future collection system expansion. **(40 CFR 60.757(g)(1), 40 CFR 63.1955(a))**
   b. The data upon which the sufficient density of wells, horizontal collectors, surface collectors, or other gas extraction devices and the gas mover equipment sizing are based. **(40 CFR 60.757(g)(2), 40 CFR 63.1955(a))**
   c. The documentation of the presence of asbestos or non-degradable material for each area from which collection wells have been excluded based on the presence of asbestos or non-degradable material. **(40 CFR 60.757(g)(3), 40 CFR 63.1955(a))**
   d. The sum of the gas generation flow rates for all areas from which collection wells have been excluded based on non-productivity and the calculations of gas generation flow rate for each excluded area. **(40 CFR60.757(g)(4), 40 CFR 63.1955(a))**
   e. The provisions for increasing gas mover equipment capacity with increased gas generation flow rate, if the present gas mover equipment is inadequate to move the maximum flow rate expected over the life of the landfill. **(40 CFR 60.757(g)(5), 40 CFR 63.1955(a))**
   f. The provisions for the control of off-site migration. **(40 CFR 60.757(g)(6), 40 CFR 63.1955(a))**
   g. The permittee shall maintain the dates of the landfill gas well installations, the age of the waste in which the landfill gas wells were installed, and the age of the in place waste for each portion of the landfill. **(R 336.1213(3))**

VII. REPORTING

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

2. Semi-annual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report shall be postmarked or received by 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. Report shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit to the appropriate AQD District Office semiannual reports for the gas collection system. Reports 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. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c). The semiannual reports for the gas collection system shall include the following information:
   a. Value and length of time for exceedance of applicable parameters monitored under §60.756(a), (above in SC **VI.1** and **VI.3**). **(40 CFR 60.757(f)(1))**
   b. All periods when the collection system was not operating in excess of five days. **(40 CFR 60.757(f)(4))**
   c. The date of installation and the location of each well or collection system expansion added pursuant to §60.755(a)(3), §60.755(b), and §60.755(c)(4), (above in SC **IV.1.b, VI.1** and **VI.3**) **(40 CFR 60.757(f)(6))**
   d. Any deviations as listed in 40 CFR 63.1965. **(40 CFR 63.1965)**
   e. The permittee shall record instances when a positive pressure occurs in efforts to avoid fire. **(40 CFR 60.753(b)(1))**

   (40 CFR 60.757(f), 40 CFR 63.1955(a), 40 CFR 63.1965, 40 CFR 63.1980(a))

5. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENTS

1. If monitoring demonstrates that the operational requirements in §60.753(b), (c), or (d) (above in SC **III.3** and **III.4**) are not met, corrective action shall be taken as specified above in §60.755(a)(3) through (5) or §60.755(c) (SC **VI.1** and **VI.3**). **(40 CFR 60.753(g), 40 CFR 63.1955(a)(1))**

2. The provisions of 40 CFR Part 60, Subpart WWW, apply at all times and the duration of start-up, shutdown, or malfunction shall not exceed 5 days for collection systems. **(40 CFR 60.755(e), 40 CFR 63.1955(a)(1))**

3. If the permittee is seeking to install a collection system that does not meet the specifications in §60.759 (above in SC **IV.5, IV.6 and IV.7**) or is seeking to monitor alternative parameters to those required by §60.753 through §60.756, they shall provide information satisfactory to the appropriate AQD District Office as provided in §60.752(b)(2)(i)(B) and (C) describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The AQD may specify additional appropriate monitoring procedures. **(40 CFR 60.756(e), 40 CFR 63.1955(a))**

4. The permittee shall have developed and implemented a written SSM plan according to the provision in 40 CFR 63.6(e)(3) for EUACTIVECOLL. A copy of the SSM plan shall be maintained on site. **(40 CFR 63.1960)**

5. The permittee shall comply with all applicable provisions of 40 CFR 63 Subparts A and AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills. **(40 CFR 60 Subparts A and AAAA)**

EUGROFFLARE
EMISSION UNIT CONDITIONS

DESCRIPTION

A 600 CFM open flare for backup control of the landfill gas. An open flare is an open combustor without enclosure or shroud. The initial performance testing for the open flare has already been performed, and therefore, is not required by this table.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate the flare in accordance with §60.18 except as noted in 40 CFR 60.754(e). **(40 CFR 60.752(b)(2)(iii)(A), 40 CFR 63.1955(a))**

2. The permittee shall operate the flare at all times when the collected gas is routed to it. **(40 CFR 60.753(f), 40 CFR 63.1955(a)))**

3. The flare shall be operated with no visible emissions, as determined by the methods specified in 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. **(40 CFR 60.18(c)(1))**

4. The flare shall be operated with a flame present at all times, as determined by the methods specified in 40 CFR 60.18(f). **(40 CFR 60.18(c)(2))**

5. The flare shall be used only with the net heating value of the gas being combusted of 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted of 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f). **(40 CFR 60.18(c)(3))**

6. Steam-assisted and non-assisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4), less than 18.3 m/sec (60 ft/sec), except as provided in 40 CFR 60.18(c)(4)(ii) and (iii). **(40 CFR 60.18(c)(4)(i))**

a. Steam-assisted and non-assisted flares designed for and operated with an exit velocity, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf). **(40 CFR 60.18(c)(4)(ii))**
b. Steam-assisted and non-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in §60.18(f)(4) less than the velocity, Vmax, as determined by the method specified in §60.18(f)(5), and less than 122 m/sec (400 ft/sec) are allowed. **(40 CFR 60.18(c)(4)(iii))**

7. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, Vmax, as determined by the method specified in 40 CFR 60.18(f)(6). **(40 CFR 60.18(c)(5))**

8. Flares used to comply with provisions of 40 CFR Part 60, Subpart A shall be operated at all times when emissions may be vented to them. **(40 CFR 60.18(e))**

9. The permittee shall operate control system such that all collected gases are vented to a control system designed and operated in accordance with §60.752(b)(2)(iii). In the event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system shall contributing to venting of the gas to the atmosphere shall be closed within one hour. **(40 CFR 60.753(e), 40 CFR 63.1955(a))**

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))**

1. The permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications, a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame. **(40 CFR 60.756(c)(1), 40 CFR 63.1955(a))**

2. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep up-to-date, readily accessible records for the life of the open flare of the data listed in §60.758(b)(4) (below in SC **VI.3**) as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of five years. Records of the open flare vendor specifications shall be maintained until removal. **(40 CFR 60.758(b), 40 CFR 63.1955(a))**

3. The permittee shall maintain records regarding the flare type (i.e., steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in §60.18; continuous records of the open flare pilot flame or open flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent. **(40 CFR 60.758(b)(4), 40 CFR 63.1955(a))**

4. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep readily accessible continuous records of the equipment operating parameters specified to be monitored in §60.756 (above in SC **VI.1**), as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded. **(40 CFR 60.758(c))**
   a. The permittee shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under §60.756. **(40 CFR 60.758(c)(2), 40 CFR 63.1955(a))**

b. The permittee shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under §60.756(c) (SC **VI.1.a**), and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent. **(40 CFR 60.758(c)(4), 40 CFR 63.1955(a))**

5. The following records for the flare shall be maintained onsite:
   a. Records indicating presence of flare pilot flame. **(40 CFR 60.18(f)(2))**
   b. The net heating value of the gas being combusted in the flare shall be calculated and recorded using the equation provided in Appendix 7. **(40 CFR 60.18(f)(3))**
   c. The actual exit velocity of the flare shall be calculated and recorded by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Federal Reference Test Methods 2, 2A, 2C, or 2D as appropriate, by the unobstructed (free) cross sectional area of the flare tip. **(40 CFR 60.18(f)(4))**
   d. The maximum permitted velocity, Vmax, for flares complying with 40 CFR 60.18(c)(4)(iii) shall be calculated and recorded using the equation provided in Appendix 7. **(40 CFR 60.18(f)(5))**
   e. The maximum permitted velocity, Vmax, for air-assisted flares shall be calculated and recorded using the equation provided in Appendix 7. **(40 CFR 60.18(f)(6))**

See Appendix 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. Semi-annual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report shall be postmarked or received by 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. Report shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit to the appropriate AQD District Office semiannual reports for the gas collection system. Reports shall be received by 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. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c). The semiannual report shall contain:
   a. Value and length of time for exceedance of applicable parameters monitored under §60.756(b). **(40 CFR 60.757(f)(1), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
   b. Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756. **(40 CFR 60.757(f)(2), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
   c. Description and duration of all periods when the control device was not operating for a period exceeding one hour and length of time the control device was not operating. **(40 CFR 60.757(f)(3), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**

5. The permittee shall submit an equipment removal report to the AQD 30 days prior to removal or cessation of operation of the open flare.
   a. The equipment removal report shall contain all of the following items:
      i. A copy of the closure report submitted in accordance with §60.757; **(40 CFR 60.757(e)(1)(i), 40 CFR 63.1955(a))**
      ii. A copy of the initial performance test report demonstrating that the 15-year minimum control period has expired; **(40 CFR 60.757(e)(1)(ii), 40 CFR 63.1955(a))**
      iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year; **(40 CFR 60.757(e)(1)(iii), 40 CFR 63.1955(a))**
   b. Additional information may be requested as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met. **(40 CFR 60.757(e)(2), 40 CFR 63.1955(a))**

6. The permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of 40 CFR 60 Subparts A and WWW, Standard of Performance for Municipal Solid Waste Landfills as they apply to EUGROFFLARE. **(40 CFR 60 Subparts A and WWW)**

2. The permittee shall comply with all applicable provisions of 40 CFR 63 Subparts A and AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as they apply to EUGROFFLARE. **(40 CFR 60 Subparts A and AAAA)**

3. The duration of start-up, shutdown, or malfunction for the open flare shall not exceed 1 hour. **(40 CFR 60.755(e), 40 CFR 63.1955(a))**

4. Compliance of 40 CFR Part 63, Part AAAA is determined in the same way it is determined for 40 CFR Part 60, Subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data collected in §60.756(c)(1) (above in SC **VI.1**) are used to demonstrate compliance with the operating conditions for the open flare. The permittee shall have developed and implemented a written SSM for EUGROFFLARE. A copy of the SSM plan shall be maintained on site. **(40 CFR 63.1960)**

EUZINKFLARE
EMISSION UNIT CONDITIONS

DESCRIPTION

A 3,000 CFM utility flare (open flare) for backup control of the landfill gas. An open flare is an open combustor without enclosure or shroud. The initial performance testing for the open flare has already been performed and therefore is not required by this table.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. CO	146 tpy[2]	12-month rolling time period as determined at the end of each calendar month	EUZINKFLARE	SC VI.1, SC VI.8	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)**
2. SO_x	48 tpy[2]	12-month rolling time period as determined at the end of each calendar month	EUZINKFLARE	SC VI.1, SC VI.8	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)**

3. The landfill gas usage for EUZINKFLARE shall not exceed 1,570 MM cubic feet per 12-month rolling time period as determined at the end of each calendar month.[2] **(R 336.1205, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate the flare in accordance with §60.18.[2] **(40 CFR 60.752(b)(2)(iii)(A), 40 CFR 63.1955(a))**

2. The permittee shall operate the flare at all times when the collected gas is routed to it.[2] **(40 CFR 60.753(f), 40 CFR 63.1955(a)))**

3. The flare shall be operated with no visible emissions, as determined by the methods specified in 40 CFR 60.18(f), except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.[2] **(40 CFR 60.18(c)(1))**

4. The flare shall be operated with a flame present at all times, as determined by the methods specified in 40 CFR 60.18(f).[2] **(40 CFR 60.18(c)(2))**

5. The flare shall be used only with the net heating value of the gas being combusted of 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or with the net heating value of the gas being combusted of 7.45 MJ/scm (200 Btu/scf) or greater if the flare is non-assisted. The net heating value of the gas being combusted shall be determined by the methods specified in 40 CFR 60.18(f). [2] **(40 CFR 60.18(c)(3))**

6. Steam-assisted and non-assisted flares shall be designed for and operated with an exit velocity, as determined by the methods specified in 40 CFR 60.18(f)(4), less than 18.3 m/sec (60 ft/sec), except as provided in 40 CFR 60.18(c)(4)(ii) and (iii).[2] **(40 CFR 60.18(c)(4)(i))**
   a. Steam-assisted and non-assisted flares designed for and operated with an exit velocity, equal to or greater than 18.3 m/sec (60 ft/sec) but less than 122 m/sec (400 ft/sec) are allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf). **(40 CFR 60.18(c)(4)(ii))**
   b. Steam-assisted and non-assisted flares designed for and operated with an exit velocity, as determined by the methods specified in §60.18(f)(4) less than the velocity, Vmax, as determined by the method specified in §60.18(f)(5), and less than 122 m/sec (400 ft/sec) are allowed. **(40 CFR 60.18(c)(4)(iii))**

7. Air-assisted flares shall be designed and operated with an exit velocity less than the velocity, Vmax, as determined by the method specified in 40 CFR 60.18(f)(6).[2] **(40 CFR 60.18(c)(5))**

8. Flares used to comply with provisions of 40 CFR Part 60 Subpart A shall be operated at all times when emissions may be vented to them.[2] **(40 CFR 60.18(e))**

9. The permittee shall operate control system such that all collected gases are vented to a control system designed and operated in accordance with §60.752(b)(2)(iii). In event the collection or control system is inoperable, the gas mover system shall be shut down and all valves in the collection and control system shall contributing to venting of the gas to the atmosphere shall be closed within one hour.[2] **(40 CFR 60.753(e), 40 CFR 63.1955(a))**

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))**

1. The permittee shall install, calibrate, maintain, and operate according to the manufacturer's specifications, a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or the flame itself to indicate the continuous presence of a flame.[2] **(40 CFR 60.756(c)(1), 40 CFR 63.1955(a))**

2. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep up-to-date, readily accessible records for the life of the open flare of the data listed below in SC **VI.3** as measured during the initial performance test or compliance determination. Records of subsequent tests or monitoring shall be maintained for a minimum of 5 years. Records of the open flare vendor specifications shall be maintained until removal. [2] **(40 CFR 60.758(b), 40 CFR 63.1955(a))**

3. The permittee shall maintain records regarding the flare type (i.e., steam-assisted, air-assisted, or non-assisted), all visible emission readings, heat content determination, flow rate or bypass flow rate measurements, and exit velocity determinations made during the performance test as specified in §60.18; continuous records of the open flare pilot flame or open flare flame monitoring and records of all periods of operations during which the pilot flame of the flare flame is absent.[2] **(40 CFR 60.758(b)(4), 40 CFR 63.1955(a))**

4. Except as provided in §60.752(b)(2)(i)(B), the permittee shall keep readily accessible continuous records of the equipment operating parameters specified to be monitored above in SC **VI.1**, as well as up-to-date, readily accessible records for periods of operation during which the parameter boundaries established during the most recent performance test are exceeded.
   a. The permittee shall keep up-to-date, readily accessible continuous records of the indication of flow to the control device or the indication of bypass flow or records of monthly inspections of car-seals or lock-and-key configurations used to seal bypass lines, specified under §60.756.[2] **(40 CFR 60.758(c)(2), 40 CFR 63.1955(a))**
   b. The permittee shall keep up-to-date, readily accessible continuous records of the flame or flare pilot flame monitoring specified under SC **VI.1.a**, and up-to-date, readily accessible records of all periods of operation in which the flame or flare pilot flame is absent.[2] **(40 CFR 60.758(c)(4), 40 CFR 63.1955(a))**

5. The permittee shall keep, in a satisfactory manner, records indicating the presence of flare pilot flame for EUZINKFLARE. All records shall be kept on file and made available to the Department upon request.[2] **(40 CFR 60.18(f)(2))**

6. The permittee shall install, calibrate, and maintain a gas flow measuring device that shall continuously record the total actual flow of landfill gas to EUZINKFLARE.[2] **(R 336.1205(3), 40 CFR 60.756(c)(2)(i), 40 CFR 63.1955(a))**

7. The permittee shall monitor and record on a monthly basis the average Btu content of the landfill gas burned in EUZINKFLARE. As an alternative, the permittee may use the monitored Btu value of the landfill gas burned in the Gas to Energy Plant. All records shall be kept on file and made available to the Department upon request. [2] **(R 336.1205(3), 40 CFR 52.21 (d))**

8. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling CO and SO_x emission calculations for EUZINKFLARE. The permittee shall keep all records on file at the facility and make them available to the Department upon request.[2] **(R 336.1205(3), 40 CFR 52.21(d))**

9. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling heat input calculations for EUZINKFLARE. The permittee shall keep all records on file at the facility and make them available to the Department upon request.[2] **(R 336.1205(3), 40 CFR 52.21(d))**

See Appendix 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. Semi-annual 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 to the appropriate AQD District Office semi-annual reports for the gas collection system. Reports shall be received by 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. For enclosed combustion devices and flares, reportable exceedances are defined under §60.758(c). The semi-annual report shall contain:
   a. Value and length of time for exceedance of applicable parameters monitored under §60.756(b).[2] **(40 CFR 60.757(f)(1), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
   b. Description and duration of all periods when the gas stream is diverted from the control device through a bypass line or the indication of bypass flow as specified under §60.756.[2] **(40 CFR 60.757(f)(2), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**

c. Description and duration of all periods when the control device was not operating for a period exceeding 1 hour and length of time the control device was not operating. [2] **(40 CFR 60.757(f)(3), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**

5. If the landfill is controlled, the permittee shall submit a closure report to the appropriate AQD District Supervisor within 30 days of waste acceptance cessation. The AQD may request additional information as may be necessary to verify that permanent closure has taken place in accordance with the requirements of 40 CFR 258.60. If a closure report has been submitted to the appropriate AQD District Supervisor, no additional wastes may be placed into the landfill without filing a notification of modification as described under 40 CFR 60.7(a)(4).[2] **(40 CFR 60.757(d), 40 CFR 63.1955(a))**

6. The permittee shall submit an equipment removal report to the AQD 30 days prior to removal or cessation of operation of the open flare.
   a. The equipment removal report shall contain all of the following items:
      i. A copy of the closure report submitted in accordance with §60.757. [2] **(40 CFR 60.757(e)(1)(i), 40 CFR 63.1955(a))**
      ii. A copy of the initial performance test report demonstrating that the 15 year minimum control period has expired.[2] **(40 CFR 60.757(e)(1)(ii), 40 CFR 63.1955(a))**
      iii. Dated copies of three successive NMOC emission rate reports demonstrating that the landfill is no longer producing 50 megagrams or greater of NMOC per year.[2] **(40 CFR 60.757(e)(1)(iii), 40 CFR 63.1955(a))**
   b. Additional information may be requested as may be necessary to verify that all of the conditions for removal in §60.752(b)(2)(v) have been met.[2] **(40 CFR 60.757(e)(2), 40 CFR 63.1955(a))**

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. SVZINKFLARE	65[2]	40[2]	**R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of 40 CFR 60 Subparts A and WWW, Standard of Performance for Municipal Solid Waste Landfills as they apply to EUZINKFLARE. **(40 CFR 60 Subparts A and WWW)**

2. The permittee shall comply with all applicable provisions of 40 CFR 63 Subparts A and AAAA, National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills as they apply to EUZINKFLARE.[2] **(40 CFR 60 Subparts A and AAAA)**

3. The duration of start-up, shutdown, or malfunction for the open flare shall not exceed 1 hour.[2] **(40 CFR 60.755(e), 40 CFR 63.1955(a)(1))**

4. Compliance of 40 CFR Part 63, Part AAAA is determined in the same way it is determined for 40 CFR Part 60, subpart WWW, including performance testing, monitoring of the collection system, continuous parameter monitoring, and other credible evidence. In addition, continuous parameter monitoring data collected (above in SC **VI.1**) are used to demonstrate compliance with the operating conditions for the open flare. The permittee shall have developed and implemented a written SSM for EUZINKFLARE. A copy of the SSM plan shall be maintained on site.[2] **(40 CFR 63.1960)**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
[2] This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

EUASBESTOS
EMISSION UNIT CONDITIONS

DESCRIPTION

Any active or inactive asbestos disposal site.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTIONS

1. If the landfill accepts asbestos-containing waste materials from a source covered under 40 CFR 61.149, 40 CFR 61.150, or 40 CFR 61.155, the permittee shall meet the following operational requirements:
   a. Either there must be no visible emissions to the outside air from any active waste disposal site where asbestos-containing waste material has been deposited, or the requirements of 40 CFR 61.154(c) or (d) must be met. **(40 CFR 61.154(a))**
   b. Unless a natural barrier adequately deters access by the general public, either warning signs and fencing must be installed and maintained as follows, or the requirements of 40 CFR 61.154(c)(1) must be met. **(40 CFR 61.154(b))**
      i. Warning signs must be displayed at all entrances and at intervals of 100 m (330 ft) or less along the property line of the site or along the perimeter of the sections of the site where asbestos-containing waste material is deposited. The warning signs must:
         (1) Be posted in such a manner and location that a person can easily read the legend. **(40 CFR 61.154(b)(1)(i))**
         (2) Conform to the requirements of 51 cm by 36cm (20 inches by 14 inches) upright format signs specified in 29 CFR 1910.145(d)(4) and 40 CFR 61.154(b)(1). **(40 CFR 61.154(b)(1)(ii))**
         (3) The permittee shall display the legend in the lower panel with letter sizes and styles of a visibility at least equal to those specified in 40 CFR 61.154(b)(1). Spacing between any two lines must be at least equal to the height of the upper of the two lines. **(40 CFR 61.154(b)(1)(iii))**
      ii. The perimeter of the disposal site must be fenced in a manner adequate to deter access by the general public. **(40 CFR 61.154(b)(2))**
      iii. Upon request and supply of appropriate information, the appropriate AQD District Supervisor will determine whether a fence or a natural barrier adequately deters access by the general public. **(40 CFR 61.154(b)(3))**

c. Rather than meet the no visible emission requirement of 40 CFR 61.154(a), at the end of each operating day, or at least once every 24-hour period while the site is in continuous operation, the asbestos-containing waste material that has been deposited at the site during the operating day or previous 24-hour period shall:
   i. Be covered with at least 15 centimeters (6 inches) of compacted non-asbestos-containing material. **(40 CFR 61.154(c)(1))**, or
   ii. Be covered with a resinous or petroleum-based dust suppression agent that effectively binds dust and controls wind erosion. Such an agent shall be used in the manner and frequency recommended for the particular dust by the dust suppression agent manufacturer to achieve and maintain dust control. Other equally effective dust suppression agents may be used upon prior approval by the appropriate AQD District Supervisor. For purposes of 40 CFR 61.154(c)(2), any used, spent, or other waste oil is not considered a dust suppression agent. **(40 CFR 61.154(c)(2))**

d. Rather than meet the no visible emission requirement of 40 CFR 61.154(a), use an alternative emissions control method that has received prior written approval by the appropriate AQD District Supervisor according to the procedures described in 40 CFR 61.149(c)(2). **(40 CFR 61.154(d))**

IV. DESIGN/EQUIPMENT PARAMETERS

1. The placement of gas collection devices determined in paragraph §60.759(a)(1) shall control all gas producing areas, except as provided by §60.759 (a)(3)(i) and (a)(3)(ii).
   a. Any segregated area of asbestos or non-degradable material may be excluded from collection if documented as provided under §60.758(d). The documentation shall provide the nature, date of deposition, location and amount of asbestos or non-degradable material deposited in the area, and shall be provided to the AQD upon request. **(40 CFR 60.759(a)(3)(i)) (40 CFR 60.759(a)(3))**

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))**

1. For all asbestos-containing waste material received, the permittee of the active waste disposal site shall:
   a. Maintain waste shipment records that include the following information: **(40 CFR 61.154(e)(1))**
      i. The name, address, and telephone number of the waste generator. **(40 CFR 61.154(e)(1)(i))**
      ii. The name, address, and telephone number of the transporter(s). **(40 CFR 61.154(e)(1)(ii)**
      iii. The quantity of the asbestos-containing waste material in cubic meters (cubic yards). **(40 CFR 61.154(e)(1)(iii))**
      iv. The presence of improperly enclosed or uncovered waste, or any asbestos-containing waste material not sealed in leak-tight containers. Report in writing to the local, State, or USEPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record), and, if different, the local, State, or USEPA Regional office responsible for administering the asbestos NESHAP program for the disposal site, by the following working day, the presence of a significant amount of improperly enclosed or uncovered waste. Submit a copy of the waste shipment record along with the report. **(40 CFR 61.154(e)(1)(iv))**
      v. The date of the receipt. **(40 CFR 61.154(e)(1)(v))**
   b. As soon as possible and no longer than 30 days after receipt of the waste, send a copy of the signed waste shipment record to the waste generator. **(40 CFR 61.154(e)(2))**
   c. Upon discovering a discrepancy between the quantity of waste designated on the waste shipment records and the quantity actually received, attempt to reconcile the discrepancy with the waste generator. If the discrepancy is not resolved within 15 days after receiving the waste, immediately report in writing to the local, State, or USEPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record) **(40 CFR 61.154(e)(3))**

2. The permittee shall maintain, until closure, records of the location, depth and area, and quantity in cubic meters (cubic yards) of asbestos-containing waste material within the disposal site on a map or diagram of the disposal area storage. **(40 CFR 61.154(f))**

3. The permittee shall keep readily accessible documentation of the nature, date of deposition, amount, and location of asbestos-containing or non-degradable waste excluded from collection as provided in §60.759(a)(3)(i) as well as any nonproductive areas excluded from collection as provided in §60.759(a)(3)(ii). **(40 CFR 60.758(d)(2))**

VII. REPORTING

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

2. Semi-annual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report shall be postmarked or received by 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. Report shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit to the appropriate AQD District Supervisor, upon closure of the facility, a copy of records of asbestos waste disposal locations and quantities. **(40 CFR 61.154(h))**

5. The permittee shall furnish upon request, and make available during normal business hours for inspection by the AQD, all records required by 40 CFR Part 61. **(40 CFR 61.154(i))**

6. Notify the AQD Technical Programs Unit and appropriate AQD District Office in writing at least 45 days prior to excavating or otherwise disturbing any asbestos-containing waste material that has been deposited at a waste disposal site and is covered. If the excavation will begin on a date other than the one contained in the original notice, notice of the new start date must be provided to the appropriate AQD District Office at least 10 working days before excavation begins and in no event shall excavation begin earlier than the date specified in the original notification. Include the following information in the notice:
   a. Scheduled starting and completion dates. **(40 CFR 61.154(j)(1))**
   b. Reason for disturbing the waste. **(40 CFR 61.154(j)(2))**
   c. Procedures to be used to control emissions during the excavation, storage, transport, and ultimate disposal of the excavated asbestos-containing waste material. If deemed necessary, the AQD or may require changes in the emission control procedures to be used. **(40 CFR 61.154(j)(3))**
   d. Location of any temporary storage site and the final disposal site. **(40 CFR 61.154(j)(4))**

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
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

D. FLEXIBLE GROUP CONDITIONS

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

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

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGCOLDCLEANER	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.	NA
FGRULE290	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290.	NA

FGCOLDCLEANERS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.

Emission Unit: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall not use cleaning solvents containing more than five percent by weight of the following halogenated compounds: methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chloroform, or any combination thereof. **(R 336.1213(2))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Cleaned parts shall be drained for no less than 15 seconds or until dripping ceases. **(R 336.1611(2)(b), R 336.1707(3)(b))**

2. The permittee shall perform routine maintenance on each cold cleaner as recommended by the manufacturer. **(R 336.1213(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The cold cleaner must meet one of the following design requirements:
   a. The air/vapor interface of the cold cleaner is no more than ten square feet. **(R 336.1281(h))**
   b. The cold cleaner is used for cleaning metal parts and the emissions are released to the general in-plant environment. **(R 336.1285(r)(iv))**

2. The cold cleaner shall be equipped with a device for draining cleaned parts. **(R 336.1611(2)(b), R 336.1707(3)(b))**

3. All new and existing cold cleaners shall be equipped with a cover and the cover shall be closed whenever parts are not being handled in the cold cleaner. **(R 336.1611(2)(a), R 336.1707(3)(a))**

4. The cover of a new cold cleaner shall be mechanically assisted if the Reid vapor pressure of the solvent is more than 0.3 psia or if the solvent is agitated or heated. **(R 336.1707(3)(a))**

5. If the Reid vapor pressure of any solvent used in a new cold cleaner is greater than 0.6 psia; or, if any solvent used in a new cold cleaner is heated above 120 degrees Fahrenheit, then the cold cleaner must comply with at least one of the following provisions:
   a. The cold cleaner must be designed such that the ratio of the freeboard height to the width of the cleaner is equal to or greater than 0.7. **(R 336.1707(2)(a))**

b. The solvent bath must be covered with water if the solvent is insoluble and has a specific gravity of more than 1.0. **(R 336.1707(2)(b))**
c. The cold cleaner must be controlled by a carbon adsorption system, condensation system, or other method of equivalent control approved by the AQD. **(R 336.1707(2)(c))**

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))**

1. For each new cold cleaner in which the solvent is heated, the solvent temperature shall be monitored and recorded at least once each calendar week during routine operating conditions. **(R 336.1213(3))**

2. The permittee shall maintain the following information on file for each cold cleaner: **(R 336.1213(3))**
   a. A serial number, model number, or other unique identifier for each cold cleaner.
   b. The date the unit was installed, manufactured or that it commenced operation.
   c. The air/vapor interface area for any unit claimed to be exempt under Rule 281(h).
   d. The applicable Rule 201 exemption.
   e. The Reid vapor pressure of each solvent used.
   f. If applicable, the option chosen to comply with Rule 707(2).

3. The permittee shall maintain written operating procedures for each cold cleaner. These written procedures shall be posted in an accessible, conspicuous location near each cold cleaner. **(R 336.1611(3), R 336.1707(4))**

4. As noted in Rule 611(2)(c) and Rule 707(3)(c), if applicable, an initial demonstration that the waste solvent is a safety hazard shall be made prior to storage in non-closed containers. If the waste solvent is a safety hazard and is stored in non-closed containers, verification that the waste solvent is disposed of so that not more than 20 percent, by weight, is allowed to evaporate into the atmosphere shall be made on a monthly basis. **(R 336.1213(3), R 336.1611(2)(c), R 336.1707(3)(c))**

VII. REPORTING

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

2. Semi-annual 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)

NA

FGRULE290
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 290.

Emission Unit: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

1. Each emission unit that emits only noncarcinogenic volatile organic compounds or noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone if the total uncontrolled or controlled emissions of air contaminants are not more than 1,000 or 500 pounds per month, respectively. **(R 336.1290(a)(i))**

2. Each emission unit that the total uncontrolled or controlled emissions of air contaminants are not more than 1,000 or 500 pounds per month, respectively, and all the following criteria listed below are met: **(R 336.1290(a)(ii))**
   a. For noncarcinogenic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 2.0 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 1,000 or 500 pounds per month, respectively. **(R 336.1290(a)(ii)(A))**
   b. For noncarcinogenic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 0.04 microgram per cubic meter and less than 2.0 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively. **(R 336.1290(a)(ii)(B))**
   c. For carcinogenic air contaminants with initial risk screening levels greater than or equal to 0.04 microgram per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively. **(R 336.1290(a)(ii)(C))**
   d. The emission unit shall not emit any air contaminants, excluding non-carcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with an initial threshold screening level or initial risk screening level less than 0.04 microgram per cubic meter. **(R 336.1290(a)(ii)(D))**

3. Each emission unit that emits only noncarcinogenic particulate air contaminants and other air contaminants that are exempted under Rule 290(a)(i) and/or Rule 290(a)(ii), if all of the following provisions are met: **(R 336.1290(a)(iii))**
   a. The particulate emissions are controlled by an appropriately designed and operated fabric filter collector or an equivalent control system which is designed to control particulate matter to a concentration of less than or equal to 0.01 pound of particulate per 1,000 pounds of exhaust gases and which does not have an exhaust gas flow rate more than 30,000 actual cubic feet per minute. **(R 336.1290(a)(iii)(A))**
   b. The visible emissions from the emission unit are not more than five percent opacity in accordance with the methods contained in Rule 303. **(R 336.1290(a)(iii)(B))**
   c. The initial threshold screening level for each particulate air contaminant, excluding nuisance particulate, is more than 2.0 micrograms per cubic meter. **(R 336.1290(a)(iii)(C))**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The provisions of Rule 290 apply to each emission unit that is operating pursuant to Rule 290. **(R 336.1290)**

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))**

1. The permittee shall maintain records of the following information for each emission unit for each calendar month using the methods outlined in the DEQ, AQD Rule 290, Permit to Install Exemption Record form (EQP 3558) or in a format that is acceptable to the AQD District Supervisor. **(R 336.1213(3))**
   a. Records identifying each air contaminant that is emitted. **(R 336.1213(3))**
   b. Records identifying if each air contaminant is controlled or uncontrolled. **(R 336.1213(3))**
   c. Records identifying if each air contaminant is either carcinogenic or non-carcinogenic. **(R 336.1213(3))**
   d. Records identifying the ITSL and IRSL, if established, of each air contaminant that is being emitted under the provisions of Rules 290(a)(ii) and (iii). **(R 336.1213(3))**
   e. Material use and calculations identifying the quality, nature, and quantity of the air contaminant emissions in sufficient detail to demonstrate that the actual emissions of the emission unit meet the emission limits outlined in this table and Rule 290. **(R 336.1213(3), R 336.1290(c))**

2. The permittee shall maintain an inventory of each emission unit that is exempt pursuant to Rule 290. This inventory shall include the following information. **(R 336.1213(3))**
   a. The permittee shall maintain a written description of each emission unit as it is maintained and operated throughout the life of the emission unit. **(R 336.1213(3), R 336.1290(b))**
   b. For each emission unit that emits noncarcinogenic particulate air contaminants pursuant to Rule 290(a)(iii), the permittee shall maintain a written description of the control device, including the designed control efficiency and the designed exhaust gas flow rate**. (R 336.1213(3))**

3. For each emission unit that emits noncarcinogenic particulate air contaminants pursuant to Rule 290(a)(iii), the permittee shall perform a monthly visible emission observation of each stack or vent during routine operating conditions. This observation need not be performed using Method 9. The permittee shall keep a written record of the results of each observation. **(R 336.1213(3))**

See Appendix 4

VII. REPORTING

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

2. Semi-annual 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)

NA

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_2e	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
		gr	Grains
EU	Emission Unit	HAP	Hazardous Air Pollutant
FG	Flexible Group	Hg	Mercury
GACS	Gallons of Applied Coating Solids	hr	Hour
GC	General Condition	HP	Horsepower
GHGs	Greenhouse Gases	H_2S	Hydrogen Sulfide
HVLP	High Volume Low Pressure*	kW	Kilowatt
ID	Identification	lb	Pound
IRSL	Initial Risk Screening Level	m	Meter
ITSL	Initial Threshold Screening Level	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	NMOC	Non-methane Organic Compounds
MDEQ	Michigan Department of Environmental Quality	NO_x	Oxides of Nitrogen
		ng	Nanogram
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NA	Not Applicable	PM10	Particulate Matter equal to or less than 10 microns in diameter
NAAQS	National Ambient Air Quality Standards		
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	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonable Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO_2	Sulfur Dioxide
SCR	Selective Catalytic Reduction	TAC	Toxic Air Contaminant
SNCR	Selective Non-Catalytic Reduction	Temp	Temperature
SRN	State Registration Number	THC	Total Hydrocarbons
TEQ	Toxicity Equivalence Quotient	tpy	Tons per year
USEPA/EPA	United States Environmental Protection Agency	µg	Microgram
		µm	Micrometer or Micron
VE	Visible Emissions	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 336.1119(a)(ii), R 336.1213(4)(a))**

Appendix 3. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications 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 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

Specific testing requirement plans, procedures, and averaging times are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 6. Permits to Install

At the time of permit issuance, no Permits to Install have been issued to this facility. Therefore, this appendix is not applicable.

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 EULANDFILL, EUACTIVECOLL, EUGROFFLARE and EUZINKFLARE.

Calculation used to determine NMOC emissions from any nonproductive area

The following shall be used to determine if any nonproductive area of the landfill may be excluded from control, provided that the total of all excluded areas can be shown to contribute less than 1 percent of the total amount of NMOC emissions from the landfill. The amount, location, and age of the material shall be documented and provided to the District Supervisor upon request. A separate NMOC emissions estimate shall be made for each section proposed for exclusion, and the sum of all such sections shall be compared to the NMOC emissions estimate for the entire landfill. Emissions from each section shall be computed using the following equation: **(40 CFR 60.759(a)(3)(ii), 40 CFR 63.1955(a))**

Qi = 2 k Lo Mi (e-kt i) (CNMOC) (3.6 × 10−9) where,

Qi = NMOC emission rate from the ith section, megagrams per year

k = methane generation rate constant, year−1

Lo = methane generation potential, cubic meters per megagram solid waste

Mi = mass of the degradable solid waste in the ith section, megagram

ti = age of the solid waste in the ith section, years

CNMOC = concentration of non-methane organic compounds, parts per million by volume

3.6×10−9 = conversion factor

The values for k and CNMOC determined in field testing shall be used if field testing has been performed in determining the NMOC emission rate or the radii of influence (this distance from the well center to a point in the landfill where the pressure gradient applied by the blower or compressor approaches zero). If field testing has not been performed, the default values for k, LO and CNMOC provided in §60.754(a)(1) or the alternative values from §60.754(a)(5) shall be used. The mass of nondegradable solid waste contained within the given section may be subtracted from the total mass of the section when estimating emissions provided the nature, location, age, and amount of the nondegradable material is documented as provided in §60.759(a)(3)(i). **(40 CFR 60.759(a)(3)(iii), 40 CFR 63.1955(a))**

Net Heating Value of the gas being combusted in the flare:

The net heating value of the gas being combusted in the flare shall be calculated and recorded using the equation provided in 40 CFR 60.18(f)(3). **(40 CFR 60.18(f)(3))**

$$H_T = K \sum_{i=1}^{n} C_i H_i$$

WHERE:

HT=Net heating value of the sample,
MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to one mole is 20 °C;

$$K = \text{Constant}, 1.740 \times 10^{-7} \left(\frac{1}{ppm}\right) \left(\frac{g\ mole}{scm}\right) \left(\frac{MJ}{kcal}\right)$$

where the standard temperature for $\left(\frac{g\ mole}{scm}\right)$ is 20°C;

Ci=Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 and measured for hydrogen and carbon monoxide by ASTM D1946–77 or 90 (Reapproved 1994) (Incorporated by reference as specified in §60.17); and

Hi=Net heat of combustion of sample component i, kcal/g mole at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D2382–76 or 88 or D4809–95 (incorporated by reference as specified in §60.17) if published values are not available or cannot be calculated.

Calculation for Vmax steam-assisted and non-assisted flares
The maximum permitted velocity, Vmax, for flares complying with 40 CFR 60.18(c)(4)(iii) shall be calculated and recorded using the equation provided in 40 CFR 60.18(f)(5). **(40 CFR 60.18(f)(5))**

Log10 (Vmax) = (HT+28.8)/31.7

Vmax=Maximum permitted velocity, M/sec; 28.8=Constant; 31.7=Constant; HT=The net heating value as determined above.

Calculation for Vmax for air-assisted flares
The maximum permitted velocity, Vmax, for air-assisted flares shall be calculated and recorded using the equation provided in 40 CFR 60.18(f)(6). **(40 CFR 60.18(f)(6))**

Vmax = 8.706+0.7084 (HT)

Vmax=Maximum permitted velocity, m/sec; 8.706=Constant; 0.7084=Constant; HT=The net heating value as determined above.

Appendix 8. Reporting

A. Annual, Semi-annual, and Deviation Certification Reporting

The permittee shall use the MDEQ, AQD, Report Certification form (EQP 5736) and MDEQ, 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.

SECTION 2 - ~~Granger Electric of~~Energy Developments Grand Blanc, LLC

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).[2] **(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:" [2] **(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 percent 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.[1] **(R 336.1901(a))**
    b. Unreasonable interference with the comfortable enjoyment of life and property.[1] **(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).[2] **(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. **(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. Semi-annually 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.[2] **(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))**

Re-openings

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(8))**

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):
    a. June 21, 1999,
    b. Three years after the date on which a regulated substance is first listed under 40 CFR 68.130, or
    c. 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.[2] **(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.[2] **(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, MDEQ.[2] **(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, MDEQ, 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.[2] **(R 336.1201(4))**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]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.

C. EMISSION UNIT 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
EUTREATMENTSYS	Processing equipment that treats collected landfill gas for subsequent sale or use.	12-13-1995	NA
EUENGINE1	Caterpillar 3516 landfill gas-fired reciprocating engine located in Plant 1.	07-27-1994	FG3516ENGINES
EUENGINE2	Caterpillar 3516 landfill gas-fired reciprocating engine in Plant 1.	07-27-1994	FG3516ENGINES
EUENGINE3	Caterpillar 3516 landfill gas-fired reciprocating engine in Plant 1.	07-27-1994	FG3516ENGINES
EUENGINE4	Caterpillar 3516 landfill gas-fired reciprocating engine in Plant 1.	04-01-2000	FG3516ENGINES
EUENGINE5~~CITB(16)~~	Caterpillar 3516 landfill gas-fired reciprocating engine ~~on a flatbed skid beside~~in Plant 1.	01-31-2017~~08-04-2010~~	FGRICEMACT
EUENGINE6	Caterpillar 3520 landfill gas-fired reciprocating engine located in Plant 2.	08-06-2012	FGENGINES, FGRICEMACT
EUENGINE7	Caterpillar 3520 landfill gas-fired reciprocating engine located in Plant 2.	08-06-2012	FGENGINES, FGRICEMACT

EUTREATMENTSYS
EMISSION UNIT CONDITIONS

DESCRIPTION

This emission unit treats landfill gas before it is used for subsequent use or sale. The treatment system removes particulate to at least the 10 micron level, compresses the landfill gas, and removes enough moisture to ensure good combustion of gas for subsequent use, therefore guaranteeing that the intent of the destruction of the NMOC will be maintained.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Any emissions from any atmospheric vents or stacks associated with the treatment system shall be subject to §60.752(b)(2)(iii)(A) or (B).

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall operate the treatment system at all times when the collected gas is routed to the treatment system. **(40 CFR 60.753(f))**

2. The permittee shall operate the treatment system so that any emissions from any atmospheric vents or stacks associated with the treatment system shall be subject to §60.752(b)(2)(iii)(A) or (B). **(40 CFR 60.752(b)(2)(iii)(C), 40 CFR 63.1955(a))**

3. The permittee shall maintain and implement an AQD approved malfunction abatement/preventative maintenance plan (PM/MAP) for EUTREATMENTSYS. At a minimum, the plan shall include a schedule of maintenance activities consistent with manufacturer's recommendations, and the operating variables that will be monitored to detect a malfunction or failure. A copy of the PM/MAP shall be maintained on site and made available upon request. If the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the PM/MAP to be inadequate, the AQD District Supervisor may request modification of the plan to address those inadequacies. **(R 336.1213(2), R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The treatment system shall be designed as approved by AQD. **(40 CFR 60.752(b)(2)(iii)(C), 40 CFR 60.752(b)(2)(i)(D), 40 CFR 63.1955(a))**

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))**

1. The permittee shall keep up-to-date, readily accessible records of all control or treatment system exceedances of the operational standards in §60.753(e) and (f). **(40 CFR 60.758(e), 40 CFR 63.1955(a))**

2. The permittee shall keep records of all preventative maintenance performed in accordance with the PM/MAP prepared pursuant to Condition **III.3** of this permit. **(R 336.1213(3), R 336.1911)**

VII. REPORTING

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

2. Semi-annual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. Report shall be postmarked or received by 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. Report shall be postmarked or received by appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit to the appropriate AQD District Office semiannual reports for the landfill gas treatment system. The report shall be received by 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. The report shall include:
   a. Value and length of time for exceedance of applicable parameters monitored under §60.756(d). **(R 336.1213(3), 40 CFR 60.757(f)(1), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**
   b. Description and duration of all periods when the gas stream is diverted from the treatment system through a bypass line or the indication of bypass flow. **(R 336.1213(3))**
   c. Description and duration of all periods when the treatment system was not operating for a period exceeding 1 hour and length of time the control device was not operating. **(40 CFR 60.757(f)(3), 40 CFR 63.1980(a), 40 CFR 63.1955(a))**

5. For all reporting periods prior to September 28th, 2021, ~~T~~he permittee shall submit the startup, shutdown, and malfunction (SSM) report to the appropriate AQD District Office and it shall be delivered or postmarked by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(40 CFR 63.10(a)(5), 40 CFR 63.10(d)(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 Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The provisions of 40 CFR Part 60, Subpart WWW, apply at all times and the duration of start-up, shutdown, or malfunction shall not exceed 1 hour for the treatment system. **(40 CFR 60.755(e), 40 CFR 63.1955(a)(1))**

2. Prior to September 28th, 2021, t~~T~~he permittee shall have developed and implemented a written SSM plan according to the provision in ~~40 CFR 63.6(e)(3)~~ Table 1 to Subpart AAAA of Part 63 for EUTREATMENTSYS. A copy of the SSM plan shall be maintained on-site prior to September 28th, 2021. **(40 CFR 63.1960, 40 CFR 63.1965(c))**

Footnotes:
[1] This condition is state only enforceable and was established pursuant to Rule 201(1)(b).
[2] This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

D. FLEXIBLE GROUP CONDITIONS

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

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

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG3516ENGINES	Four (4) Caterpillar 3516, 1,138 hp, landfill gas-fired, lean burn, spark ignition (SI), reciprocating internal combustion engines (RICE) that are existing non-emergency engines greater than 500 hp fueled with landfill gas located at a major source of HAPs. Construction or reconstruction commenced before December 19, 2002.	EUENGINE1, EUENGINE2, EUENGINE3, EUENGINE4
FGENGINES	Two (2) Caterpillar G3520, 2,233 hp, landfill gas-fired, lean burn, spark ignition (SI), reciprocating internal combustion engines (RICE).	EUENGINE6, EUENGINE7
FGRICEMACT	New and reconstructed non-emergency engines greater than 500 hp fueled with landfill gas located at a major source of HAPs. Construction or reconstruction commenced on or after December 19, 2002.	EUENGINE5~~CITB(16)~~, EUENGINE6, EUENGINE7

FG3516ENGINES
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Four (4) Caterpillar 3516, 1,138 hp, landfill gas-fired, lean burn, spark ignition (SI), reciprocating internal combustion engines (RICE) that are existing non-emergency engines greater than 500 hp fueled with landfill gas located at a major source of HAPs. Construction or reconstruction commenced before December 19, 2002.

Emission Units: EUENGINE1, EUENGINE2, EUENGINE3, EUENGINE4

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn treated landfill gas in FG3516ENGINES. **(R 336.1213(2))**

2. The permittee shall submit to the AQD District Supervisor, for review and approval, a malfunction abatement/preventative maintenance plan (PM/MAP) for FG3516ENGINES. After approval of the PM/MAP by the AQD District Supervisor, the permittee shall not operate FG3516ENGINES unless the PM/MAP, or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. At a minimum the plan shall include:
   a. Identification of the equipment and, if applicable, air-cleaning device, and the supervisory personnel responsible for overseeing the inspection, maintenance, and repair.
   b. Description of the items or conditions to be inspected and frequency of the inspections or repairs.
   c. Identification of the equipment and, if applicable, air-cleaning device, operating parameters that shall be monitored to detect a malfunction or failure, the normal operating range of these parameters and a description of the method of monitoring or surveillance procedures.
   d. Identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   e. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

   If the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the PM/MAP to be inadequate, the AQD District Supervisor may request modification of the plan to address those inadequacies. **(R 336.1213(2), R 336.1911)**

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))**

1. The permittee shall complete all required records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1213(3), R 336.1911)**

2. The permittee shall maintain the following record for each engine in FG3516ENGINES:
   a. Engine manufacturer;
   b. Date engine was manufactured;
   c. Engine model number and model year;
   d. Maximum engine power;
   e. Engine serial number;
   f. Engine specification sheet;
   g. Date of initial startup of the engine;
   h. Date engine was removed from service at this stationary source;
   i. Date replacement engine was installed at this stationary source;
   j. Manufacturer's data, specifications, and operating and maintenance procedures for each engine;
   k. Maintenance activities conducted according to the PM/MAP.

   The permittee shall keep the records on file in a format acceptable to the AQD District Supervisor and make them available to the Department upon request. **(R 336.1213(3), R 336.1911)**

VII. REPORTING

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

2. Semi-annual 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))**

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
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR 63, Subpart A and Subpart ZZZZ as they apply to FG3516ENGINES. **(40 CFR 63, Subparts A and ZZZZ)**

FGENGINES
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two (2) Caterpillar G3520, 2,233 hp, landfill gas-fired, lean burn, spark ignition (SI), reciprocating internal combustion engines (RICE).

Emission Units: EUENGINE6, EUENGINE7

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	1.0 g/hp-hr[2]	Test Method	Each Engine in FGENGINES	SC V.1 SC V.2	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d), 40 CFR 60, Subpart JJJJ**
2. SOx	1.7 lb/hr[2]	Test Method	Each Engine in FGENGINES	SC V.1	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d)**
3. CO	3.0 g/hp-hr[2]	Test Method	Each Engine in FGENGINES	SC V.1 SC V.2	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d), 40 CFR 60, Subpart JJJJ**
4. VOC	1.0 g/hp-hr[2]	Test Method	Each Engine in FGENGINES	SC V.1 SC V.2	**R 336.2803, R 336.2804, 40 CFR 52.21 (c) and (d), 40 CFR 60, Subpart JJJJ**

II. MATERIAL LIMIT(S)

1. The kilowatt-hour output for each engine included in FGENGINES shall not exceed 14 million kilowatt-hour per 12-month rolling time period as determined at the end of each calendar month. This limit is not applicable if the engine has add-on control equipment.[2] **(R 336.1205, R 336.1225, R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn treated landfill gas in FGENGINES.[2] **(40 CFR 60.752(b)(2)(iii)(c))**

2. The permittee shall not operate FGENGINES unless the malfunction abatement/preventative maintenance plan (PM/MAP), or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. At a minimum the plan shall include:
   a. Identification of the equipment and, if applicable, air-cleaning device, and the supervisory personnel responsible for overseeing the inspection, maintenance, and repair.
   b. Description of the items or conditions to be inspected and frequency of the inspections or repairs.
   c. Identification of the equipment and, if applicable, air-cleaning device, operating parameters that shall be monitored to detect a malfunction or failure, the normal operating range of these parameters and a description of the method of monitoring or surveillance procedures.
   d. Identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   e. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

   If the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the PM/MAP to be inadequate, the AQD District Supervisor may request modification of the plan to address those inadequacies.[2] **(R 336.1702(a), R 336.1910, R 336.1911, R 336.1912, R 336.2803, R 336.2804, 40 CFR 60 Subpart JJJJ, 40 CFR 52.21(c) and (d))**

3. Based on each engine's kilowatt output, the permittee shall adjust the engine's air/fuel ratio, as needed, to ensure that the engine operates at its maximum design output.[2] **(R 336.1702(a), R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate any engine in FGENGINES unless the engines air-to-fuel ratio controller is installed, maintained and operated in a satisfactory manner.[2] **(R 336.1702, R 336.1910)**

2. The permittee shall equip and maintain any engine in FGENGINES with non-resettable hours meters to track the operating hours. **(40 CFR 60.4245)**

V. TESTING/SAMPLING

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

1. Upon request by the AQD District Supervisor, the permittee shall verify NOx, VOC, SO_x and CO emission rates from one or more engine(s) in FGENGINES, by testing at owner's expense, in accordance with Department requirements. 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. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test.[2] **(R 336.2001, R 336.2803, R 336.2804, R 336.2003, R 336.2004, 40 CFR 52.21(c) and (d))**

2. Except as provided in 40 CFR 60.4243(b), the permittee shall conduct an initial performance test for each engine in FGENGINES within one year after startup of the engine and every 8760 hours of operation or three years, whichever occurs first, to demonstrate compliance unless the engines have been certified by the manufacturer as required by 40 CFR 60 Subpart JJJJ and the permittee maintains the engine as required by 40 CFR 60.4243(a)(1). If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4244. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD Technical Programs Unit and District Office. The final plan must be approved by the AQD prior to testing.[2] **(40 CFR 60.4243, 40 CFR 60.4244, 40 CFR 60 Subpart JJJJ)**

See Appendix 5

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 complete all required records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1213(3))**

2. The permittee shall continuously monitor and record, in a satisfactory manner, the landfill gas usage for each engine in FGENGINES.[2] **(R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

3. The permittee shall continuously monitor, in a satisfactory manner, the kilowatt output from each engine in FGENGINES.[2] **(R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

4. The permittee shall maintain a log of all maintenance activities conducted according to the PM/MAP pursuant to SC III.2. The permittee shall keep this log on file at the facility and make it available to the Department upon request.[2] **(R 336.1702(a), R 336.1911, R 336.1912, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

5. The permittee shall keep, in a satisfactory manner, records of the landfill gas usage for each engine in FGENGINES on a monthly and 12-month rolling time period basis as determined at the end of each calendar month, as required by SC VI.2. The permittee shall keep all records on file at the facility and make them available to the Department upon request.[2] **(R 336.1225, R 336.1702, R 336.1910, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

6. The permittee shall record the kilowatt output from each engine in FGENGINES, a minimum of once per day, excluding holidays and weekends when an engine operator is not scheduled, or called in, to be on site, as required by SC VI.3. A list of excluded holidays shall be maintained on site and made available to the Air Quality Division upon request. The permittee shall keep all records on file at the facility and make them available to the Department upon request.[2] **(R 336.1702(a), R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d))**

7. The permittee shall monitor emissions and operating information for FGENGINES in accordance with the federal Standards of Performance for New Stationary Sources as specified in 40 CFR 60 Subparts A and JJJJ. The permittee shall keep records of all source emissions data and operating information on file at the facility and make them available upon request.[2] **(40 CFR 60 Subparts A and JJJJ, 40 CFR 60.4245)**

VII. REPORTING

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

2. Semi-annual 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)

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. SVENGINE1	16[2]	36[2]	**R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)**
2. SVENGINE2	16[2]	36[2]	**R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the New Source Performance Standards, as specified in 40 CFR 60, Subpart A and Subpart JJJJ as they apply to each engine in FGENGINES.[2] **(40 CFR 60, Subparts A and JJJJ)**

2. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR 63, Subpart A and Subpart ZZZZ as they apply to FGENGINES. **(40 CFR 63, Subparts A and ZZZZ)**

Footnotes:
[1]This condition is state-only enforceable and was established pursuant to Rule 201(1)(b).
[2]This condition is federally enforceable and was established pursuant to Rule 201(1)(a).

FGRICEMACT
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

New and reconstructed non-emergency engines greater than 500 hp fueled with landfill gas, located at a major source of HAPs. Construction or reconstruction commenced on or after December 19, 2002.

Emission Units: EUENGINE5~~CITB(16)~~, EUENGINE6, EUENGINE7

POLLUTION CONTROL EQUIPMENT

Air-to-fuel ratio controller on each engine.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
NA	NA	NA	NA	NA	NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn treated landfill gas in FGRICEMACT. **(R 336.1213(2))**

2. Each engine in FGRICEMACT shall be operated in a manner which reasonably minimizes HAP emissions. **(40 CFR 63.6625(c))**

3. Each engine in FGRICEMACT shall be operated in a manner which minimizes time spent at idle during startup and minimize the startup time to a period needed for appropriate and safe loading of each engine, not to exceed 30 minutes. **(40 CFR 63.6625(h))**

4. The permittee shall submit to the AQD District Supervisor, for review and approval, a malfunction abatement/preventative maintenance plan (PM/MAP) for FGRICEMACT. After approval of the PM/MAP by the AQD District Supervisor, the permittee shall not operate FGRICEMACT unless the PM/MAP, or an alternate plan approved by the AQD District Supervisor, is implemented and maintained. The plan shall incorporate procedures recommended by the equipment manufacturer as well as incorporating standard industry practices. At a minimum the plan shall include:
   a. Identification of the equipment and, if applicable, air-cleaning device, and the supervisory personnel responsible for overseeing the inspection, maintenance, and repair.
   b. Description of the items or conditions to be inspected and frequency of the inspections or repairs.
   c. Identification of the equipment and, if applicable, air-cleaning device, operating parameters that shall be monitored to detect a malfunction or failure, the normal operating range of these parameters and a description of the method of monitoring or surveillance procedures.
   d. Identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   e. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If the plan fails to address or inadequately addresses an event that meets the characteristics of a malfunction at the time the plan is initially developed, the owner or operator shall revise the plan within 45 days after such an event occurs and submit the revised plan for approval to the AQD District Supervisor. Should the AQD determine the PM/MAP to be inadequate, the AQD District Supervisor may request modification of the plan to address those inadequacies. **(R 336.1213(2), R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Each engine in FGRICEMACT shall be equipped and maintained with separate fuel meters to monitor and record the daily fuel usage and volumetric flow rate of each fuel used. **(40 CFR 63.6625(c))**

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))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor and make them available by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1213(3), R 336.1911)**

2. The permittee shall keep, in a satisfactory manner, records of the landfill gas usage for each engine in FGRICEMACT on a daily, monthly and 12-month rolling time period basis as determined at the end of each calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 63.6625(c))**

3. The permittee shall maintain the following record for each engine in FGRICEMACT:
   a. Engine manufacturer;
   b. Date engine was manufactured;
   c. Engine model number and model year;
   d. Maximum engine power;
   e. Engine serial number;
   f. Engine specification sheet;
   g. Date of initial startup of the engine;
   h. Date engine was removed from service at this stationary source;
   i. Date replacement engine was installed at this stationary source;
   j. Manufacturer's data, specifications, and operating and maintenance procedures for each engine;
   k. Maintenance activities conducted according to the PM/MAP.

   The permittee shall keep the records on file in a format acceptable to the AQD District Supervisor and make them available to the Department upon request. **(R 336.1213(3), R 336.1911)**

VII. REPORTING

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

2. Semi-annual 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 an annual report in accordance with Table 7 of 40 CFR 63, Subpart ZZZZ to the appropriate AQD district office by no later than March 15. The following information shall be included in this annual report:
   a. The fuel flow rate and the heating values that were used in the permittee's calculations. Also, the permittee must demonstrate that the percentage of heat input provided by landfill gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.
   b. The operating limits provided in the permittee's federally enforceable permit, and any deviations from these limits.
   c. Any problems or errors suspected from the fuel flow rate meters.

   (40 CFR 63.6650(b)(5), 40 CFR 63.6650(g))

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
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR 63, Subpart A and Subpart ZZZZ, as they apply to each engine in FGRICEMACT. **(40 CFR 63 Subparts A and ZZZZ)**

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 1-2. 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_2e	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
		gr	Grains
EU	Emission Unit	HAP	Hazardous Air Pollutant
FG	Flexible Group	Hg	Mercury
GACS	Gallons of Applied Coating Solids	hr	Hour
GC	General Condition	HP	Horsepower
GHGs	Greenhouse Gases	H_2S	Hydrogen Sulfide
HVLP	High Volume Low Pressure*	kW	Kilowatt
ID	Identification	lb	Pound
IRSL	Initial Risk Screening Level	m	Meter
ITSL	Initial Threshold Screening Level	mg	Milligram
LAER	Lowest Achievable Emission Rate	mm	Millimeter
MACT	Maximum Achievable Control Technology	MM	Million
MAERS	Michigan Air Emissions Reporting System	MW	Megawatts
MAP	Malfunction Abatement Plan	NMOC	Non-methane Organic Compounds
MDEQ	Michigan Department of Environmental Quality	NO_x	Oxides of Nitrogen
		ng	Nanogram
MSDS	Material Safety Data Sheet	PM	Particulate Matter
NA	Not Applicable	PM10	Particulate Matter equal to or less than 10 microns in diameter
NAAQS	National Ambient Air Quality Standards		
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	psia	Pounds per square inch absolute
PTI	Permit to Install	psig	Pounds per square inch gauge
RACT	Reasonable Available Control Technology	scf	Standard cubic feet
ROP	Renewable Operating Permit	sec	Seconds
SC	Special Condition	SO_2	Sulfur Dioxide
SCR	Selective Catalytic Reduction	TAC	Toxic Air Contaminant
SNCR	Selective Non-Catalytic Reduction	Temp	Temperature
SRN	State Registration Number	THC	Total Hydrocarbons
TEQ	Toxicity Equivalence Quotient	tpy	Tons per year
USEPA/EPA	United States Environmental Protection Agency	µg	Microgram
		µm	Micrometer or Micron
VE	Visible Emissions	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 336.1119(a)(ii), R 336.1213(4)(a))**

Appendix 3. Monitoring Requirements

Specific monitoring requirement procedures, methods or specifications 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 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

Specific testing requirement plans, procedures, and averaging times are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, this appendix is not applicable.

Appendix 6. Permits to Install

At the time of permit issuance, no Permits to Install have been issued to this facility. Therefore, this appendix is not applicable.

Appendix 7. Emission Calculations

Specific emission calculations to be used with monitoring, testing or recordkeeping data are detailed in the appropriate Source-Wide, Emission Unit and/or Flexible group Special Conditions. Therefore, this appendix is not applicable.

Appendix 8. Reporting

A. Annual, Semi-annual, and Deviation Certification Reporting

The permittee shall use the MDEQ, AQD, Report Certification form (EQP 5736) and MDEQ, 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.

6.0 ROP RENEWAL APPLICATION FORMS

7.0 LIMITATIONS

The work product included in the attached was undertaken in full conformity with generally accepted professional consulting principles and practices and to the fullest extent as allowed by law we expressly disclaim all warranties, express or implied, including warranties of merchantability or fitness for a particular purpose. The work product was completed in full conformity with the contract with our client and this document is solely for the use and reliance of our client (unless previously agreed upon that a third party could rely on the work product) and any reliance on this work product by an unapproved outside party is at such party's risk.

The work product herein (including opinions, conclusions, suggestions, etc.) was prepared based on the situations and circumstances as found at the time, location, scope and goal of our performance and thus should be relied upon and used by our client recognizing these considerations and limitations. Cornerstone Environmental Group, LLC shall not be liable for the consequences of any change in environmental standards, practices, or regulations following the completion of our work and there is no warrant to the veracity of information provided by third parties, or the partial utilization of this work product.

EGLE

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	SIC Code	NAICS Code	Existing ROP Number	Section Number (if applicable)
N5991	4953	5622112	MI-ROP-N5991-2016	2

Source Name: Energy Developments Grand Blanc

Street Address: 2361 West Grand Blanc Road

City	State	ZIP Code	County
Grand Blanc	MI	48439	Genesee

Section/Town/Range (if address not available):

Source Description: Seven spark ignition (SI) reciprocating internal combustion engines (RICE) at the plant combust Landfill Gas from the adjacent Citizen's Landfill to produce electricity.

☐ 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	Section Number (if applicable)
Energy Developments Grand Blanc, LLC	

Mailing address (☐ check if same as source address): PO Box 15217

City	State	ZIP Code	County	Country
Lansing	MI	48901	Ingham	USA

☐ 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: N5991	Section Number (if applicable):

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	Title			
Dan Zimmerman	Senior Compliance Manager			
Company Name & Mailing address (☐ check if same as source address)				
Energy Developments Grand Blanc, LLC				
City	State	ZIP Code	County	Country
Lansing	MI	48901	Ingham	USA
Phone number	E-mail address			
517-896-4417	Dan.Zimmerman@edlenergy.com			

Contact 2 Name (optional)	Title			
Khaled Mahmood	Dan.Zimmerman@edlenergy.com			
Company Name & Mailing address (☐ check if same as source address)				
39395 W Twelve Mile Road				
City	State	ZIP Code	County	Country
Farmington Hills	MI	48331	Oakland	USA
Phone number	E-mail address			
248-991-9694	Khaled.Mahmood@tetratach.com			

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name	Title			
Dan Zimmerman	Senior Compliance Manager			
Company Name & Mailing address (☐ check if same as source address)				
Energy Developments Grand Blanc, LLC				
City	State	ZIP Code	County	Country
Lansing	MI	48901	Ingham	USA
Phone number	E-mail address			
517-896-4417	Dan.Zimmerman@edlenergy.com			

Responsible Official 2 Name (optional)	Title			
Company Name & Mailing address (☐ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number	E-mail address			

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

SRN:	Section Number (if applicable):

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

Dan Zimmerman, Sr. Compliance Manager

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.

Dan Zimmerman — 6-14-2021

Signature of Responsible Official **Date**

SRN: N5991	Section Number (if applicable):

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 **all** 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 not been reported in MAERS for the most recent emissions reporting year? If Yes, 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.	☐ Yes ☑ No
C2.	Is this source subject to the federal regulations on ozone-depleting substances? (40 CFR Part 82)	☐ Yes ☑ 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 Yes, a Risk Management Plan (RMP) and periodic updates must be submitted to the USEPA. Has an updated RMP been submitted to the USEPA?	☐ Yes ☑ No ☐ Yes ☐ No
C4.	Has this stationary source **added or modified** equipment since the last ROP renewal that changes the potential to emit (PTE) for criteria pollutant (CO, NOx, PM10, PM2.5, SO_2, VOC, lead) emissions? If Yes, 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 No, criteria pollutant potential emission calculations do not need to be included.	☐ Yes ☑ No
C5.	Has this stationary source **added or modified** 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 Yes, 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 must be included in HAP emission calculations. If No, HAP potential emission calculations do not need to be included.	☐ Yes ☑ No
C6.	Are any emission units subject to the Cross-State Air Pollution Rule (CSAPR)? If Yes, identify the specific emission unit(s) subject to CSAPR on an AI-001 Form.	☐ Yes ☑ No
C7.	Are any emission units subject to the federal Acid Rain Program? If Yes, 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?	☐ Yes ☑ No ☐ Yes ☐ No
C8.	Are any emission units identified in the existing ROP subject to compliance assurance monitoring (CAM)? If Yes, 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	☐ Yes ☑ No ☐ Yes ☐ No ☐ ☐
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 Yes, then a copy must be submitted as part of the ROP renewal application.	☑ Yes ☐ No
C10.	Are there any specific requirements that the source proposes to be identified in the ROP as non-applicable? If Yes, then a description of the requirement and justification must be submitted as part of the ROP renewal application on an AI-001 Form.	☐ Yes ☑ No
☐	Check here if an AI-001 Form is attached to provide more information for Part C. Enter AI-001 Form ID: **AI-**	

SRN: N5991	Section Number (if applicable):

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)]

Comments:

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

SRN: N5991	Section Number (if applicable):

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.

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 Yes, identify changes and additions on Part F, Part G and/or Part H.	☐ Yes ☑ No
E2. For each emission unit(s) identified in the existing ROP, all 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 not reported in the most recent MAERS reporting year? If Yes, identity the stack(s) that was/were not reported on applicable MAERS form(s).	☐ Yes ☑ No
E3. Have any emission units identified in the existing ROP been modified or reconstructed that required a PTI? If Yes, complete Part F with the appropriate information.	☐ Yes ☑ No
E4. Have any emission units identified in the existing ROP been dismantled? If Yes, identify the emission unit(s) and the dismantle date in the comment area below or on an AI-001 Form.	☑ Yes ☐ No

Comments: CAT 3516 engine EUENGINECITB(16) was removed from the site on 1/31/2017. It was replaced with engine EUENGINE5, which had an identical make, model, and regulatory applicabilty status.

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

SRN: N5991	Section Number (if applicable):

PART F: PERMIT TO INSTALL (PTI) INFORMATION

Review all emission units and applicable requirements at the source and answer the following questions as they pertain to **all** emission units with PTIs. Any PTI(s) identified below must be attached to the application.

F1. Has the source obtained any PTIs where the applicable requirements from the PTI have not been incorporated into the existing ROP? If Yes, complete the following table. If No, go to Part G. ☐ Yes ☑ No

Permit to Install Number	Emission Units/Flexible Group ID(s)	Description (*Include Process Equipment, Control Devices and Monitoring Devices*)	Date Emission Unit was Installed/ Modified/ Reconstructed

F2. Do any of the PTIs listed above change, add, or delete terms/conditions to **established emission units** in the existing ROP? If Yes, identify the emission unit(s) or flexible group(s) affected in the comments area below or on an AI-001 Form and identify all changes, additions, and deletions in a mark-up of the existing ROP. ☐ Yes ☐ No

F3. Do any of the PTIs listed above identify **new emission units** that need to be incorporated into the ROP? If Yes, submit the PTIs as part of the ROP renewal application on an AI-001 Form, and include the new emission unit(s) or flexible group(s) in the mark-up of the existing ROP. ☐ Yes ☐ No

F4. Are there any stacks with applicable requirements for emission unit(s) identified in the PTIs listed above that were not reported in MAERS for the most recent emissions reporting year? If Yes, identity the stack(s) that were not reported on the applicable MAERS form(s). ☐ Yes ☐ No

F5. Are there any proposed administrative changes to any of the emission unit names, descriptions or control devices in the PTIs listed above for any emission units not already incorporated into the ROP? If Yes, describe the changes on an AI-001 Form. ☐ Yes ☐ No

Comments:

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

SRN: N5991	Section Number (if applicable):

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 – *Provide Emission Unit ID and a description of Process Equipment, Control Devices and Monitoring Devices***	**Date Emission Unit was Installed/ Modified/ Reconstructed**
☐ Rule 281(2)(h) or 285(2)(r)(iv) cleaning operation		
☐ Rule 287(2)(c) surface coating line		
☐ 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-**

SRN: N5991	Section Number (if applicable):

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 Yes, answer the questions below.	☑ Yes	☐ No
H2. Are there any proposed administrative changes to any of the existing emission unit names, descriptions or control devices in the ROP? If Yes, describe the changes in questions H8 – H16 below and in the affected Emission Unit Table(s) in the mark-up of the ROP.	☑ Yes	☐ 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 Yes, 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.	☑ Yes	☐ No
H4. Does the source propose to add new state or federal regulations to the existing ROP? If Yes, on an AI-001 Form, identify each emission unit/flexible group that the new regulation applies to and identify each 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.	☐ Yes	☑ No
H5. Has a Consent Order/Consent Judgment (CO/CJ) been issued where the requirements were not incorporated into the existing ROP? If Yes, 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.	☐ Yes	☑ No
H6. Does the source propose to add, change and/or delete **source-wide** 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
H7. Are you proposing to **streamline** any requirements? If Yes, identify the streamlined and subsumed requirements and the EU ID, and provide a justification for streamlining the applicable requirement below.	☐ Yes	☑ No

SRN: N5991	Section Number (if applicable):

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

Proposing to remove SSM Reporting requirements after September 27, 2021 as the current requirements will change on that date per the latest revisions to the applicable rule (NESHAP Subpart AAAA).

SRN: N5991	Section Number (if applicable):

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

EDGB proposes to make administrative changes as indicated in the markup ROP to update the engine unit ID of EUENGINECITB(16) to EUENGINE5 and update the unit's corresponding installation date. EUENGINECITB(16) was swapped with EUENGINE5 in 2017 per the notification mailed to the Agency on January 31, 2017. EUENGINE5 had an identical make and model, as well as identical regulatory applicability requirements to EUENGINECITB(16).). As such, no further permit edits are necessary to reflect this change.

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 ☐ Yes ☑ No

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

EGLE

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: N5991	Section Number (if applicable):

1. Additional Information ID
AI- 001

Additional Information

2. Is This Information Confidential? ☐ Yes ☑ No

FGENGINES Flexible Group Condition I.2 of the currently effective Title V Permit (#MI-ROP-N5991-2016, Section 2) requires each engine in FGENGINES (Two CAT 3520 engines designated EUENGINE6 and EUENGINE7) to maintain compliance with a 1.7 lb/hr limit for SO2. In a Violation Notice dated March 28, 2018 and subsequent correspondence, EGLE has alleged that EUENGINE6 and EUENGINE7 have exceeded this limit.

A compliance plan and schedule of compliance, as defined in Rule103(dd) and Rule 119(a), is being actively negotiated between Energy Developments Grand Blanc and EGLE Enforcement Section, and will be finalized separately from this submittal. As of the date of submittal of this ROP Renewal Application a compliance plan is not finalized yet. It is anticipated that the plan will include provisions for sulfur control to be included in the ROP under Rule 213(2). An updated AI-001 form will be submitted by Energy Developments Grand Blanc as soon as a compliance plan and schedule of compliance is signed.

Page of

APPENDIX A

EMISSION CALCUATIONS

Energy Developments Grand Blanc, LLC
MI-ROP-N5991-2016
2020 MAERS

Energy Developments Grand Blanc, LLC
2020 Operation Summary

		Plant 1			Plant 2			Engine 6			Engine 7			Mobile Engine	
Month/Year	Methane %	Hours of Operation Hrs/Mo	Power kW-hr	Total Flow MMscf	Hours of Operation Hrs/Mo	Average Flow scfm	Total Flow MMscf	Hours of Operation Hrs/Mo	Power kW-hr	Total Flow scf	Hours of Operation Hrs/Mo	Power kW-hr	Total Flow scf	Hours of Operation Hrs/Mo	Power kW-hr
Jan-20	50.83	744.00	1,942,585	60.65	743.17	1,033	47.17	742.17	1,161,789	22,859,489	741.50	1,179,454	23,205,924	666.84	528,087
Feb-20	50.44	696.00	1,829,833	59.38	696.00	1,039	44.54	693.66	1,087,228	21,611,774	696.00	1,094,996	21,765,753	696.00	571,497
Mar-20	49.03	738.00	1,979,708	66.82	738.83	1,061	48.31	733.33	1,148,649	23,472,329	737.00	1,151,703	23,541,586	733.17	600,242
Apr-20	48.97	720.00	1,942,109	65.10	718.00	1,065	47.38	709.33	1,111,381	22,802,904	716.17	1,124,314	23,075,672	717.00	590,453
May-20	49.39	706.79	1,819,817	60.85	737.78	1,064	48.17	737.28	1,157,217	23,643,941	732.45	1,148,160	23,455,915	730.95	586,311
Jun-20	47.35	676.45	1,407,414	49.71	682.44	1,030	42.28	675.78	1,022,880	21,694,563	639.28	967,951	20,487,300	650.28	481,347
Jul-20	49.06	718.84	1,946,000	63.95	718.00	1,097	47.12	716.17	1,124,439	23,644,519	711.00	1,122,364	23,609,740	714.67	571,930
Aug-20	48.99	734.00	2,013,256	66.35	726.67	1,088	47.48	726.34	1,130,719	23,796,141	722.17	1,123,622	23,641,754	730.66	597,226
Sep-20	49.83	720.00	2,040,990	65.01	720.00	1,063	46.21	716.00	1,132,191	23,250,980	711.00	1,103,651	22,659,182	714.33	591,325
Oct-20	48.59	655.47	1,703,839	56.80	635.80	1,055	40.77	629.30	957,975	20,162,808	621.63	952,664	20,036,492	622.13	505,498
Nov-20	47.17	613.00	1,619,354	58.52	720.00	1,124	49.17	712.50	1,108,731	24,344,467	709.83	1,102,328	24,221,821	709.17	569,542
Dec-20	47.71	733.83	2,032,136	68.41	734.16	1,098	49.83	730.33	1,146,623	24,177,531	731.50	1,147,602	24,203,574	715.67	578,733
Totals	**48.95**	**8,456.36**	**22,277,040**	**741.53**	**8,570.85**	**1,068.11**	**558.43**	**8,522.19**	**13,289,823**	**275,461,446**	**8,469.53**	**13,218,809**	**273,904,712**	**8,400.88**	**6,772,193**

Energy Developments Grand Blanc, LLC
Annual Emissions

2020

Plant 1 (Engine 1-5)											
	Monthly LFG (mmSCF)	Hours of Operation (Hr)	Units	NOx	CO	SO2	PM10	VOC	Formaldehyde	Total VOC (Including Formaldehyde)	Total HAPs (Including Formaldehyde)
TOTAL	741.53	42765	LBS	216,273.47	335,223.88	131,682.63	23,520.68	44,336.06	32,073.66	76,409.72	38,656.67
			Tons	108.14	167.61	65.84	11.76	22.17	16.04	38.20	19.33
Emission Factor Input in MAERS			LBS/mmSCF	291.66	452.07	177.58	31.72	59.79	43.25	103.04	52.13

LFG-Fired Engine 6 - CAT G3520C											
	Monthly LFG (mmSCF)	Hours of Operation (Hr)	Units	NOx	CO	SO2	PM10	VOC	Formaldehyde	Total VOC (Including Formaldehyde)	Total HAPs (Including Formaldehyde)
TOTAL	275.46	8522	LBS	21,101.02	117,331.22	36,235.82	4,687.20	5,758.57	17,896.59	23,655.16	19,525.38
			Tons	10.55	58.67	18.12	2.34	2.88	8.95	11.83	9.76
Emission Factor Input in MAERS			LBS/mmSCF	76.60	425.94	131.55	17.02	20.91	64.97	85.87	70.88

LFG-Fired Engine 7 - CAT G3520C											
	Monthly LFG (mmSCF)	Hours of Operation (Hr)	Units	NOx	CO	SO2	PM10	VOC	Formaldehyde	Total VOC (Including Formaldehyde)	Total HAPs (Including Formaldehyde)
TOTAL	273.90	8470	LBS	25,943.30	113,701.48	35,995.69	4,658.24	6,087.66	17,786.02	23,873.68	19,374.71
			Tons	12.97	56.85	18.00	2.33	3.04	8.89	11.94	9.69
Emission Factor Input in MAERS			LBS/mmSCF	94.72	415.11	131.42	17.01	22.23	64.94	87.16	70.74

EDL Grand Blanc calculates emissions from its operation on a monthly basis. Emission factors used in each monthly calculations are provided in the following pages for Jan-Dec, 2020. Emission factors from AP-42, Stack Test and monthly TRS testing were used. Source of the emission factors for each criteria pollutants are provided in the Emission Basis sheets.

Energy Developments Grand Blanc, LLC
Emission Basis
Dec-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.13	g/bhp-hr	0.63	lbs/hr[(1)]	Stack Test Performed November 5, 2020
	NO_x	0.38	g/bhp-hr	1.90	lbs/hr	Stack Test Performed November 5, 2020
	SO_x	844	ppmv	4.68	lbs/hr	Site specific values
	CO	2.31	g/bhp-hr	11.50	lbs/hr	Stack Test Performed November 5, 2020
	PM_{10}	0	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.12	g/bhp-hr	0.60	lbs/hr[(1)]	Stack Test Performed November 5, 2020
	NO_x	0.45	g/bhp-hr	2.25	lbs/hr	Stack Test Performed November 5, 2020
	SO_x	844	ppmv	4.68	lbs/hr	Site specific values
	CO	2.41	g/bhp-hr	12.10	lbs/hr	Stack Test Performed November 5, 2020
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2.00	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	844	ppmv	3.38	lbs/hr	Site specific values
	CO	3.10	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48.00	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.89	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

[(1)] For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual $ppmv_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf CH_4) x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x ($ppmv_{compound\ x}$ 1E-06 x $MW_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

Energy Developments Grand Blanc, LLC
Emission Basis
Nov-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.68	lbs/hr[(1)]	Stack Test Performed November 4, 5, 2020
	NO_x	0.51	g/bhp-hr	2.53	lbs/hr	Stack Test Performed November 4, 5, 2020
	SO_x	625	ppmv	3.48	lbs/hr	Site specific values
	CO	2.95	g/bhp-hr	14.10	lbs/hr	Stack Test Performed November 4, 5, 2020
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.73	lbs/hr[(1)]	Stack Test Performed November 4, 5, 2020
	NO_x	0.47	g/bhp-hr	3.14	lbs/hr	Stack Test Performed November 4, 5, 2020
	SO_x	625	ppmv	3.48	lbs/hr	Site specific values
	CO	2.72	g/bhp-hr	13.55	lbs/hr	Stack Test Performed November 4, 5, 2020
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2.00	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	625	ppmv	2.52	lbs/hr	Site specific values
	CO	3.10	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48.00	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.94	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

[(1)] For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual $ppmv_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf CH_4) x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x ($ppmv_{compound}$ x 1E-06 x $MW_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

Energy Developments Grand Blanc, LLC
Emission Basis
Oct-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.68	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.51	g/bhp-hr	2.53	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	706	ppmv	3.93	lbs/hr	Site specific values
	CO	2.95	g/bhp-hr	14.10	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.73	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.47	g/bhp-hr	3.14	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	706	ppmv	3.93	lbs/hr	Site specific values
	CO	2.72	g/bhp-hr	13.55	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2.00	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	706	ppmv	2.84	lbs/hr	Site specific values
	CO	3.10	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48.00	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.94	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

[(1)] For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual $ppmv_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf CH_4) x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x ($ppmv_{compound}$ x 1E-06 x $MW_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

Energy Developments Grand Blanc, LLC
Emission Basis
Sep-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.68	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.51	g/bhp-hr	2.53	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	719	ppmv	3.99	lbs/hr	Site specific values
	CO	2.95	g/bhp-hr	14.10	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.73	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.47	g/bhp-hr	3.14	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	719	ppmv	3.99	lbs/hr	Site specific values
	CO	2.72	g/bhp-hr	13.55	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2.00	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	719	ppmv	2.89	lbs/hr	Site specific values
	CO	3.10	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48.00	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.94	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

[(1)] For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual $ppmv_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf CH_4) x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x ($ppmv_{compound}$ x 1E-06 x $MW_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

Energy Developments Grand Blanc, LLC
Emission Basis
Aug-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.68	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.51	g/bhp-hr	2.53	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	742	ppmv	4.12	lbs/hr	Site specific values
	CO	2.95	g/bhp-hr	14.10	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.73	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.47	g/bhp-hr	3.14	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	742	ppmv	4.12	lbs/hr	Site specific values
	CO	2.72	g/bhp-hr	13.55	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2.00	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	742	ppmv	2.98	lbs/hr	Site specific values
	CO	3.10	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48.00	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.94	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

[(1)] For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual $ppmv_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf CH_4) x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x ($ppmv_{compound}$ x 1E-06 x $MW_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

Energy Developments Grand Blanc, LLC
Emission Basis
Jul-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.68	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.51	g/bhp-hr	2.53	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	848	ppmv	4.70	lbs/hr	Site specific values
	CO	2.95	g/bhp-hr	14.10	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.73	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.47	g/bhp-hr	3.14	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	848	ppmv	4.70	lbs/hr	Site specific values
	CO	2.72	g/bhp-hr	13.55	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2.00	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	848	ppmv	3.40	lbs/hr	Site specific values
	CO	3.1	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.89	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

[(1)] For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual $ppmv_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf CH_4) x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x ($ppmv_{compound}$ x 1E-06 x $MW_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

Energy Developments Grand Blanc, LLC
Emission Basis
Jun-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.68	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.51	g/bhp-hr	2.53	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	856	ppmv	4.74	lbs/hr	Site specific values
	CO	2.95	g/bhp-hr	14.10	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.73	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.47	g/bhp-hr	3.14	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	856	ppmv	4.74	lbs/hr	Site specific values
	CO	2.72	g/bhp-hr	13.55	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	856	ppmv	3.43	lbs/hr	Site specific values
	CO	3.1	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.89	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

[(1)] For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual $ppmv_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf $CH_{4)}$ x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x ($ppmv_{compound}$ x 1E-06 x $MW_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

Energy Developments Grand Blanc, LLC
Emission Basis
May-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.68	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.51	g/bhp-hr	2.53	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	744	ppmv	4.13	lbs/hr	Site specific values
	CO	2.95	g/bhp-hr	14.10	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.73	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.47	g/bhp-hr	3.14	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	744	ppmv	4.13	lbs/hr	Site specific values
	CO	2.72	g/bhp-hr	13.55	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	744	ppmv	2.99	lbs/hr	Site specific values
	CO	3.1	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.89	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

[(1)] For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual $ppmv_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf CH_4) x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x ($ppmv_{compound}$ x 1E-06 x $MW_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

Energy Developments Grand Blanc, LLC
Emission Basis
Apr-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.68	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.51	g/bhp-hr	2.53	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	638	ppmv	3.55	lbs/hr	Site specific values
	CO	2.95	g/bhp-hr	14.10	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.73	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.47	g/bhp-hr	3.14	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	638	ppmv	3.55	lbs/hr	Site specific values
	CO	2.72	g/bhp-hr	13.55	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2.00	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	638	ppmv	2.57	lbs/hr	Site specific values
	CO	3.10	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48.00	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.89	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

(1) For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual $ppmv_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf CH_4) x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x ($ppmv_{compound}$ x 1E-06 x $MW_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

Energy Developments Grand Blanc, LLC
Emission Basis
Mar-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.68	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.51	g/bhp-hr	2.53	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	819	ppmv	4.54	lbs/hr	Site specific values
	CO	2.75	g/bhp-hr	13.67	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.73	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.47	g/bhp-hr	3.14	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	819	ppmv	4.54	lbs/hr	Site specific values
	CO	2.72	g/bhp-hr	13.55	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2.00	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	819	ppmv	3.28	lbs/hr	Site specific values
	CO	3.10	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48.00	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.89	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

[(1)] For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual $ppmv_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf CH_4) x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x ($ppmv_{compound}$ x 1E-06 x $MW_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

Energy Developments Grand Blanc, LLC
Emission Basis
Feb-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.68	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.51	g/bhp-hr	2.53	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	806	ppmv	4.47	lbs/hr	Site specific values
	CO	2.75	g/bhp-hr	13.67	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.73	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.47	g/bhp-hr	3.14	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	806	ppmv	4.47	lbs/hr	Site specific values
	CO	2.72	g/bhp-hr	13.55	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2.00	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	806	ppmv	3.23	lbs/hr	Site specific values
	CO	3.10	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48.00	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.89	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

(1) For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual $ppmv_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf CH_4) x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x ($ppmv_{compound}$ x 1E-06 x $MW_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

Energy Developments Grand Blanc, LLC
Emission Basis
Jan-20

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 6 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.68	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.51	g/bhp-hr	2.53	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	840	ppmv	4.65	lbs/hr	Site specific values
	CO	2.75	g/bhp-hr	13.67	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
LFG-Fired Engine 7 - CAT G3520C	VOCs	0.14	g/bhp-hr	0.73	lbs/hr[(1)]	Stack Test Performed November 12, 2019
	NO_x	0.47	g/bhp-hr	3.14	lbs/hr	Stack Test Performed November 12, 2019
	SO_x	840	ppmv	4.65	lbs/hr	Site specific values
	CO	2.72	g/bhp-hr	13.55	lbs/hr	Stack Test Performed November 12, 2019
	PM_{10}	48	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	2.10	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	2.29	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

Emission Source	Regulated Pollutants	Emission Factors				Emission Factors Basis
Plant 1 (5 CAT G3516 ICEs)	VOCs	0.41	g/bhp-hr	1.04	lbs/hr[(1)]	Manufacturer's Technical Specs
	NO_x	2.00	g/bhp-hr	5.06	lbs/hr	Manufacturer's Technical Specs
	SO_x	840	ppmv	3.37	lbs/hr	Site specific values
	CO	3.10	g/bhp-hr	7.84	lbs/hr	Manufacturer's Technical Specs
	PM_{10}	48.00	lb/MM dscf CH_4	0.55	lbs/hr	EPA, AP-42, Table 2.4-5 (November 1998)
	Formaldehyde	-	-	0.75	lbs/hr	Typical Engine Testing
	Total HAPs (Including Formaldehyde)	-	-	0.89	lbs/hr	EPA, AP-42, Table 2.4-1, 2, 3 (November 1998)

[(1)] For the purposes of calculating actual emissions in lb/hr, the following equations were used:

CO and NO_x Emissions

(lb/MMbtu)*(MMbtu/hr)= lb/hr

SO_2 Emissions

[(scfm) x (60 min/hr) x (individual ppmv $_{sulfur}$ * 1E-06) x (MW SO_2)] ÷ [(R x T)] = lb/hr

PM_{10} Emissions

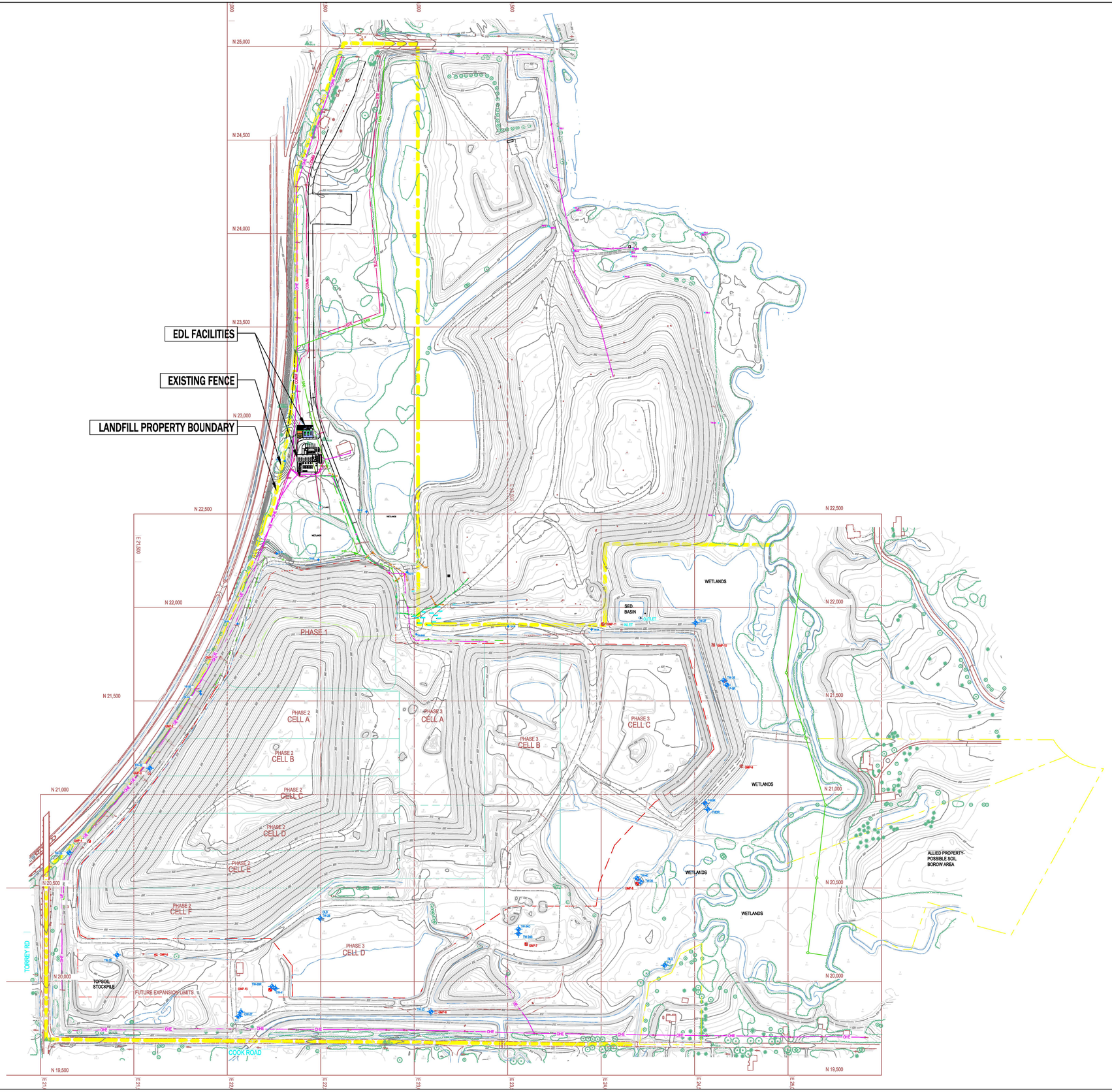
(dscfm) x (CH_4 component) x (1E-6 MMscf/scf) x (lb PM/MMscf CH_4) x (60 min/hr) = lb/hr

VOC Emissions

[(scfm x 60 min/hr x (ppmv $_{compound}$ x 1E-06 x MW $_{compound}$)] ÷ (R x T) x (1-control efficiency) = lb/hr

APPENDIX B

SITE PLAN



LEGEND

DATE:	REVISION:
03/23/18	DRAFT FOR REVIEW

PLANS PREPARED BY:

Energy Developments

PROJECT TITLE & LOCATION

GRAND BLANC POWER STATION

2361 WEST GRAND BLANC ROAD, GRAND BLANC, MI 48439

DRAWING TITLE:

SITE PLAN

SEAL	INFORMATION
	SCALE: 1" = 250'
	DATE: 03/23/18
	DRAWN BY: K. TUCKER
	CHECKED BY: D. ZIMMERMAN
	APPROVED BY: D. ZIMMERMAN
	DRAWING NO: C-01