May 23, 2023

District Supervisor
EGLE – Air Quality Division
Warren District Office
27700 Donald Ct.
Warren, MI 48092-2793

Subject: Renewable Operating Permit Renewal Application
William Beaumont Hospital – Royal Oak Campus
State Registration No. G5067, Oakland County

Impact Compliance & Testing, Inc. (ICT) is submitting, on behalf of William Beaumont Hospital (Beaumont) the enclosed Renewable Operating Permit (ROP) renewal application to the Michigan Department of Environment, Great Lakes, Energy, Air Quality Division (EGLE-AQD) for its Royal Oak Hospital in Royal Oak, Oakland County.

The Royal Oak Hospital has been issued ROP No. MI-ROP-G5067-2019b. This submittal contains information for the emissions units operated at the facility.

ICT assisted Beaumont with the preparation of the renewal application and is authorized to act as an agent on behalf of Beaumont to answer questions relating to reissuance of the permit.

Contact information is provided in the enclosed application should you have any questions or require additional information.

Sincerely,

IMPACT COMPLIANCE & TESTING, INC.

Andy Rusnak, QSTI
Technical Manager

Attachments

ATTACHMENT 1

- ROP Renewal Forms

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)
G5067		622110	MI-ROP-G5067-2019b	

Source Name
William Beaumont Hospital

Street Address
3601 West 13 Mile Road

City	State	ZIP Code	County
Royal Oak	MI	48073	Oakland

Section/Town/Range (if address not available)

Source Description
Hospital

☐ 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)
Corewell Health	

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: G5067	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			
Amy Blazejewski	Director, Environment and Life Safety | Corporate Safety			
Company Name & Mailing address (☐ check if same as source address)				
Corewell Health East, 26901 Beaumont Boulevard				
City	State	ZIP Code	County	Country
Southfield	MI	48033	Oakland	USA
Phone number		E-mail address		
(947) 522-1366		amy.blazejewski@corewellhealth.org		

Contact 2 Name (optional)	Title			
Andy Rusnak	Technical Manager			
Company Name & Mailing address (☐ check if same as source address)				
Impact Compliance & Testing, Inc., 4180 Keller Rd., Ste. B				
City	State	ZIP Code	County	Country
Holt	MI	48842	Ingham	USA
Phone number		E-mail address		
(517) 481-3283		andy.rusnak@impactcandt.com		

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name	Title			
Matthew George	Director, Facilities Management Services			
Company Name & Mailing address (☒ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		
(248) 898-1352		matthew.george@corewellhealth.org		

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: G5067	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)

Matthew George, Director Facility Management Services

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.

Matt George — **Signature of Responsible Official**

2/5/24 — **Date**

SRN: G5067	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-**0001

SRN: G5067	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)]
EU-XYLENEREC	Batch xylene recycling unit with a capacity less than 55 gallons.	Rule 212(4)(e)	Rule 285(2)(u)
EU-RESBOILER1	6.3 MMBtu/hr Cleaver Brooks boiler located in the Research Building.	Rule 212(4)(c)	Rule 282(b)(i)
EU-RESBOILER2	6.3 MMBtu/hr Cleaver Brooks boiler located in the Research Building.	Rule 212(4)(c)	Rule 282(b)(i)
EU-RESBOILERHH	Eight identical Lochinvar domestic hot water boilers, B1-B8, 2.1 MMBtu/hr each.	Rule 212(4)(c)	Rule 282(b)(i)
EU-RESBOILERDH	Two identical Lochinvar domestic hot water boilers, 0.3 MMBtu/hr each.	Rule 212(4)(c)	Rule 282(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: G5067	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:
The facility has removed all cold cleaners (FG-COLDCLEANERS) which includes EU-CCGARAGE. The unit was removed on 09/30/2020.

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

SRN: G5067	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: G5067	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: G5067	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: G5067	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

SRN:	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
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: G5067	Section Number (if applicable):

1. Additional Information ID
AI-0001

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

Facility PTE

Table 1. William Beaumont Hospital - Royal Oak Campus
Facilitywide Potential to Emit Calculations

	Potential to Emit (TpY)						
Emission Unit ID	**CO**	**NOx**	**SO_2**	**$PM_{10}/PM_{2.5}$**	**VOC**	**Lead**	**HAPs**
Boilers - Natural Gas[1]	88.6	89.2	0.54	6.78	5.80	4.46E-04	1.99
Boilers - Fuel Oil[1]	1.01	28.5	0.30	3.39	0.07	1.78E-03	0.06
Generators - Fuel Oil	12.6	123	0.06	2.15	3.59	-	0.07
Sterilizers	-	-	-	-	1.85E-03	-	1.85E-03
Paint Booth	-	-	-	-	8.83	-	-
Facility Total PTE	**102**	**240**	**0.90**	**12.3**	**18.3**	**2.22E-03**	**2.12**

Notes for Table 1:

1 - Emission estimates for Boiler #1 contain the greater of continuous annual natural gas or fuel oil combustion.

ATTACHMENT 2

- Mark-Up of Existing ROP

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

EFFECTIVE DATE: October 16, 2019
REVISION DATES: September 1, 2020, April 5, 2023

ISSUED TO

William Beaumont Hospital

State Registration Number (SRN): G5067

LOCATED AT

3601 West 13 Mile Road, Royal Oak, Michigan 48073

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-G5067-2019b

Expiration Date: October 16, 2024

Administratively Complete ROP Renewal Application
Due Between April 16, 2023 and April 16, 2024

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

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-G5067-2019b

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

Michigan Department of Environment, Great Lakes, and Energy

_____
Joyce Zhu, Warren District Supervisor

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AUTHORITY AND ENFORCEABILITY

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

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

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

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

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

A. GENERAL CONDITIONS

Permit Enforceability

- All conditions in this permit are both federally enforceable and state enforceable unless otherwise noted. **(R 336.1213(5))**

- Those conditions that are hereby incorporated in a state-only enforceable Source-Wide PTI pursuant to Rule 201(2)(d) are designated by footnote one. **(R 336.1213(5)(a), R 336.1214a(5))**

- Those conditions that are hereby incorporated in a federally enforceable Source-Wide PTI pursuant to Rule 201(2)(c) are designated by footnote two. **(R 336.1213(5)(b), R 336.1214a(3))**

General Provisions

1. The permittee shall comply with all conditions of this ROP. Any ROP noncompliance constitutes a violation of Act 451, and is grounds for enforcement action, for ROP revocation or revision, or for denial of the renewal of the ROP. All terms and conditions of this ROP that are designated as federally enforceable are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and by citizens under the provisions of the federal Clean Air Act (CAA). Any terms and conditions based on applicable requirements which are designated as "state-only" are not enforceable by the USEPA or citizens pursuant to the CAA. **(R 336.1213(1)(a))**

2. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this ROP. **(R 336.1213(1)(b))**

3. This ROP may be modified, revised, or revoked for cause. The filing of a request by the permittee for a permit modification, revision, or termination, or a notification of planned changes or anticipated noncompliance does not stay any ROP term or condition. This does not supersede or affect the ability of the permittee to make changes, at the permittee's own risk, pursuant to Rule 215 and Rule 216. **(R 336.1213(1)(c))**

4. The permittee shall allow the department, or an authorized representative of the department, upon presentation of credentials and other documents as may be required by law and upon stating the authority for and purpose of the investigation, to perform any of the following activities: **(R 336.1213(1)(d))**
   a. Enter, at reasonable times, a stationary source or other premises where emissions-related activity is conducted or where records must be kept under the conditions of the ROP.
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the ROP.
   c. Inspect, at reasonable times, any of the following:
      i. Any stationary source.
      ii. Any emission unit.
      iii. Any equipment, including monitoring and air pollution control equipment.
      iv. Any work practices or operations regulated or required under the ROP.
   d. As authorized by Section 5526 of Act 451, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the ROP or applicable requirements.

5. The permittee shall furnish to the department, within a reasonable time, any information the department may request, in writing, to determine whether cause exists for modifying, revising, or revoking the ROP or to determine compliance with this ROP. Upon request, the permittee shall also furnish to the department copies of any records that are required to be kept as a term or condition of this ROP. For information which is claimed by the permittee to be confidential, consistent with the requirements of the 1976 PA 442, MCL §15.231 et seq., and known as the Freedom of Information Act, the person may also be required to furnish the records directly to the USEPA together with a claim of confidentiality. **(R 336.1213(1)(e))**

6. A challenge by any person, the Administrator of the USEPA, or the department to a particular condition or a part of this ROP shall not set aside, delay, stay, or in any way affect the applicability or enforceability of any other condition or part of this ROP. **(R 336.1213(1)(f))**

7. The permittee shall pay fees consistent with the fee schedule and requirements pursuant to Section 5522 of Act 451. **(R 336.1213(1)(g))**

8. This ROP does not convey any property rights or any exclusive privilege. **(R 336.1213(1)(h))**

Equipment & Design

9. Any collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2).[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% 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 state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**

19. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**

20. The certification of compliance shall be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**

21. The permittee shall promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP. **(R 336.1213(3)(c))**
    a. For deviations that exceed the emissions allowed under the ROP, prompt reporting means reporting consistent with the requirements of Rule 912 as detailed in Condition 25. All reports submitted pursuant to this paragraph shall be promptly certified as specified in Rule 213(3)(c)(iii).
    b. For deviations which exceed the emissions allowed under the ROP and which are not reported pursuant to Rule 912 due to the duration of the deviation, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe reasons for each deviation and the actions taken to minimize or correct each deviation.
    c. For deviations that do not exceed the emissions allowed under the ROP, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe the reasons for each deviation and the actions taken to minimize or correct each deviation.

22. For reports required pursuant to Rule 213(3)(c)(ii), prompt certification of the reports is described in Rule 213(3)(c)(iii) as either of the following: **(R 336.1213(3)(c))**
    a. Submitting a certification by a Responsible Official with each report which states that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
    b. Submitting, within 30 days following the end of a calendar month during which one or more prompt reports of deviations from the emissions allowed under the ROP were submitted to the department pursuant to Rule 213(3)(c)(ii), a certification by a Responsible Official which states that; "based on information and belief formed after reasonable inquiry, the statements and information contained in each of the reports submitted during the previous month were true, accurate, and complete." The certification shall include a listing of the reports that are being certified. Any report submitted pursuant to Rule 213(3)(c)(ii) that will be certified on a monthly basis pursuant to this paragraph shall include a statement that certification of the report will be provided within 30 days following the end of the calendar month.

23. Semiannually for the term of the ROP as detailed in the special conditions, or more frequently if specified, the permittee shall submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period shall be clearly identified in the reports. **(R 336.1213(3)(c)(i))**

24. On an annual basis, the permittee shall report the actual emissions, or the information necessary to determine the actual emissions, of each regulated air pollutant as defined in Rule 212(6) for each emission unit utilizing the emissions inventory forms provided by the department. **(R 336.1212(6))**

25. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the appropriate AQD District Office. The notice shall be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice shall be by any reasonable means, including electronic, telephonic, or oral communication. Written reports, if required under Rule 912, must be submitted to the appropriate AQD District Supervisor within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5) and shall be certified by a Responsible Official in a manner consistent with the CAA.[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))**

Reopenings

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

Renewals

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

Stratospheric Ozone Protection

36. If the permittee is subject to Title 40 of the Code of Federal Regulations (CFR), Part 82 and services, maintains, or repairs appliances except for motor vehicle air conditioners (MVAC), or disposes of appliances containing refrigerant, including MVAC and small appliances, or if the permittee is a refrigerant reclaimer, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee shall comply with all applicable standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F.

37. If the permittee is subject to 40 CFR Part 82 and performs a service on motor (fleet) vehicles when this service involves refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed by the original equipment manufacturer. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used for refrigerated cargo or an air conditioning system on passenger buses using Hydrochlorofluorocarbon-22 refrigerant.

Risk Management Plan

38. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall register and submit to the USEPA the required data related to the risk management plan for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR 68.130. The list of substances, threshold quantities, and accident prevention regulations promulgated under 40 CFR Part 68, do not limit in any way the general duty provisions under Section 112(r)(1).

39. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates as provided in 40 CFR 68.10(a):
    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, EGLE.[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, EGLE, AQD, P. O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or modification of the equipment allowed by the terms and conditions from that PTI.[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
EU-BOILER1	Keeler Model No. DS-30 boiler. Heat input capacity of 39 MMBtu/hour. Capable of producing 30,000 pounds of steam per hour. Combusts natural gas and fuel oil No. 2.	01/01/1978	FG-FUELOIL
EU-BOILER2	Cleaver-Brooks Model D-60-RH (D-series) boiler. Heat input capacity of 48.2 MMBtu/hour using natural gas fuel and 46.4 MMBtu/hour using fuel oil No. 2. Capable of producing 40,000 pounds of steam per hour.	02/01/1998	FG-BOILER2&3, FG-FUELOIL
EU-BOILER3	Cleaver-Brooks Model D-52 (D-series) boiler. Heat input capacity of 48.2 MMBtu/hour using natural gas fuel and 46.4 MMBtu/hour using fuel oil No. 2. Capable of producing 40,000 pounds of steam per hour.	06/26/2002	FG-BOILER2&3, FG-FUELOIL
EU-BOILER4	Erie City boiler. Heat input capacity of 48 MMBtu/hour and capable of producing 40,000 pounds of steam per hour. Combusts natural gas and fuel oil No. 2.	01/01/1973/ 09/09/1998	FG-BOILER4&5, FG-FUELOIL
EU-BOILER5	Keeler Model No. DS-40 boiler. Heat input capacity of 48 MMBtu/hour and capable of producing 40,000 pounds of steam per hours. Combusts natural gas and fuel oil No. 2.	01/01/1973/ 09/09/1998	FG-BOILER4&5, FG-FUELOIL
EU-ELECGEN6	Caterpillar Model 3512 internal combustion engine electrical generator. Heat input capacity of 10.0 MMBtu/hour and capable of producing 1,300 kilowatts of electricity. Combusts fuel oil No. 2.	02/01/1998	FG-FUELOIL, FG-EMERGENCY FG-MACTZZZZ-EMER ~~FG-MACTZZZZ-EMER~~
EU-ELECGEN7	Caterpillar Model 3512 internal combustion engine electrical generator. Heat input capacity of 10.0 MMBtu/hour and capable of producing 1,300 kilowatts of electricity. Combusts fuel oil No. 2.	02/01/1998	FG-FUELOIL, FG-EMERGENCY FG-MACTZZZZ-EMER ~~FG-MACTZZZZ-EMER~~
EU-ELECGEN8	Caterpillar Model 3516B internal combustion engine electrical generator. Heat input capacity of 17.0 MMBtu/hour. Capable of producing 2,000 kilowatts of electricity. Combusts fuel oil No. 2.	07/31/2002	FG-FUELOIL, FG-EMERGENCY FG-MACTZZZZ-EMER ~~FG-MACTZZZZ-EMER~~

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-ELECGEN9	Caterpillar Model 3516B internal combustion engine electrical generator. Heat input capacity of 17.0 MMBtu/hour. Capable of producing 2,000 kilowatts of electricity. Combusts fuel oil No. 2.	07/31/2002	FG-FUELOIL, FG-EMERGENCY FG-MACTZZZZ-EMER ~~FG-MACTZZZZ-EMER~~
EU-RESGEN1	Caterpillar Model 3508B internal combustion engine electrical generator. Heat input capacity of 6.7 MMBtu/hour. Capable of producing 900 kilowatts of electricity. Combusts fuel oil No. 2.	01/01/1999	FG-MACTZZZZ-EMER
EU-RESGEN2	Caterpillar Model 3508B internal combustion engine electrical generator. Heat input capacity of 6.7 MMBtu/hour. Capable of producing 900 kilowatts of electricity. Combusts fuel oil No. 2.	01/01/1999	FG-MACTZZZZ-EMER
EU-ELECGEN1R	Caterpillar Model 3516C internal combustion engine electrical generator. Heat input capacity of 19.0 MMBtu/hour. Capable of producing 2,000 kilowatts of electricity. Combusts fuel oil No. 2. Manufactured in 2013.	06/26/2015	FG-ELECGEN1&2R
EU-ELECGEN2R	Caterpillar Model 3516C internal combustion engine electrical generator. Heat input capacity of 19.0 MMBtu/hour. Capable of producing 2,000 kilowatts of electricity. Combusts fuel oil No. 2. Manufactured in 2013.	01/15/2016	FG-ELECGEN1&2R
EU-ELECGEN3R	Caterpillar Model 3516C internal combustion engine electrical generator. Heat input capacity of 23.5 MMBtu/hour. Capable of producing 2,500 kilowatts of electricity. Combusts fuel oil No. 2.	01/11/2023	FG-ELECGEN3R&4R
EU-ELECGEN4R	Caterpillar Model 3516C internal combustion engine electrical generator. Heat input capacity of 23.5 MMBtu/hour. Capable of producing 2,500 kilowatts of electricity. Combusts fuel oil No. 2.	01/11/2023	FG-ELECGEN3R&4R
EU-ETOSTERILIZER1	One 3M Steri-Vac 8XL Gas Sterilizer, 100% ethylene oxide (EtO) sterilizer. The sterilizer is controlled by one of three Advanced Air Technologies (AAT) Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.	07/18/2013/ 02/26/2014	FG-ETOSTERILIZERS
EU-ETOSTERILIZER2	One 3M Steri-Vac 8XL Gas Sterilizer, 100% ethylene oxide (EtO) sterilizer. The sterilizer is controlled by one of three Advanced Air Technologies (AAT) Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.	07/18/2013/ 02/26/2014	FG-ETOSTERILIZERS

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-ETOSTERILIZER3	One 3M Steri-Vac 5XL Gas Sterilizer, 100% ethylene oxide (EtO) sterilizer. The sterilizer is controlled by one of three Advanced Air Technologies (AAT) Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.	07/18/2013/ 02/26/2014	FG-ETOSTERILIZERS
EU-ETOSTERILIZER4	One 3M Steri-Vac 5XL Gas Sterilizer, 100% ethylene oxide (EtO) sterilizer. The sterilizer is controlled by one of three Advanced Air Technologies (AAT) Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.	07/18/2013/ 02/26/2014	FG-ETOSTERILIZERS
EU-WOODSHOP	Woodworking shop used on a nonproduction basis, controlled by a dust collector; shop includes a paint spray booth.	10/11/1986	FG-RULE287(2)(c)
~~EU-CCGARAGE~~	~~Cold cleaner located in the garage.~~	~~05/01/2004~~	~~FG-COLDCLEANERS~~

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EU-BOILER1
EMISSION UNIT CONDITIONS

DESCRIPTION

Keeler Model No. DS-30 boiler. Heat input capacity of 39 MM BTU/hour. Capable of producing 30,000 pounds of steam per hour. Combusts natural gas and fuel oil No. 2.

Flexible Group ID: FG-FUELOIL

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. SO_2	0.33 lb/MMBtu of heat input[2]	24-hour	EU-BOILER1	SC VI.3, FG-FUELOIL SC VI.1	**R 336.1401, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn virgin fuel oil No. 2 during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year.[2] **(40 CFR Part 63 Subpart JJJJJJ)**

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 not burn any fuel in EU-BOILER1 other than natural gas and/or virgin fuel oil No. 2.[2] **(R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

2. The permittee shall monitor and record natural gas and fuel oil No. 2 usage on a monthly basis.[2] **(R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

3. The permittee shall calculate the SO_2 emission rate using the method in Appendix 7.1.[2] **(R 336.1401, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

4. The permittee shall calculate the NOx emission rate using the method and emission factors in Appendix 7.2.[2] **(R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

5. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER1. The permittee shall record all completed preventative maintenance events.[2] **(R 336.1910, R 336.1911)**

6. The permittee shall monitor and keep records of the number of hours EU-BOILER1 was operated on liquid fuel for periodic testing, maintenance, or operator training during each calendar year. **(R 336.1213)**

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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-STACK1	48[2]	131[2]	**R 336.1401 R 336.2803 R 336.2804 40 CFR 52.21(c) & (d)**

IX. OTHER REQUIREMENT(S)

NA

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
FG-BOILERS2&3	Boiler 2 and Boiler 3. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.	EU-BOILER2, EU-BOILER3
FG-BOILERS4&5	Boiler 4 and Boiler 5. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.	EU-BOILER4, EU-BOILER5
FG-FUELOIL	Emission units subject to a sulfur dioxide emission standard and a fuel oil certification or analysis requirement. Some emission units are also subject to fuel usage limits.	EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, ~~EU-COGEN1,~~ ~~EU-COGEN2,~~ EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, ~~EU-RESGEN1,~~ ~~EU-RESGEN2~~
FG-EMERGENCY	Includes ~~six~~ four permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63, Subpart ZZZZ.	EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9
FG-MACTZZZZ-EMER	Includes four permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63, Subpart ZZZZ. Also ~~I~~includes two existing institutional emergency stationary reciprocating internal combustion engines (EU-RESGEN1, EU-RESGEN2) that are exempt from obtaining a Permit to Install pursuant to R 336.1285(g).	EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, ~~EU-ELECGEN6,~~ ~~EU-ELECGEN7,~~ ~~EU-ELECGEN8,~~ ~~EU-ELECGEN9,~~ EU-RESGEN1, EU-RESGEN2
FG-ELECGEN1&2R	Two 2,000 kilowatts (kW) diesel-fueled emergency engine manufactured in 2013.	EU-ELECGEN1R, EU-ELECGEN2R
FG-ELECGEN3R&4R	Two 23.5 MMBTU/hr, 3633bhp (2500 kilowatts (kW)), diesel-fueled emergency engines with a model year of 2011 or later, and a displacement of 4.88 liters/cylinder.	EU-ELECGEN3R, EU-ELECGEN4R

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-ETOSTERILIZERS	Two (2) 3M Steri-Vac 8XL Gas Sterilizer and two (2) 3M Steri-Vac 5XL Gas Sterilizer, each controlled by one of the three Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.	EU-ETOSTERILIZER1, EU-ETOSTERILIZER2, EU-ETOSTERILIZER3, EU-ETOSTERILIZER4
FG-RULE287(2)(c)	Any existing or future emission unit that emits air contaminants that are exempt from R 336.1201 pursuant R 336.1278 and R 336.1287(c)	EU-WOODSHOP
~~FG-COLDCLEANERS~~	~~Any existing cold cleaner (in operation prior to July 1, 1979) or new cold cleaner (in operation after July 1, 1979) that is exempt from R 336.1201 pursuant R 336.1281(h) or R 336.1285(r)(iv)~~	~~EU-CCGARAGE~~

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FG-BOILERS2&3
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Boiler 2 and Boiler 3. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.

Emission Units: EUBOILER2, EUBOILER3

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	23.0 tpy, for each boiler individually[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER2, EU-BOILER3	SC VI.4	**40 CFR 52.21(c) & (d)**
2. VE	6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity. The opacity standard shall apply at all times except during periods of startup, shutdown or malfunction.[2]	6-minute average per hour	EU-BOILER2, EU-BOILER3	GC 11, SC VI.6	**40 CFR 60.43c (c) & (d)**
3. SO_2	1.7 pounds per calendar day, for each boiler individually[2]	Calendar month average	EU-BOILER2, EU-BOILER3	SC VI.2	**R 336.1401, 40 CFR 52.21(c) & (d)**

Note: A calendar day is defined as 24 consecutive hours from midnight to midnight.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Natural Gas	420 MMscf per year, for each boiler individually[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER2, EU-BOILER3	SC VI.1	**40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)**
2. Fuel Oil No. 2	200,000 gallons per year, for each boiler individually[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER2, EU-BOILER3	SC VI.1	**40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn virgin fuel oil No. 2 in EU-BOILER2 and EU-BOILER3 during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year.[2] **(40 CFR Part 63 Subpart JJJJJJ)**

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 keep monthly and 12-month rolling natural gas and fuel oil No. 2 usage records for EU-BOILER2 and EU-BOILER3 in a format acceptable to the AQD District Supervisor of the amount of natural gas used in MM cubic feet and of the amount of fuel oil used in gallons each calendar month. The records shall indicate the total amount of natural gas and fuel oil used.[2] **(40 CFR 52.21(c) & (d), 40 CFR 60.48c(g))**

2. The permittee shall calculate average daily SO_2 emissions from EU-BOILER2 and EU-BOILER3 each calendar month using the method delineated in Appendix 7.1.[2] **(R 336.1401, 40 CFR 52.21(c) & (d))**

3. The permittee shall keep a record of the number of operating days in each calendar month for EU-BOILER2 and EU-BOILER3.[2] **(R 336.1401, 40 CFR 52.21(c) & (d))**

4. The permittee shall calculate NOx emissions from EU-BOILER2 and EU-BOILER3 each calendar month and 12-month rolling time period, as determined at the end of each calendar month, using the method and emission factors delineated in Appendix 7.2.[2] **(40 CFR 52.21(c) & (d))**

5. The permittee shall keep a record of the emission calculations for EU-BOILER2 and EU-BOILER3.[2] **(40 CFR 52.21(c) & (d))**

6. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER2 and EUBOILER3. The permittee shall record all preventative maintenance events and have the records available upon request.[2] **(R 336.1910, R 336.1911)**

7. The permittee shall monitor and keep records of the number of hours EU-BOILER2 and EU-BOILER3 were operated on liquid fuel for periodic testing, maintenance, or operator training during each calendar year.[2] **(40 CFR Part 63, Subpart JJJJJJ)**

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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-STACK1	48[2]	131[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Unit.[2] **(40 CFR 60 Subpart Dc)**

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).

FG-BOILERS4&5
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Boiler 4 and Boiler 5. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.

Emission Units: EU-BOILER4, EU-BOILER5

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	48.5 tpy combined[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER4, EU-BOILER5	SC VI.4	**40 CFR 52.21(c) & (d)**
2. VE	6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity. The opacity standard shall apply at all times except during periods of startup, shutdown or malfunction.[2]	6-minute average per hour	EU-BOILER4, EU-BOILER5	GC 11, SC VI.6	**40 CFR 60.43c(c) & (d)**
3. SO2	1.1 pounds combined for each calendar day.[2]	Calendar month average	EU-BOILER4, EU-BOILER5	SC VI.2	**R 336.1401, 40 CFR 52.21(c) & (d)**

Note: A calendar day is defined as 24 consecutive hours from midnight to midnight.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Natural Gas	693.8 MMscf combined per year[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER4, EU-BOILER5	SC VI.1	**40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)**
2. Fuel Oil No. 2	5,250 gallons combined per year[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER4, EU-BOILER5	SC VI.1	**40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn virgin fuel oil No. 2 in EU-BOILER4 and EU-BOILER5 during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year.[2] **(40 CFR Part 63, Subpart JJJJJJ)**

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 keep monthly and 12-month rolling natural gas and fuel oil No. 2 usage records for EU-BOILER4 and EU-BOILER5 in a format acceptable to the AQD District Supervisor of the amount of natural gas used, in MM cubic feet, and of the amount of fuel oil used, in gallons, each calendar month. The records shall indicate the total amount of natural gas and fuel oil used.[2] **(40 CFR 52.21(c) & (d), 40 CFR 60.48c(g))**

2. The permittee shall calculate average daily SO_2 emissions from EU-BOILER4 and EU-BOILER5 each calendar month and on a rolling 12-month time period using the method delineated in Appendix 7.1.[2] **(R 336.1401, 40 CFR 52.21(c) & (d))**

3. The permittee shall keep a record of the number of operating days in each calendar month for EU-BOILER4 and EU-BOILER5.[2] **(R 336.1401, 40 CFR 52.21(c) & (d))**

4. The permittee shall calculate NOx emissions from EU-BOILER4 and EU-BOILER5 each calendar month and 12-month rolling time period, as determined at the end of each calendar month, using the method and emission factors delineated in Appendix 7.2.[2] **(40 CFR 52.21(c) & (d))**

5. The permittee shall keep a record of the emission calculations for EU-BOILER4 and EU-BOILER5.[2] **(40 CFR 52.21(c) & (d))**

6. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER4 and EU-BOILER5. The permittee shall record all preventative maintenance events and have the records available upon request.[2] **(R 336.1910, R 336.1911)**

7. The permittee shall monitor and keep records of the number of hours EU-BOILER4 and EU-BOILER5 were operated on liquid fuel for periodic testing, maintenance, or operator training during each calendar year.[2] **(40 CFR Part 63, Subpart JJJJJJ)**

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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-BOILER4	30.0[2]	35.1[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**
2. SV-BOILER5	42.0[2]	35.1[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Unit.[2] **(40 CFR 60 Subpart Dc)**

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).

FG-FUELOIL
FLEXIBLE GROUP CONDITIONS

DESCRIPTION
Emission units subject to a sulfur dioxide emission standard and a fuel oil certification or analysis requirement. Some emission units are also subject to fuel usage limits.

Emission Units: EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Fuel Oil No. 2	65,000 gallons combined per year[2]	12-month rolling time period as determined at the end of each calendar month	EU-ELECGEN6, EU-ELECGEN7	SC VI.2	**40 CFR 52.21(c) & (d)**
2. Fuel Oil No. 2	65,000 gallons combined per year[2]	12-month rolling time period as determined at the end of each calendar month	EU-ELECGEN8, EU-ELECGEN9	SC VI.2	**40 CFR 52.21(c) & (d)**
3. Sulfur content in fuel	15 ppm sulfur in fuel by weight in each fuel shipment.[2]	Each fuel oil shipment	FG-FUELOIL	SC VI.1	**R 336.1401, 40 CFR 52.21(c) & (d), 40 CFR 60.42c(d)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in any emission unit in FG-FUELOIL, demonstrating that the fuel sulfur content meets the requirement for all emission units covered in FG-FUELOIL. The certification or test data shall include the name of the oil supplier or laboratory, and the sulfur content of the fuel oil.[2] **(R 336.1205(1)(a), R 336.1401, 40 CFR 60.48c(f))**

2. The permittee shall keep fuel oil usage records for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8 and EU-ELECGEN9 in a format acceptable to the AQD District Supervisor indicating the amount of fuel used in gallons each calendar monthly and 12-month rolling. The records shall indicate the total amount of fuel oil used.[2] **(40 CFR 52.21(c) & (d))**

3. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8 and EU-ELECGEN9. The permittee shall record all preventative maintenance events and have the records available upon request.[2] **(R 336.1910, R 336.1911)**

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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit semiannual reports consisting of fuel oil analyses either conducted by the fuel oil supplier or an independent laboratory and a certified statement signed by a responsible official indicating that the analysis submitted represents all of the fuel oil combusted during the reporting period. Each semiannual report shall be postmarked by the 30th day following the end of the reporting period. The semiannual reporting periods shall coincide with the reporting periods specified for the semiannual deviation reports (January 1 through June 30 and July 1 through December 31, respectively).[2] **(40 CFR 60.48c(d), 40 CFR 60.48c(e), 40 CFR 60.8(j))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

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).

FG-EMERGENCY
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Includes ~~six~~ four permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63, Subpart ZZZZ.

Emission Units: EU-ELECGEN6, EU-ELECGEN7, EU ELECGEN8, EU-ELECGEN9

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate any engine in FG-EMERGENCY for more than 500 hours per year on a 12-month rolling time period basis, as determined at the end of each calendar month.[2] **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine in FG-EMERGENCY with a non-resettable hour meter to track the operating hours.[2] **(R 336.1205(1)(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 monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine in FG-EMERGENCY, on a monthly and 12-month rolling time period basis, as determined at the end of each calendar month, in a manner that is acceptable to the District Supervisor, Air Quality Division. The permittee shall document how many hours are spent for emergency operation of each engine of FG-EMERGENCY, including what classified the operation as emergency and how many hours are spent for non-emergency operation. All records shall be kept on file and made available to the Department upon request.[2] **(R 336.1205(1)(a))**

2. The permittee shall maintain the following record for each engine in FG-EMERGENCY. The following information shall be recorded and kept on file at the facility:

a. Engine manufacturer;

b. Date engine was manufactured;

c. Engine model number;

d. Engine horsepower;

e. Engine serial number;

f. Engine specification sheet;

g. Date of initial startup of the engine; and

h. Date engine was removed from service at this stationary source.

All of the above information shall be stored in a format acceptable to the AQD District Supervisor.[2] **(R 336.1301, R 336.1331, R 336.1702, R 336.1910, R 336.1911, R 336.1912)**

VII. REPORTING

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

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

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. SV-ELECGEN6	15.6[2]	50[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**
2. SV-ELECGEN7	15.6[2]	50[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**
3. SV-ELECGEN8	18[2]	37[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**
4. SV-ELECGEN9	18[2]	37[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and ZZZZ, as they apply to FG-EMERGENCY.[2] **(40 CFR Part 63, Subparts A & 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).

FG-MACTZZZZ-EMER
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Includes four permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63, Subpart ZZZZ. Also, includes two existing institutional emergency stationary reciprocating internal combustion engines (EU-RESGEN1, EU-RESGEN2) that are exempt from obtaining a Permit to Install pursuant to R 336.1285(g).

Emission Units: EU-ELECGEN6, EU-ELECGEN7, EU ELECGEN8, EU-ELECGEN9, EU-RESGEN1, EU-RESGEN2

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Engines in FG-MACTZZZZ-EMER shall not operate or be contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), as stated in SC IV.4.b.ii. and iii below. **(40 CFR 63.6585(f)(3))**

2. Engines in FG-MACTZZZZ-EMER shall not be used to supply power as part of a financial arrangement with another entity. **(40 CFR 63.6585(f)(3))**

3. In order for an engine to be considered an emergency stationary RICE, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 63.6640(f)(1) through (4), and listed below, is prohibited. If you do not operate the engine according to the requirements in paragraphs 40 CFR 63.6640(f)(1) through (4), the engine will not be considered an emergency engine under 40 CFR 63 Subpart ZZZZ and will need to meet all requirements for non-emergency engines.

   a. There is no time limit on the use of emergency stationary RICE in emergency situations. **(40 CFR 63.6640(f)(1))**

   b. You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs 40 CFR 63.6640(f)(2)(i) through (iii), listed below, for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs 40 CFR 63.6640(f) counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

i. Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

ii. Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

iii. Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. **(40 CFR 63.6640(f)(2)**

c. Emergency stationary RICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours of operation are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response. **(40 CFR 63.6640(f)(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. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine in FG-MACTZZZZ-EMER, on a monthly and 12-month rolling time period basis, as determined at the end of each calendar month, in a manner that is acceptable to the District Supervisor, Air Quality Division. The permittee shall document how many hours are spent for emergency operation of each engine of FG-MACTZZZZ-EMER, including what classified the operation as emergency and how many hours are spent for non-emergency operation. All records shall be kept on file and made available to the Department upon request. **(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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and ZZZZ, as they apply to FG-MACTZZZZ-EMER. **(40 CFR Part 63, Subparts A & 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).

FG-ELECGEN1&2R
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two 2,000 kilowatts (kW) diesel-fueled emergency engines manufactured in 2013.

Emission Units: EU-ELECGEN1R, EU-ELECGEN2R

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NMHC + NOx	6.4 g/kW-hr[2]	Hourly	Each engine of FG-ELECGEN1&2R	SC VI.2	**40 CFR 60.4205(b)**
2. CO	3.5 g/kW-hr[2]	Hourly	Each engine of FG-ELECGEN1&2R	SC VI.2	**40 CFR 60.4205(b)**
3. PM	0.20 g/kW-hr[2]	Hourly	Each engine of FG-ELECGEN1&2R	SC VI.2	**40 CFR 60.4205(b)**

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel, in each engine of FG-ELECGEN1&2R with the maximum sulfur content of 15 ppm (0.0015 percent) by weight.[2] **(R 336.1205(1)(a) & (3), R 336.1402(1), 40 CFR 60.4207, 40 CFR 80.510(b))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate either engine of FG-ELECGEN1&2R for more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. The 500 hours includes the hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2.[2] **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d))**

2. The permittee may operate each engine of FG-ELECGEN1&2R for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. Each engine of FG-ELECGEN1&2R may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply non-emergency power as part of a financial arrangement with another entity.[2] **(40 CFR 60.4211)**

3. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart IIII, for the same model year, the permittee shall meet the following requirements for each engine of FG-ELECGEN1&2R:

a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions,
b. Keep a maintenance plan and the permittee may only change those engine settings that are permitted by the manufacturer. If you do not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine, and
c. Meet the requirements as specified in 40 CFR 89, as it applies to you.[2] **(40 CFR 60.4211(a))**

4. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for either engine of FG-ELECGEN1&2R and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions.[2] **(40 CFR 60.4211(g)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine of FG-ELECGEN1&2R with non-resettable hours meters to track the operating hours.[2] **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4209)**

2. The nameplate capacity of each engine of FG-ELECGEN1&2R shall not exceed 2,000 kW, as certified by the equipment manufacturer.[2] **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4202, 40 CFR 89.112(a))**

V. TESTING/SAMPLING

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

1. The permittee shall conduct an initial performance test for either engine of FG-ELECGEN1&2R within one year after startup of the engine to demonstrate compliance with the emission limits in 40 CFR 60.4205 unless the engine has been certified by the manufacturer and the permittee maintains the engine as required by 40 CFR Part 60 Subpart IIII. If a performance test is required, the performance test shall be conducted according to 40 CFR 60.4212. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test.[2] **(40 CFR 60.4211, 40 CFR 60.4212, 40 CFR Part 60, Subpart IIII)**

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 in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.[2] **(R 336.1205(1)(a) & (3), 40 CFR 52.21 (c) & (d))**

2. For each engine, the permittee shall keep, in a satisfactory manner, records of testing required in SC V.1 or manufacturer certification documentation indicating that each engine of FG-ELECGEN1&2R meets the applicable emission limitations contained in the federal Standards of Performance for New Stationary Sources 40 CFR Part 60 Subpart IIII. If either engine of FG-ELECGEN1&2R becomes uncertified, then the permittee must also keep records of a maintenance plan and of maintenance activities. The permittee shall keep all records on file and make them available to the Department upon request.[2] **(40 CFR 60.4211)**

3. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine of FG-ELECGEN1&2R, on a monthly and 12-month rolling time period basis, as determined at the end of each calendar month, in a manner acceptable to the District Supervisor, Air Quality Division. The permittee shall document how many hours are spent for emergency operation of each engine of FG-ELECGEN1&2R, including what classified the operation as emergency and how many hours are spent for non-emergency operation.[2] **(R 336.1205(1)(a) & (3), 40 CFR 60.4211, 40 CFR 60.4214)**

4. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in each engine of FG-ELECGEN1&2R, demonstrating that the fuel sulfur

content meets the requirement of 40 CFR 80.510(b). The certification or test data shall include the name of the oil supplier or laboratory, and the sulfur content of the fuel oil.[2] **(R 336.1205(1)(a) & (3), R 336.1402(1), 40 CFR 80.510(b))**

5. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for each engine of FG-ELECGEN1&2R. The permittee shall record all preventative maintenance events and have the records available upon request. **(R336.1213(3), R 336.1910, R 336.1911)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of each engine of FG-ELECGEN1&2R.[2] **(R 336.1201(7)(a))**

2. The permittee shall submit a notification specifying whether each engine of FG-ELECGEN1&2R will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation.[2] **(40 CFR Part 60, Subpart IIII)**

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

4. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

5. 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. SV-ELECGEN1R	14.4[2]	40[2]	**R 336.1225, 40 CFR 52.21 (c) & (d)**
2. SV-ELECGEN2R	14.4[2]	40[2]	**R 336.1225, 40 CFR 52.21 (c) & (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subpart A and Subpart IIII, as they apply to each engine of FG-ELECGEN1&2R.[2] **(40 CFR Part 60, Subparts A & IIII, 40 CFR 63.6590)**

2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZ, as they apply to each engine of FG-ELECGEN1&2R, upon startup.[2] **(40 CFR Part 63, Subparts A and ZZZZ, 40 CFR 63.6595)**

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).

FG-ELECGEN3R&4R
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two 23.5 MMBTU/hr, 3,633 bhp (2500 kilowatts (kW)), diesel-fueled emergency engines with a model year of 2011 or later, and a displacement of 4.88 liters/cylinder

Emission Units: EU-ELECGEN3R, EU-ELECGEN4R

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NMHC + NOx[A]	6.4 g/kW-hr[2]	Hourly	Each engine in FG-ELECGEN3R&4R	SC V.1, SC VI.2	**40 CFR 60.4205(b), 40 CFR 60.4202, Table 2 of Appendix I of 40 CFR 1039**
2. CO[A]	3.5 g/kW-hr[2]	Hourly	Each engine in FG-ELECGEN3R&4R	SC V.1, SC VI.2	**40 CFR 60.4205(b), 40 CFR 60.4202, Table 2 of Appendix I of 40 CFR 1039**
3. PM[A]	0.20 g/kW-hr[2]	Hourly	Each engine in FG-ELECGEN3R&4R	SC V.1, SC VI.2	**40 CFR 60.4205(b), 40 CFR 60.4202, Table 2 of Appendix I of 40 CFR 1039**
4. NOx	25.6 tpy[B,2]	12-month rolling time period as determined at the end of each calendar month	FG-ELECGEN3R&4R	SC VI.6	**40 CFR 52.21(c) & (d)**

[A] These emission limits are for certified engines; if testing becomes required to demonstrate compliance, then the tested values must be compared to the Not to Exceed (NTE) requirements determined through 40 CFR 60.4212(c).
[B] Based on the emission factor 6.38 g/bhp-hr at maximum capacity of 3633 bhp at 500 hours as restricted in SC III.1

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel, in each engine of FG-ELECGEN3R&4R with the maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent.[2] **(R 336.1205(1)(a) & (3), R 336.1402(1), 40 CFR 60.4207, 40 CFR 1090.305)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate each engine in FG-ELECGEN3R&4R for more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. The 500 hours includes the

hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2.[2] **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d))**

2. The permittee may operate each engine in FG-ELECGEN3R&4R for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year.[2] **(40 CFR 60.4211(f)(2))**

3. The permittee may operate each engine in FG-ELECGEN3R&4R up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted as part of the 100 hours per calendar year provided for maintenance and testing as provided in 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.[2] **(40 CFR 60.4211(f)(3))**

4. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60, Subpart IIII, for the same model year, the permittee shall meet the following requirements for each engine of FG-ELECGEN3R&4R:

   a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions,

   b. Change only those emission-related settings that are permitted by the manufacturer, and

   c. Meet the requirements as specified in 40 CFR 1068, as they apply to the engine.

   If you do not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine.[2] **(40 CFR 60.4211(a)**

5. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for either engine of FG-ELECGEN3R&4R and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions.[2] **(40 CFR 60.4211(g)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine of FG-ELECGEN3R&4R with non-resettable hour meters to track the operating hours.[2] **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4209)**

2. The nameplate capacity of each engine of FG-ELECGEN3R&4R shall not exceed 2,500 kW, as certified by the equipment manufacturer.[2] **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4202, 40 CFR 60.4205, 40 CFR 1039, 40 CFR 1042)**

V. TESTING/SAMPLING

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

1. If any engine in FG-ELECGEN3R&4R is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:

   a. Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

b. If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212.

c. Conduct subsequent performance testing every 8,760 hours of engine operation or every 3 years thereafter, whichever comes first, to demonstrate compliance with the applicable emission standards.

No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.[2] **(40 CFR 60.4211(g) (3), 40 CFR 60.4212)**

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 in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.[2] **(R 336.1205(1)(a) & (3), 40 CFR 52.21 (c) & (d))**

2. The permittee shall keep, in a satisfactory manner, the following records for each engine in FG-ELECGEN3R&4R:

   a. For each certified engine: The permittee shall keep records of the manufacturer certification documentation.

   b. For each uncertified engine: The permittee shall keep records of testing required in SC V.1.

   The permittee shall keep all records on file and make them available to the Department upon request.[2] **(40 CFR 60.4211)**

3. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for each engine in FG-ELECGEN3R&4R:

   a. For each certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.4.

   b. For each uncertified engine: The permittee shall keep records of a maintenance plan, as required by SC III.5, and maintenance activities.

   The permittee shall keep all records on file and make them available to the Department upon request.[2] **(40 CFR 60.4211)**

4. The permittee shall monitor and record, the total hours of operation for each engine in FG-ELECGEN3R&4R on a monthly and 12-month rolling time period basis, and the hours of operation during emergency and non-emergency service that are recorded through the non-resettable hour meter for each engine in FG-ELECGEN3R&4R, on a calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of each engine in FG-ELECGEN3R&4RENGINES, including what classified the operation as emergency and how many hours are spent for non-emergency operation.[2] **(R 336.1205(1)(a) & (3), 40 CFR 60.4211, 40 CFR 60.4214)**

5. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in FG-ELECGEN3R&4R, demonstrating that the fuel meets the requirement of 40 CFR 1090.305. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil.[2] **(R 336.1205(1)(a) & (3), R 336.1402(1), 40 CFR 1090.305)**

6. The permittee shall calculate and keep, in a manner acceptable to the AQD supervisor, records of monthly and 12-month rolling NO_x emissions for FG-ELECGEN3R&4R during months of operation. The permittee shall keep all records on file and make them available to the Department upon request. The calculations shall be performed in a method approved by the District Supervisor.[2] **(40 CFR 52.21(c) & (d))**

VII. REPORTING

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

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

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

5. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of each engine of FG-ELECGEN3R&4R.[2] **(R 336.1201(7)(a))**

6. The permittee shall submit a notification specifying whether each engine of FG-ELECGEN3R&4R will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation.[2] **(40 CFR Part 60, Subpart IIII)**

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. SV-STACK2	36[2]	126[2]	**R 336.1225, 40 CFR 52.21(c) & (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart IIII, as they apply to each engine of FG-ELECGEN3R&4R.[2] **(40 CFR Part 60, Subparts A & IIII, 40 CFR 63.6590)**

2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, as they apply to each engine of FG-ELECGEN3R&4R, upon startup.[2] **(40 CFR Part 63, Subparts A and ZZZZ, 40 CFR 63.6595)**

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).

FG-ETOSTERILIZERS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two (2) 3M Steri-Vac 8XL Gas Sterilizers and two (2) 3M Steri-Vac 5XL Gas Sterilizers, each controlled by one of the three Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.

Emission Units: EU-ETOSTERILIZER1, EU-ETOSTERILIZER2, EU-ETOSTERILIZER3, EU-ETOSTERILIZER4

POLLUTION CONTROL EQUIPMENT:

Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. EtO	0.0059 pph[2]	Hourly	FG-ETOSTERILIZERS (all sterilizers combined)	SC V.1, SC VI.3	**R 336.1227(2)**
2. EtO	3.69 lb/year[2]	12-month rolling time period as determined at the end of each calendar month	FG-ETOSTERILIZERS (all sterilizers combined)	SC VI.2	**R 336.1225(2), R 336.1702(a)**

II. MATERIAL LIMIT(S)

1. The permittee shall not use more than 0.37 lb EtO per cycle/load in EU-ETOSTERILIZER1 or EU-ETOSTERILIZER2. Additionally, the permittee shall not use more than 0.22 lb EtO per cycle/load in EU-ETOSTERILIZER3 or EU-ETOSTERILIZER4.[2] **(R 336.1225, R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate any sterilizer associated with FG-ETOSTERILIZERS unless the Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the control system includes a minimum EtO destruction efficiency of 99.5 percent by weight, as well as, the Malfunction Abatement Plan (MAP) as described in SC III.2.[2] **(R 336.1225, R 336.1702(a), R 336.1910)**

2. The permittee shall not operate any sterilizer associated with FG-ETOSTERILIZERS unless a malfunction abatement plan (MAP) as described in Rule 911(2), has been submitted within 60 days of permit issuance, and is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.[2] **(R 336.1225, R 336.1702(a), R 336.1910, R 336.1911)**

3. The permittee shall sterilize full loads of items having a common aeration time, except under medically necessary circumstances, as that term is defined in 40 CFR 63.10448. **(40 CFR 63.10390)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate any sterilizer associated with FG-ETOSTERILIZERS unless each respective venturi and compressed air chamber exhaust system is installed, maintained, and operated in a satisfactory manner. The emission units shall not discharge EtO to a wastewater stream.[2] **(R 336.1225, R 336.1702(a))**

V. TESTING/SAMPLING

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

~~1. The permittee shall verify the EtO destruction efficiency of the acid scrubber and dry bed chemical filter system connected to the vents for EU-ETOSTERILIZER3 and EU-ETOSTERILIZER4 by testing at the owner's expense, in accordance with the Department requirements no later than May 30, 2020. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**~~

~~2.~~1. The permittee shall verify the destruction efficiency of each acid scrubber and dry bed chemical filter system connected to the vents for EU-ETOSTERILIZER1 and EU-ETOSTERILZER2 by testing at the owner's expense, in accordance with the Department requirements no later than September 30, 2024. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(32), R 336.2001, R 336.2003, R 336.2004)**

~~3.~~2. The permittee shall verify the EtO destruction efficiency of each acid scrubber and dry bed chemical filter system in FG-ETOSTERILIZERS, at a minimum, every five years from the date of the last test. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. This testing requirement may be waived if the most recent approved stack test results remain valid and representative and, an acceptable demonstration is made to and approved by the AQD District Supervisor. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

~~4.~~3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

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 in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.[2] **(R 336.1225, R 336.1702(a))**

2. The permittee shall keep a separate monthly record of the following information:

   a. The amount of EtO used in each sterilizer per cycle/load.

b. The number of cycles/loads processed in each sterilizer per calendar day and per calendar month.

c. EtO mass emission calculations determining the monthly emission rate, in pounds per calendar month, from each sterilizer, and for all sterilizers combined.

d. EtO mass emission calculations determining the annual emission rate in pounds per 12-month rolling time period as determined at the end of each calendar month, for each sterilizer and for all sterilizers combined.

The permittee shall keep the records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.[2] **(R 336.1225, R 336.1702(a))**

3. The permittee shall monitor a parameter of the Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters, based on either the manufacturer's specifications or a performance test, which assures at least 99.5 percent reduction of EtO emissions. A copy of the manufacturer's specifications for the control device shall be maintained on file.[2] **(R 336.1225, R 336.1910)**

4. The permittee shall keep the following in a satisfactory manner: records of the date, duration, and description of any malfunction of the control equipment; any maintenance performed; replacement of the Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters and any testing results for FG-ETOSTERILIZERS. All records shall be kept on file and made available to the Department upon request.[2] **(R 336.1225, R 336.1910)**

5. The permittee shall keep records of the date and time of any sterilization cycle that does not contain a full load of items. The records shall include a statement from a hospital central services staff, a hospital administrator, or a physician that it was medically necessary. **(R 336.1213(3))**

6. The permittee shall keep a copy of the Initial Notification of Compliance Status submitted to comply with 40 CFR 63 Subpart WWWWW. **(40 CFR 63.10432)**

VII. REPORTING

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

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-ETOSTACK	18[2]	35[2]	**R 336.1225, 40 CFR 52.21 (c) & (d)**

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 Part 63, Subpart A and Subpart WWWWW for Hospital Ethylene Oxide Sterilizers by the initial compliance date.[2] **(40 CFR Part 63, Subpart A and Subpart WWWWW)**

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).

FG-RULE287(2)(c)
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 287(2)(c). Emission units installed/modified before December 20, 2016, may show compliance with Rule 287 in effect at the time of installation/modification.

Emission Units installed on or after December 20, 2016: NA

Emission Units installed prior to December 20, 2016: EU-WOODSHOP

POLLUTION CONTROL EQUIPMENT

Installed fabric filters on each paint booth. Dust collector installed on woodworking equipment.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Underlying Applicable Requirement
1. Coatings	200 Gallons/month (minus water as applied)	Calendar month	Each emission unit	**R 336.1287(2)(c)(i)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Any exhaust system installed on or after December 20, 2016, that serves only coating spray equipment shall be equipped with a dry filter control or water wash control which is installed, maintained, and operated in accordance with the manufacturer's specifications, or the permittee develops a plan which provides to the extent practicable for the maintenance and operation of the equipment in a manner consistent with good air pollution control practices for minimizing emissions. All emission units installed before December 20, 2016, with an exhaust system that serves only coating spray equipment must have a properly installed and operated particulate control system. **(R 336.1213(2), R 336.1287(2)(c)(ii), R 336.1910))**

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 EGLE, AQD Rule 287(2)(c), Permit to Install Exemption Record form (EQP 3562) or in a format acceptable to the AQD District Supervisor. **(R 336.1213(3))**

a. Volume of coating used, as applied, minus water, in gallons. **(R 336.1287(2)(c)(iii))**

b. Documentation of any filter replacements or maintenance of water wash control for exhaust systems serving coating spray equipment or other documentation included in a plan developed by the owner or operator of the equipment. **(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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall not operate woodworking tools in EU-WOODSHOP, unless a dust collection system is properly installed, operated, and maintained. **(R 336.1213(3), R. 336.1910, R 336.1301(3))**

2. The permittee shall maintain monthly maintenance records of the dust collection control located in the woodworking area of EU-WOODSHOP. **(R 336.1213(3), R 336.1301(3))**

FG-COLDCLEANERS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278a and Rule 281(2)(h) or Rule 285(2)(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 Units: EU-CCGARAGE

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(2)(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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

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
CEMS	Continuous Emission Monitoring System	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
Department/ department	Michigan Department of Environment, Great Lakes, and Energy	gr	Grains
		HAP	Hazardous Air Pollutant
EGLE	Michigan Department of Environment, Great Lakes, and Energy	Hg	Mercury
		hr	Hour
EU	Emission Unit	HP	Horsepower
FG	Flexible Group	H_2S	Hydrogen Sulfide
GACS	Gallons of Applied Coating Solids	kW	Kilowatt
GC	General Condition	lb	Pound
GHGs	Greenhouse Gases	m	Meter
HVLP	High Volume Low Pressure*	mg	Milligram
ID	Identification	mm	Millimeter
IRSL	Initial Risk Screening Level	MM	Million
ITSL	Initial Threshold Screening Level	MW	Megawatts
LAER	Lowest Achievable Emission Rate	NMOC	Non-methane Organic Compounds
MACT	Maximum Achievable Control Technology	NO_x	Oxides of Nitrogen
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	PM	Particulate Matter
MSDS	Material Safety Data Sheet	PM10	Particulate Matter equal to or less than 10 microns in diameter
NA	Not Applicable		
NAAQS	National Ambient Air Quality Standards	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pounds per hour
		ppm	Parts per million
NSPS	New Source Performance Standards	ppmv	Parts per million by volume
NSR	New Source Review	ppmw	Parts per million by weight
PS	Performance Specification	%	Percent
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonable Available Control Technology	sec	Seconds
ROP	Renewable Operating Permit	SO_2	Sulfur Dioxide
SC	Special Condition	TAC	Toxic Air Contaminant
SCR	Selective Catalytic Reduction	Temp	Temperature
SNCR	Selective Non-Catalytic Reduction	THC	Total Hydrocarbons
SRN	State Registration Number	tpy	Tons per year
TEQ	Toxicity Equivalence Quotient	µg	Microgram
USEPA/EPA	United States Environmental Protection Agency	µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
VE	Visible Emissions	yr	Year

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

Appendix 2. Schedule of Compliance

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

Appendix 3. Monitoring Requirements

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

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-G5067-2014. Those ROP revision applications that are being issued concurrently with this ROP renewal are identified by an asterisk (*). Those revision applications not listed with an asterisk were processed prior to this renewal.

Source-Wide PTI No MI-PTI-G5067-2014 is being reissued as Source-Wide PTI No. MI-PTI-G5067-2019b.

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

The following table lists the ROP amendments or modifications issued after the effective date of ROP No. MI-ROP-G5067-2019.

Permit to Install Number	ROP Revision Application Number - Issuance Date	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
95-19	202000085 / September 1, 2020	Incorporate PTI 95-19 into the ROP, which was to modify the monitoring/recordkeeping frequency for fuel usage from daily to monthly. The underlying applicability (UAR) for this condition was 40 CFR Part 60.48c(g) (Subpart Dc). At the time the boilers were initially permitted Subpart DC required daily fuel records; however, it has been amended to allow for records to be maintained on a monthly basis when using a fuel certification in 60.48c(f). The change in recordkeeping impacts the requirement for daily calculations of SO2 and NOx for FG-BOILERS2&3 and FG-BOILERS3&4. The facility requested for monthly calculations instead of daily. Additionally, during permitting, it was determined that EU-RESGEN1 and EU-RESGEN2 could be included in Flexible Groups FG-FUELOIL and FG-EMERGENCY, and therefore, FG-RESGENS was removed. No new equipment was proposed to be installed nor any existing equipment proposed to be physically modified. The only changes requested are related to recordkeeping. This PTI was not required to go through the public participation process.	EU-RESGEN1 EU-RESGEN2 FG-BOILERS2&3 FG-BOILERS4&5 FG-FUELOIL, FG-EMERGENCY
95-19A	202300007 / April 5, 2023	Incorporate PTI No. 95-19A which was to install two emergency reciprocating internal combustion engines, , and to remove two existing emergency Rice gensets. The two existing gensets removed were EU-COGEN1 and EU-COGEN2. The two new emergency RICE gensets are EU-ELECGEN3R and EU-ELECGEN4R and are fueled with No. 2 fuel oil. Additionally, EURESGEN1 and EURESGEN2 are exempt emission units that were kept in the ROP and renamed the associated flexible group as FG-MACTZZZZ-EMER and just carried forward the federal requirements for the emission units. Emission Units EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9 were also carried forward in as FG-MACTZZZZ-EMER. The flexible group FG-EMERGENCY was added to the ROP from PTI No. 95-19A permitted Conditions.	EU-ELECGEN3R, EU-ELECGEN4R FG-BOILERS2&3, FG-BOILERS4&5 FG-ELECGEN3R&4R FG-FUELOIL FG-EMERGENCY FG-MACTZZZZ-EMER

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 EU-BOILER1, FG-BOILERS2&3, and FG-BOILERS4&5.

7.1 The permittee shall calculate the SO_2 emissions from Boiler No. 1 through Boiler No. 5 using the following equation:

$ESO2_{daily} = F_{fueloil}/O * D * S * 2$

Where:

"$ESO2_{daily}$" is the emission of SO_2, in pounds, on a daily basis recorded each calendar month;

"$F_{fueloil}$" = is the monthly fuel oil usage rate, in gallons;

"D" is the density of the fuel oil in lbs. per gallon based on the most recent fuel supplier certification or fuel sample test data, or 7.2 if not data is available;

"S" is the sulfur content of the fuel oil in lb. per lb. of fuel oil based on the most recent fuel supplier certification or fuel sample test data;

"2" is the conversion of sulfur to sulfur dioxide; and

"O" is the number of operating days recorded each calendar month.

7.2 The permittee shall calculate the NOx emissions from Boiler No. 1 through Boiler No. 5 using the following equation:

~~$ENOx_{daily}$~~ $ENOx_{monthly}$ = $(F_{gasflow} * 0.0001) + (F_{fueloil} * 0.02)$

Where:

"~~$ENOx_{daily}$~~$ENOx_{monthly}$" is the emission rate, in pounds, of NOx on a ~~daily~~ monthly basis which shall be recorded each calendar ~~day~~month;

"$F_{gasflow}$" is the natural gas usage rate, in cubic feet;

"$F_{fueloil}$" is the fuel oil usage rate, gallon(s);

"0.0001" is the emission factor for NOx emissions in pounds per cubic foot of natural gas; and

"0.02" is the emission factor of NOx is pounds per gallon of fuel oil.

$ENOx_{annual}$ in tons = The sum of all $ENOx_{monthly}$~~daily~~ for the previous consecutive ~~365~~ 12 calendar ~~days~~months/2000.

$ENOx_{annual}$ shall be recorded each calendar ~~day~~month.

~~[1]Compliance with the allowable emission rate shall be determined using an emission factor of 0.00000154 pounds of NOx per BTU, until such time that the NOx emission testing is completed. Following completion of the NOx emission testing, compliance with the annual allowable NOx emission rate shall be determined using the results of the most recent performance test.~~

Appendix 8. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

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

B. Other Reporting

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, Part B of this appendix is not applicable.

ATTACHMENT 3

- Facility PTE Calculations

Table 1. Boiler No. 1 emission calculations

UNIT ID: EU-BOILER1

Throughput:
- 39.0 MMBtu/hr
- 325 MMcf natural gas fired
- 2.44E+06 gal. fuel oil fired
- 0.0015 wt % sulfur in Fuel oil[2]

Description / Activity Code	Regulated Air Pollutants								
	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	VOC	TNMOC	Lead	Ammonia
Combustion of natural gas									
SCC 1-03-006-02									
Emission Factors (lb./MMcf gas)	84.0	100	0.60	7.60	7.60	5.50	-	5.00E-04	0.49
Annual Emissions[1] (lbs./yr.)	27,331	32,537	195	2,473	2,473	1,790	-	0.16	159
Combustion of fuel oil									
SCC 1-02-005-02									
Emission Factors (lb./1000 gal. Fuel oil)	5.00	20.0	0.21	2.38	2.13	-	0.34	1.25E-03	0.80
Annual Emissions (lbs./yr.)	12,201	48,806	520	5,808	5,198	-	830	3.05E+00	1,952

1. Annual emissions (TpY) = [Emission factor, lb./MMcf gas] x [Gas combusted, MMcf]
2. Fuel Oil Sulfur Dioxide Emission Factor = 142 * (wt % sulfur in fuel oil) lbs SO_2 / 1000 gal. Fuel Oil * Fuel Oil combusted (gal.)
3. Default MAERS emission factors.

Table 2. Boiler No. 2 emission calculations

UNIT ID: EU-BOILER2

Throughput: 420 MMcf natural gas fired
200,000 gal. fuel oil fired
0.0015 wt % sulfur in Fuel oil[2]

Description / Activity Code	Regulated Air Pollutants								
	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	VOC	TNMOC	Lead	Ammonia
Combustion of natural gas SCC 1-03-006-02									
Emission Factors (lb./MMcf gas)	84.0	100	0.60	7.60	7.60	5.50	-	5.00E-04	0.49
Annual Emissions[1] (lbs./yr.)	35,280	42,000	252	3,192	3,192	2,310	-	0.21	206
Combustion of fuel oil SCC 1-02-005-02									
Emission Factors (lb./1000 gal. Fuel oil)	5.00	20.0	0.21	2.38	2.13	-	0.34	1.25E-03	0.80
Annual Emissions (lbs./yr.)	1,000	4,000	42.6	476	426	-	68.0	2.50E-01	160

1. Annual emissions (TpY) = [Emission factor, lb./MMcf gas] x [Gas combusted, MMcf]
2. Fuel Oil Sulfur Dioxide Emission Factor = 142 * (wt % sulfur in fuel oil) lbs SO_2 / 1000 gal. Fuel Oil * Fuel Oil combusted (gal.)
3. Default MAERS emission factors.

Table 3. Boiler No. 4 emission calculations

UNIT ID: EU-BOILER4

Throughput: 693.8 MMcf natural gas fired
5,250 gal. fuel oil fired
0.0015 wt % sulfur in Fuel oil[2]

Description / Activity Code	Regulated Air Pollutants								
	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	VOC	TNMOC	Lead	Ammonia
Combustion of natural gas SCC 1-03-006-02									
Emission Factors (lb./MMcf gas)	84.0	100	0.60	7.60	7.60	5.50	-	5.00E-04	0.49
Annual Emissions[1] (lbs./yr.)	58,279	69,380	416	5,273	5,273	3,816	-	0.35	340
Combustion of fuel oil SCC 1-02-005-02									
Emission Factors (lb./1000 gal. Fuel oil)	5.00	20.0	0.21	2.38	2.13	-	0.34	1.25E-03	0.80
Annual Emissions (lbs./yr.)	26.3	105	1.12	12.5	11.2	-	1.79	6.56E-03	4.20

1. Annual emissions (TpY) = [Emission factor, lb./MMcf gas] x [Gas combusted, MMcf]
2. Fuel Oil Sulfur Dioxide Emission Factor = 142 * (wt % sulfur in fuel oil) lbs SO_2 / 1000 gal. Fuel Oil * Fuel Oil combusted (gal.)
3. Default MAERS emission factors.

Table 4. Boiler No. 5 emission calculations

UNIT ID: EU-BOILER5

Throughput: 0.0 MMcf natural gas fired
0.0 gal. fuel oil fired
0.0015 wt % sulfur in Fuel oil[2]

Description / Activity Code	Regulated Air Pollutants								
	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	VOC	TNMOC	Lead	Ammonia
Combustion of natural gas									
SCC 1-03-006-02									
Emission Factors (lb./MMcf gas)	84.0	100	0.60	7.60	7.60	5.50	-	5.00E-04	0.49
Annual Emissions[1] (lbs./yr.)	0.00	0.00	0.00	0.00	0.00	0.00	-	0.00E+00	0.00
Combustion of fuel oil									
SCC 1-02-005-02									
Emission Factors (lb./1000 gal. Fuel oil)	5.00	20.0	0.21	2.38	2.13	-	0.34	1.25E-03	0.80
Annual Emissions (lbs./yr.)	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00

1. Annual emissions (TpY) = [Emission factor, lb./MMcf gas] x [Gas combusted, MMcf]
2. Fuel Oil Sulfur Dioxide Emission Factor = 142 * (wt % sulfur in fuel oil) lbs SO_2 / 1000 gal. Fuel Oil * Fuel Oil combusted (gal.)
3. Default MAERS emission factors.
4. Boiler No. 4 and 5 have combined material use limits, all usage was put on Boiler No. 4 because the emission factors are identical.

Table 5. Boiler No. 3 emission calculations

UNIT ID: EU-BOILER3

Throughput: 420 MMcf natural gas fired
200,000 gal. fuel oil fired
0.0015 wt % sulfur in Fuel oil[2]

Description / Activity Code	Regulated Air Pollutants								
	CO	NO_X	SO_2	PM_{10}	$PM_{2.5}$	VOC	TNMOC	Lead	Ammonia
Combustion of natural gas SCC 1-03-006-02									
Emission Factors (lb./MMcf gas)	84.0	100	0.60	7.60	7.60	5.50	-	5.00E-04	0.49
Annual Emissions[1] (lbs./yr.)	35,280	42,000	252	3,192	3,192	2,310	-	0.21	206
Combustion of fuel oil SCC 1-02-005-02									
Emission Factors (lb./1000 gal. Fuel oil)	5.00	20.0	0.21	2.38	2.13	-	0.34	1.25E-03	0.80
Annual Emissions (lbs./yr.)	1,000	4,000	42.6	476	426	-	68.0	2.50E-01	160

1. Annual emissions (TpY) = [Emission factor, lb./MMcf gas] x [Gas combusted, MMcf]
2. Fuel Oil Sulfur Dioxide Emission Factor = 142 * (wt % sulfur in fuel oil) lbs SO_2 / 1000 gal. Fuel Oil * Fuel Oil combusted (gal.)
3. Default MAERS emission factors.

Table 6. Generator No. 6 emission calculations

UNIT ID: EU-ELECGEN6

Throughput: 65,000 gal. fuel oil fired

Description / Activity Code	Regulated Air Pollutants					
	CO	NO_X	SO_2	$PM_{2.5}$	PM_{10}	VOC
Fuel oil combustion, reciprocating engine SCC 2-03-001-01						
Emission Factors (lb./1000 gal fuel)	50.7	512	0.21	7.74	7.74	15.3
Annual Emissions[1] (lbs./yr.)	3296	33,274	13.7	503	503	992

1. Annual emissions (lbs./yr.) = [Emission factor, lb./1000 gal] x [Fuel combusted, gal] / 1000
2. SO_2 EF (lb/1000 gal) = 15 lb S/10^6 lb oil * 7.05 lb oil/gal * 2 lb SO_2/lb S * 1000 gal
3. CO, NOx, PM, VOC emission factors based on manufacturer's specifications.

Table 7. Generator No. 7 emission calculations

UNIT ID: EU-ELECGEN7

Throughput: 65,000 gal. fuel oil fired

Description / Activity Code	Regulated Air Pollutants					
	CO	NO_X	SO_2	$PM_{2.5}$	PM_{10}	VOC
Fuel oil combustion, reciprocating engine SCC 2-03-001-01						
Emission Factors (lb./1000 gal fuel)	50.7	512	0.21	7.74	7.74	15.3
Annual Emissions[1] (lbs./yr.)	3,296	33,274	13.7	503	503	992

1. Annual emissions (lbs./yr.) = [Emission factor, lb./1000 gal] x [Fuel combusted, gal] / 1000
2. SO_2 EF (lb/1000 gal) = 15 lb S/10^6 lb oil * 7.05 lb oil/gal * 2 lb SO_2/lb S * 1000 gal
3. CO, NOx, PM, VOC emission factors based on manufacturer's specifications.

Table 8. Emission calculations for East Powerhouse Generator Nos. 1 and 2

UNIT ID: RG-ELECGEN89

Throughput: 130,000 gal. fuel oil fired

Description / Activity Code	Regulated Air Pollutants					
	CO	NO_X	SO_2	$PM_{2.5}$	PM_{10}	VOC
Fuel oil combustion, reciprocating engine SCC 2-03-001-01						
Emission Factors (lb./1000 gal fuel)	36.8	508	0.21	4.77	4.77	7.42
Annual Emissions[1] (lbs./yr.)	4,787	66,005	27.5	620	620	965

1. Annual emissions (lbs./yr.) = [Emission factor, lb./1000 gal] x [Fuel combusted, gal] / 1000
2. SO_2 EF (lb/1000 gal) = 15 lb S/10^6 lb oil * 7.05 lb oil/gal * 2 lb SO_2/lb S * 1000 gal
3. CO, NOx, PM, VOC emission factors based on manufacturer's specifications.

Table 9. Emission calculations for West Powerhouse Generator Nos. 1R and 2R

UNIT ID: RG-ELECGEN1R2R

Throughput: 138,000 gal. fuel oil fired

MAERS Description / Activity Code	Regulated Air Pollutants					
	CO	NO_X	SO_2	$PM_{2.5}$	PM_{10}	VOC
Fuel oil combustion, reciprocating engine SCC 2-03-001-01						
Emission Factors (lb./1000 gal fuel)	15.8	286	0.21	1.31	1.31	5.78
Annual Emissions[1] (lbs./yr.)	2,176	39,529	29.2	181	181	798

1. Annual emissions (lbs./yr.) = [Emission factor, lb./1000 gal] x [Fuel combusted, gal] / 1000
2. SO_2 EF (lb/1000 gal) = 15 lb S/10^6 lb oil * 7.05 lb oil/gal * 2 lb SO_2/lb S * 1000 gal
3. CO, NOx, PM, VOC emission factors based on manufacturer's specifications.

Table 10. Emission calculations for West Powerhouse Generator Nos. 3R and 4R

UNIT ID: RG-ELECGEN3R4R

Throughput: 171,300 gal. fuel oil fired

Description	Regulated Air Pollutants					
Activity Code	CO	NO_X	SO_2	$PM_{2.5}$	PM_{10}	TOC
Fuel oil combustion, reciprocating engine SCC 2-03-001-01						
Emission Factors (lb./1000 gal fuel)	35.5	298	0.21	2.34	2.34	6.55
Annual Emissions[1] (lbs./yr.)	4,905	41,176	29.2	323	323	904

1. Annual emissions (lbs./yr.) = [Emission factor, lb./1000 gal] x [Fuel combusted, gal] / 1000
2. SO_2 EF (lb/1000 gal) = 15 lb S/10^6 lb oil * 7.05 lb oil/gal * 2 lb SO_2/lb S * 1000 gal
3. CO, NOx, PM, VOC emission factors based on manufacturer's specifications.

Table 11. Emission calculations for exempt research generators

UNIT ID: EU-RESRCHGENS

Throughput: 50,300 gal. fuel oil fired

Description / Activity Code	Regulated Air Pollutants						
	CO	NO_X	SO_2	$PM_{2.5}$	PM_{10}	TOC	Ammonia
Fuel oil combustion, reciprocating engine SCC 2-03-001-01							
Emission Factors (lb./1000 gal fuel)	130	604	0.21	42.5	42.5	49.3	2.90
Annual Emissions[1] (lbs./yr.)	6,539	30,381	11	2,138	2,138	2,480	146

1. Annual emissions (lbs./yr.) = [Emission factor, lb./1000 gal] x [Fuel combusted, gal] / 1000
2. SO_2 EF (lb/1000 gal) = 15 lb S/10^6 lb oil * 7.05 lb oil/gal * 2 lb SO_2/lb S * 1000 gal
3. Default CO, NOx, PM and VOC MAERS emission factors.

Table 12. Emission calculations for exempt research boilers

UNIT ID: RG-RESRCHBOIL

Throughput: 250.3 MMcf natural gas

Description / Activity Code	Regulated Air Pollutants							
	CO	NO_X	SO_2	$PM_{2.5}$	PM_{10}	VOC	Lead	Ammonia
Combustion of natural gas SCC 1-03-006-03								
Emission Factors (lb./MMcf gas)	84.0	100	0.60	7.60	7.60	5.50	5.00E-04	0.49
Annual Emissions[1] (TpY)	21,024	25,029	150	1902	1902	1377	0.13	123

1. Annual emissions (TpY) = [Emission factor, lb./MMcf gas] x [Gas combusted, MMcf]
2. Default MAERS emission factors.
3. Includes EU-RESBOILER1, EU-RESBOILER2, EU-RESBOILERHH, EU-RESBOILERDH.

Table 13. Air pollutant emission calculations for medical sterilizers

UNIT ID: RGETOSTERILIZERS

Air Contaminant	Total EtO Usage[1] (lb.)	Annual Emission Rate[1] (lb.)	(ton)
Ethylene oxide†	-	3.69	0.0018

† Volatile organic compound.

1. EtO usage and emission rates are obtained from monthly recordkeeping sheets.

Table 14. Air pollutant emission calculations for paint booth

MAERS ID: EU-WOODSHOP

Air Contaminant	Total Use (gal.)	VOC Emission Rate (lb./gal.)	Annual VOC Emission Rate[1] (lbs.)
Paint Used	2400	7.36	17,664
Totals	**2400**	**-**	**17,664**

1. Annual emissions (lbs.) = [Emission factor, lb./gal.] x [Paint used, gal.]

Table 15. Maximum TAC/HAP emission rates resulting from the use of diesel fuel in the boilers

Maximum Annual FO Usage: 2,845,536 gal

Air Pollutant	CAS No.	Diesel Fuel-Fired Boilers[1] (lb./1000 gal)	(lb./yr.)	(TpY)
1,1,1-Trichloroethane	71556	2.36E-04	6.72E-01	3.36E-04
† Acenaphthene	83329	2.11E-05	6.00E-02	3.00E-05
† Acenaphthylene	208968	2.53E-07	7.20E-04	3.60E-07
† Anthracene	120127	1.22E-06	3.47E-03	1.74E-06
† Benz(a)anthracene	56553	4.01E-06	1.14E-02	5.71E-06
Benzene	71432	2.14E-04	6.09E-01	3.04E-04
† Benzo(b,k)fluoranthene		1.48E-06	4.21E-03	2.11E-06
† Benzo(g,h,i)perylene	191242	2.26E-06	6.43E-03	3.22E-06
† Chrysene	218019	2.38E-06	6.77E-03	3.39E-06
† Dibenzo(a,h)anthracene	53703	1.67E-06	4.75E-03	2.38E-06
Ethylbenzene		6.36E-05	1.81E-01	9.05E-05
† Fluoranthene	206440	4.84E-06	1.38E-02	6.89E-06
† Fluorene	86737	4.47E-06	1.27E-02	6.36E-06
Formaldehyde	50000	3.30E-02	9.39E+01	4.70E-02
† Indeno(1,2,3-cd)pyrene	193395	2.14E-06	6.09E-03	3.04E-06
† Naphthalene	91203	1.13E-03	3.22E+00	1.61E-03
OCDD		3.10E-09	8.82E-06	4.41E-09
† Phenanthrene	85018	1.05E-05	2.99E-02	1.49E-05
† Pyrene	129000	4.25E-06	1.21E-02	6.05E-06
Toluene	108883	6.20E-03	1.76E+01	8.82E-03
Xylenes	1330207	1.09E-04	3.10E-01	1.55E-04
Total HAPs		**4.08E-02**	**116**	**0.06**

Notes:

1. Emission factors from AP-42 Section 1.3 for fuel oil combustion.

† These compounds meet the definition of polycyclic aromatic hydrocarbons (PAH), a of the HAP-listed category, polycyclic organic matter (POM).

Table 16. Maximum TAC/HAP emission rates resulting from the use of natural gas in the proposed boilers

Maximum Annual NG Usage: 2109 MMscf

Air Pollutant	CAS No.	Natural Gas Fired Boilers[1] (lb./MMscf)	(lb./yr.)	(TpY)
† 2-Methylnaphthalene	91576	2.40E-05	5.06E-02	2.53E-05
† 3-Methylchloranthrene	56495	1.80E-06	3.80E-03	1.90E-06
† 7,12-Dimethylbenz(a)anthracene	57976	1.60E-05	3.38E-02	1.69E-05
† Acenaphthene	83329	1.80E-06	3.80E-03	1.90E-06
† Acenaphthylene	208968	1.80E-06	3.80E-03	1.90E-06
† Anthracene	120127	2.40E-06	5.06E-03	2.53E-06
† Benz(a)anthracene	56553	1.80E-06	3.80E-03	1.90E-06
Benzene	71432	2.10E-03	4.43E+00	2.21E-03
† Benzo(a)pyrene	50328	1.20E-06	2.53E-03	1.27E-06
† Benzo(b)fluoranthene	205992	1.80E-06	3.80E-03	1.90E-06
† Benzo(g,h,i)perylene	191242	1.20E-06	2.53E-03	1.27E-06
† Benzo(k)flouranthene	207089	1.80E-06	3.80E-03	1.90E-06
† Chrysene	218019	1.80E-06	3.80E-03	1.90E-06
† Dibenzo(a,h)anthracene	53703	1.20E-06	2.53E-03	1.27E-06
Dichlorobenzene	25321-22-6	1.20E-03	2.53E+00	1.27E-03
† Fluoranthene	206440	3.00E-06	6.33E-03	3.16E-06
† Fluorene	86737	2.80E-06	5.91E-03	2.95E-06
Formaldehyde	50000	7.50E-02	1.58E+02	7.91E-02
Hexane	110543	1.80E+00	3.80E+03	1.90E+00
† Indeno(1,2,3-cd)pyrene	193395	1.80E-06	3.80E-03	1.90E-06
† Naphthalene	91203	6.10E-04	1.29E+00	6.43E-04
† Phenanthrene	85018	1.70E-05	3.59E-02	1.79E-05
† Pyrene	129000	5.00E-06	1.05E-02	5.27E-06
Toluene	108883	3.40E-03	7.17E+00	3.59E-03
Arsenic	7440382	2.00E-04	4.22E-01	2.11E-04
Beryllium	7440417	1.20E-05	2.53E-02	1.27E-05
Cadmium	7440439	1.10E-03	2.32E+00	1.16E-03
Chromium	7440473	1.40E-03	2.95E+00	1.48E-03
Cobalt	7440484	8.40E-05	1.77E-01	8.86E-05
Manganese	7439965	3.80E-04	8.02E-01	4.01E-04
Mercury	7439976	2.60E-04	5.48E-01	2.74E-04
Nickel	7440020	2.10E-03	4.43E+00	2.21E-03
Selenium	7782492	2.40E-05	5.06E-02	2.53E-05
Total TACs/HAPs		**1.89E+00**	**3983**	**1.99**

Notes:

1. Emission factors from AP-42 Section 1.4 for natural gas combustion

† These compounds meet the definition of polycyclic aromatic hydrocarbons (PAH), the HAP-listed category, polycyclic organic matter (POM).

Table 17. Maximum TAC/HAP emission rates resulting from the use of fuel oil in the electricity generation equipment

Maximum annual fuel usage: 619,600 gal/yr
Fuel oil heat content: 140,000 Btu/gal

Air Pollutant	CAS No.	Two Diesel Fuel-Fired IC Engines[1] (lb./MMBtu)	(lb./yr.)	(TpY)
† Acenaphthene	83329	4.68E-06	4.06E-01	2.03E-04
† Acenaphthylene	208968	9.23E-06	8.01E-01	4.00E-04
Acetaldehyde	75070	2.52E-05	2.19E+00	1.09E-03
Acrolein	107028	7.88E-06	6.84E-01	3.42E-04
† Anthracene	120127	1.23E-06	1.07E-01	5.33E-05
† Benz(a)anthracene	56553	6.22E-07	5.40E-02	2.70E-05
Benzene	71432	7.76E-04	6.73E+01	3.37E-02
† Benzo(a)pyrene	50328	2.57E-07	2.23E-02	1.11E-05
† Benzo(b)fluoranthene	205992	1.11E-06	9.63E-02	4.81E-05
† Benzo(g,h,i)perylene	191242	5.56E-07	4.82E-02	2.41E-05
† Benzo(k)flouranthene	207089	2.18E-07	1.89E-02	9.46E-06
† Chrysene	218019	1.53E-06	1.33E-01	6.64E-05
† Dibenzo(a,h)anthracene	53703	3.46E-07	3.00E-02	1.50E-05
† Fluoranthene	206440	4.03E-06	3.50E-01	1.75E-04
† Fluorene	86737	1.28E-05	1.11E+00	5.55E-04
Formaldehyde	50000	7.89E-05	6.84E+00	3.42E-03
† Indeno(1,2,3-cd)pyrene	193395	4.14E-07	3.59E-02	1.80E-05
† Naphthalene	91203	1.30E-04	1.13E+01	5.64E-03
† Phenanthrene	85018	4.08E-05	3.54E+00	1.77E-03
† Pyrene	129000	3.71E-06	3.22E-01	1.61E-04
Toluene	108883	2.81E-04	2.44E+01	1.22E-02
Xylenes	1330207	1.93E-04	1.67E+01	8.37E-03
Total HAPs			**136**	**0.07**

Notes:
1. Emission factors from AP-42 Section 3.4 (10/96) for large stationary diesel engines.
† These compounds meet the definition of polycyclic aromatic hydrocarbons

Table 18. William Beaumont Hospital - Royal Oak Campus
Facilitywide Potential to Emit Calculations

Emission Unit ID	Potential to Emit (TpY)						
	CO	NOx	SO_2	$PM_{10}/PM_{2.5}$	VOC	Lead	HAPs
Boilers - Natural Gas[1]	88.6	89.2	0.54	6.78	5.80	4.46E-04	1.99
Boilers - Fuel Oil[1]	1.01	28.5	0.30	3.39	0.07	1.78E-03	0.06
Generators - Fuel Oil	12.5	122	0.06	2.13	3.56	-	0.07
Sterilizers	-	-	-	-	1.85E-03	-	1.85E-03
Paint Booth	-	-	-	-	8.83	-	-
Facility Total PTE	**102.1**	**239.5**	**0.90**	**12.3**	**18.3**	**2.22E-03**	**2.12**

Notes for Table 1:

1 - Emission estimates for Boiler #1 contain the greater of continuous annual natural gas or fuel oil combustion.

ATTACHMENT 4

- EtO Sterilizer Malfunction Abatement Plan

MALFUNCTION ABATEMENT PLAN
FOR
ETHYLENE OXIDE STERILIZERS AND
ASSOCIATED EMISSION CONTROL SYSTEMS

Royal Oak Hospital
3601 W. Thirteen Mile Road
Royal Oak, Michigan

Beaumont Health – Royal Oak Hospital
EtO Sterilizers Malfunction Abatement Plan

Table of Contents

1.0 Purpose / Scope

The purpose of this Malfunction Abatement Plan (MAP) is to establish appropriate practices and procedures to maintain proper operation of the ethylene oxide (EtO) sterilizers and associated acid scrubber emissions control devices at the Beaumont Health (Beaumont) Royal Oak Hospital. This MAP specifies the operational, auditing, and maintenance procedures that will be followed to ensure that the sterilizers and associated emissions control systems are properly operated and maintained.

Conditions in the Renewable Operating Permit (ROP) require that the facility develop a MAP for the sterilizers and submit it to the State of Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) Southeast Michigan District Supervisor for approval.

A copy of the most recent Malfunction Abatement Plan must be maintained on file at the Beaumont Royal Oak Hospital.

Plan revisions are documented using the revision history log in Attachment A.

2.0 Supervisory Personnel

The Manager, Biomedical Engineering is responsible for the operation of the sterilizers and associated emission control devices and for ensuring that this MAP is maintained, implemented and revised as necessary.

The Biomedical Equipment Technician II is responsible for scheduling preventative maintenance and responding to equipment malfunctions.

Attachment B provides a list of supervisory personnel and contact phone numbers.

3.0 General Process Description

The medical sterilizers are manufactured by the 3M corporation. Two (2) of the sterilizers are Model No. Steri-Vac 8XL Gas Sterilizer units and two (2) are Model No. Steri-Vac 5XL Gas Sterilizer units. The four units are charged with 3M Steri-Gas™ Ethylene Oxide Gas Cartridges. After the units are loaded and the EtO cartridge is inserted operation of the units is fully automated.

Emissions from the sterilizers are controlled with three (3) Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters. The three (3) Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers have sufficient capacity to control emissions from all four (4) units (i.e., four (4) sterilizers may operate simultaneously).

The sterilizers exhaust the chamber to the control device using a venturi and compressed air (i.e., no pumps are used to exhaust the chamber). All of the exhaust (i.e., from the preconditioning, sterilization and exhaust phases) is directed to the control device. No water is directed to the sanitary drain.

4.0 Monitoring

This section presents operating variables that are monitored to verify proper operation of the sterilizers and acid scrubber control systems and the normal operating range for each variable. If monitored parameter values are outside of the acceptable ranges specified in this section, refer to the Corrective Action Procedures section in this MAP or contact the Biomedical Equipment Technician II.

4.1 Sterilizer Chamber Temperature

The required chamber temperature is determined based upon the sterilization cycle which is initially selected. The chamber temperature is required to be maintained within 3 ºC of the selected cycle temperature. If at any time the temperature deviates more than 4 ºC from the setpoint the sterilization cycle automatically stops.

4.2 Sterilizer Chamber Vacuum

During the sterilization cycle the chamber is maintained at a negative pressure relative to the room in order to prevent gas from the chamber from escaping into the sterilization room. In the event that a chamber leak is detected and room air infiltrates the chamber the sterilization cycle automatically stops. The sterilizer room is equipped with EtO alarms and the facility has a response plan in place should an EtO alarm be triggered.

The chamber vacuum is also required to puncture the EtO cartridge. The sterilizer uses the vacuum in the chamber to provide the force required to puncture the cartridge. This can only occur if the chamber pressure is below 160 mbars.

4.3 Acid Scrubber Exhaust Fan and Recirculation Pump Flows and Liquid Level

The acid scrubber exhaust fan flow is monitored using a differential pressure gauge. The differential pressure (exhaust flow) is required to be maintained within 1-inch of water column of the correct air flow rate determined during the initial setup. This ensures that the acid scrubber is properly exhausting the treated gas to the atmosphere.

The acid scrubber fluid recirculation pump is monitored using flow meters. The acid scrubber fluid recirculation flow rate should be kept at approximately 3 to 4 gallons per minute.

The acid scrubber liquid level is monitored using a limit switch. The liquid level in the acid scrubber decreases due to evaporation of the acid scrubber solution. The acid scrubber solution and should be maintained at a depth of approximately 27 inches.

4.4 Acid Scrubber Bypass

During normal operation of the sterilizers, an "Ok to Run" pilot light will be illuminated on the front of the sterilizer unit and a corresponding green light in the operator area will be illuminated. In the event of certain malfunctions, and in order to prevent damage to the sterilizer unit, a solenoid will be fired, which will open the bypass exhaust valve. The "Ok to Run" pilot light will turn off and a "Bypass Valve Active" pilot light will be illuminated. A corresponding red light in the operator area will be illuminated. The bypass exhaust will exhaust emissions from the sterilizer unit directly to the atmosphere. The following malfunction conditions will cause the bypass valve to activate:

- Loss of negative pressure in the dedicated hospital exhaust system;
- Malfunction of the acid scrubber exhaust fan;
- RP-1 selector switch on acid scrubber cabinet door not in Auto position; and
- Low liquid level alarm on acid scrubber.

Any occurrence of the activation of the bypass valve will be reported to the MDEQ along with an estimation of bypassed EtO emissions.

4.5 Canister Storage Cabinet Exhaust

The EtO canister storage cabinet exhausts to the atmosphere through the acid scrubber bypass exhaust stack. In the event of a malfunction that causes a canister leak of EtO into the general room area or if EtO is exhausted through the bypass exhaust stack, an alarm will be activated and appropriate personnel will be notified. The general room area and bypass exhaust air handler are each equipped with EtO alarms. When an alarm is activated the room air intakes are closed in order to create a negative pressure in the area and ensure all EtO is exhausted from the room.

Any occurrence of the activation of the EtO alarm associated with uncontrolled EtO emissions will be reported to the MDEQ along with an estimation of uncontrolled EtO emissions.

5.0 Periodic Inspections

5.1 Sterilizer Cycle Recorder Chart

The sterilizer is equipped with a thermal printer which prints out a summary of information regarding each sterilization cycle. These individual print outs are reviewed to analyze the sterilizer performance and to identify any error codes or caution messages which may need to be addressed.

5.2 Acid Scrubber Capacity Checks

On a periodic basis, based on the number of sterilization cycles run, the liquid level of the acid scrubber should be checked. A low level liquid alarm will occur if the capacity decreases by greater than 20%.

5.3 Acid Scrubber Solution Check

When the scrubber solution is nearing the practical capacity for EtO evacuations (approximately 292 kg of EtO exhausted through the unit), the scrubbing solution should be analyzed for ethylene glycol concentration (via ASTM D1123 by Karl Fischer Titration) in order to determine if the solution needs to be changed out. Beaumont is required by Permit to Install No. 205-02C to monitor the mass of EtO that is injected into each sterilization cycle (maximum amount of EtO which is subsequently exhausted to the acid scrubber).

The pH of the acid solution should be checked on a monthly basis to ensure that the scrubbing solution is within the acceptable range. If the pH of the scrubbing solution increases above 3.0, the scrubbing solution should be changed out.

6.0 Corrective Action Procedures

This section provides a general description of the corrective action procedures to be taken in the event of a malfunction.

6.1 Sterilizer Caution Messages and Error Codes

There are a number of sterilizer caution messages and error codes that can occur. Refer to the sterilizer operational manual for an explanation of individual faults, a detailed description of each fault is beyond the scope of this MAP. Most faults will cause a shutdown of the sterilization unit. If the cycle is shutdown prior to finishing the door will remain locked until the chamber has completed a purge cycle. A sterilizer caution message or error code must be reported to the Biomedical Equipment Technician II.

6.2 Low Sterilizer Chamber Temperature

The sterilizer chamber temperature is continuously monitored and automatically regulated by the sterilizer control system and will trigger an error code and automatic shutdown if a high or low temperature is measured. The error code will be displayed on the control screen.

In the event that a high or low sterilizer chamber temperature (deviates greater than 3 ºC from cycle setpoint) is observed, notify the Biomedical Equipment Technician II and inform staff that the unit may not be used until the problem is corrected and the sterilizer can maintain the proper temperature.

High or low sterilizer chamber temperature could be the result of:

- Actual heater failure or heater temperature controller failure.
- Failure of a temperature sensor.

6.3 Low Sterilizer Chamber Vacuum

The vacuum within the sterilizer chamber is monitored and regulated by the sterilizer control system. In the event that the chamber vacuum is lost an error code will be triggered and automatic shutdown of the unit will occur. The Biomedical Equipment Technician II should be notified to troubleshoot the problem.

Loss of chamber vacuum could be the result of:

- Loss of compressed air, air lines should be checked.
- Pressure sensor failure or bad door closed connection.
- Leak in the chamber or vacuum system failure.

6.4 Scrubber Low Exhaust Flow

The exhaust flow of the acid scrubber is monitored using a differential pressure gauge. In the event that the differential pressure (exhaust flow) is outside the specified limits a low flow alarm will be triggered. This will also trigger the scrubber bypass valve. The Biomedical Equipment Technician II should be notified to troubleshoot the problem.

Low exhaust flow could be the result of:

- Exhaust fan loss of power or switched off.

- Fan overload relay could be tripped and need to be reset.
- Exhaust blower could not be operating properly or dampers in the duct may have been shut.
- Sensing lines may be plugged or reactant filter may be plugged.

6.5 Scrubber Low Fluid Recirculation Flow

The fluid recirculation flow of the acid scrubber is monitored using a flow meters. In the event that the recirculation flow is outside the 3 to 4 gallon per minute flowrate range a pump flow alarm will be triggered. The Biomedical Equipment Technician II should be notified to troubleshoot the problem.

A pump flow alarm could be the result of:

- Recirculation pump loss of power or not switched to the Auto position.
- Pump overload relay could be tripped and need to be reset.
- Ball Valve No. BV-1A should be open and Valve Nos. BV-1B and BV-1C should be closed.

6.6 Scrubber Low Fluid Level

The scrubber liquid level is monitored using a limit switch. In the event that the liquid level decreases to a point (about a 20% decrease of fluid weight) a low liquid level alarm will be triggered. This will also trigger the scrubber bypass valve. The Biomedical Equipment Technician II should be notified to troubleshoot the problem.

A low liquid level alarm is the result of the evaporation of the acid scrubber solution. Additional water should be added until the level is returned to a depth of approximately 27-inches.

7.0 Preventative Maintenance

7.1 Preventative Maintenance Schedule

Sterilizer preventative maintenance should be performed according to the schedule indicated below.

- Clean chamber walls and floor with warm water and mild soap (daily)
- Clean outer lip of chamber with warm water and mild soap (daily)
- Clean inside surface of chamber door with warm water and mild soap (daily)
- Clean outer surface of cabinet with warm water and mild soap (daily)
- Clean door gasket with warm water and mild soap (daily)
- Drain moisture and oil from the bottom of the compressed air filter reservoirs (daily)
- Replace the mist separator element (semi-annually)
- Replace the micromist separator (annually)

Acid scrubber preventative maintenance should be performed according to the schedule indicated below.

- Inspect scrubber for liquid leaks (weekly)
- Check and record scrubber recirculation pump flow meter reading (weekly)
- Check and record exhaust fan differential pressure gause reading (weekly)
- Check the number of sterilizer cycles and amount of EtO processed (weekly)
- Check reactant capacity as described Section 5.3 (as needed, dependant on amount of EtO processed)

Attachment C provides forms for recording preventative maintenance. As an alternative, preventative maintenance may be recorded in the facility's site-wide maintenance program.

7.2 Spare Parts Inventory

The manufacturers of the sterilizers and scrubber units do not recommend any spare parts be kept in inventory. Any maintenance that is required is to be performed on the units is to be done by a trained technician. Beaumont operates four sterilizers and three acid scrubbing units, therefore, the capacity exists such that a malfunctioning unit can be taken out of service until it is repaired.

8.0 Attachments

The following documents and materials are included as part of this Malfunction Abatement Plan:

Attachment A: Plan Revision History
Attachment B: Supervisory Personnel
Attachment C: Maintenance Checklist

ATTACHMENT A

PLAN REVISION HISTORY

Attachment A

Malfunction Abatement Plan
Revision History

Date of Revision	Actions / Reason for Revision
1/2/2014	Initial draft of Malfunction Abatement Plan.
2/27/2014	Updated to reflect changes to Permit to Install revision (PTI No. 205-02C)
3/16/2016	Updated to add EtO canister storage cabinet exhaust and update job titles.
8/7/2018	Updated supervisory personnel.

ATTACHMENT B

SUPERVISORY PERSONNEL

Attachment B

Malfunction Abatement Plan
Supervisory Personnel

Title	Name	Contact Numbers	
Manager Biomedical Engineering	Rocco Ottolino, MS, CCE	Office 24-hr	248-898-0312 312-720-6417
Biomedical Equipment Technician II	Jim Gibson	Office 24-hr	248-898-4464 248-544-8615

ATTACHMENT C

MAINTENANCE LISTS

EtO Sterilizer and Emission Control System
Weekly / Monthly Inspection Checklist

Date of inspection | | Performed By: | |

1. Record the following operating parmeters (weekly / monthly)

Acid scrubber recirculation pump flow rate (weekly)	gpm
Acid scrubber exhaust fan differential pressure (monthly)	in. H_2O

2. Perform following sterilizer tasks (weekly)	OK	No	See Notes
Clean chamber walls, floor, lip, surfaces and gasket			
Drain moisture and oil from air filter reservoirs			

3. Perform following acid scrubber tasks (monthly)			
Inspect acid scrubber for leaks			
Check number of sterilizer cycles and amount of EtO processed since last fluid changeout.			

Other Notes / Corrective Actions

EtO Sterilizer and Emission Control System
Semi-Annual and Annual Preventative Maintenance

Enter date that maintenance / inspection was performed and by whom.

General Maintenance (Semi-Annually)

	1st Q	2nd Q	3rd Q	4th Q
Replace the mist separator element				

General Maintenance (Annually or As-Needed)

	1st Q	2nd Q	3rd Q	4th Q
Replace micromist separator (annually)				
Check reactant capacity (as-needed)				

Other Notes or Maintenance

ATTACHMENT 5

- Boiler and Emergency Generator Preventative Maintenance Plan

PREVENTATIVE MAINTENANCE PLAN
FOR
EMERGENCY GENERATORS AND
DUAL FUEL BOILERS

Royal Oak Hospital
3601 W. Thirteen Mile Road
Royal Oak, Michigan

William Beaumont Hospital – Royal Oak Hospital
Generator and Boiler Preventative Maintenance Plan

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TABLES

ATTACHMENTS

1.0 Purpose / Scope

The purpose of this Preventative Maintenance Plan (PMP) is to document on paper the appropriate preventative maintenance practices and procedures to maintain proper operation of the emergency generators and dual fuel boilers at the Beaumont Health (Beaumont) Royal Oak Hospital. This PMP specifies the maintenance procedures that are followed to ensure that the emergency generators and dual fuel boilers are properly operated and maintained.

Conditions in the Renewable Operating Permit (ROP) require that the facility develop and implement a PMP for select emergency generators and dual fuel boilers. The facility is required to record all completed preventative maintenance events. This plan has been developed to catalog on paper the preventative maintenance that is routinely performed on all emergency generators and dual fuel boilers. The facility operates an automated computer program, 360 Maintenance System, which alerts appropriate personnel when a maintenance event is required and keeps a record of the event completion.

A copy of the most recent Preventative Maintenance Plan is maintained on file at the Beaumont Royal Oak Hospital.

Plan revisions are documented using the revision history log in Attachment A.

2.0 Supervisory Personnel

The Powerhouse Supervisor is responsible for the operation of the emergency generators and dual fuel boilers and for ensuring that this PMP is maintained, implemented and revised as necessary.

The Lead Technician is responsible for scheduling and completing the preventative maintenance tasks.

Attachment B provides a list of supervisory personnel and contact phone numbers.

3.0 General Process Description

Beaumont operates two (2) dual fuel (natural gas and No. 2 fuel oil fired) electricity and steam cogeneration engines at the Royal Oak Hospital's West Powerhouse. An additional four (4) No. 2 fuel oil fired gensets are operated at the Royal Oak Hospital's West Powerhouse. Two (2) No. 2 fuel oil fired gensets are operated at the Royal Oak Hospital's East Powerhouse. Two (2) No. 2 fuel oil fired gensets are operated at the Royal Oak Hospital's Research Building.

The cogeneration engines, which are operated during power outages and for periodic testing, typically operate on a fuel blend of 95% natural gas / 5% No. 2 fuel

oil but have the capability to operate on 100% No. 2 fuel oil in the event the natural gas supply to the hospital is disrupted. All other gensets are currently operated during power outages and for periodic testing and are fueled exclusively with No. 2 fuel oil.

Beaumont operates five (5) dual fuel (natural gas and No. 2 fuel oil fired) boilers at the Royal Oak Hospital's West Powerhouse. The boilers typically combust natural gas but have the ability to combust No. 2 fuel oil in the event that the natural gas supply is disrupted.

Table 3.1 provides a summary of the equipment operated at the facility.

Table 3.1 Summary of Equipment Operated at Facility

Equipment Name	ROP ID	Manufacturer	Model No.	Serial No.	Rated Capacity	Initial Startup Date
Generator No. 6	EU-ELECGEN6	Caterpillar	3512	24Z08211	1,250 kW	2/1/1998
Generator No. 7	EU-ELECGEN7	Caterpillar	3512	24Z08212	1,250 kW	2/1/1998
Generator No. 8	EU-ELECGEN8	Caterpillar	3516B	1HZ01689	2,000 kW	7/31/2002
Generator No. 9	EU-ELECGEN9	Caterpillar	3516B	1HZ01686	2,000 kW	7/31/2002
Generator No. 1R	EU-ELECGEN1R	Caterpillar	3516C	DD600558	2,000 kW	6/26/2015
Generator No. 2R	EU-ELECGEN2R	Caterpillar	3516C	DD600560	2,000 kW	1/15/2016
Generator No. 3R	EU-ELECGEN3R	Caterpillar	3516C	LYM02763	2,500 kW	2/27/2023
Generator No. 4R	EU-ELECGEN4R	Caterpillar	3516C	LYM02755	2,500 kW	2/27/2023
Res. Em. Generator No. 1	FG-DGENGINES	Caterpillar	3508B	3LS00227	900 kW	1/1/1999
Res. Em. Generator No. 2	FG-DGENGINES	Caterpillar	3508B	3LS00226	900 kW	1/1/1999
Boiler No. 1	EU-BOILER1	Keeler	DS-30	16355	39.0 MMBtu/hr	1/1/1978
Boiler No. 2	EU-BOILER2	Cleaver-Brooks	D-60E	W6-3932	48.2 MMBtu/hr	2/1/1998
Boiler No. 3	EU-BOILER3	Cleaver-Brooks	D-60E	D-4460	48.2 MMBtu/hr	6/26/2002
Boiler No. 4	EU-BOILER4	Erie City	8A-60	98673	59.0 MMBtu/hr	1/1/1973
Boiler No. 5	EU-BOILER5	Keeler	DS-40	16013	52.1 MMBtu/hr	1/1/1973

4.0 Emergency Generator Preventative Maintenance

As documented in Section 1.0, Beaumont Health uses the 360 Maintenance software system to manage and schedule preventative maintenance events. Facility representatives can update the information and frequency of events in the 360 Maintenance system based upon new operating experience, equipment history or manufacturer recommendation.

Table 4.1 presents the description of preventative maintenance tasks and their associated frequency for the emergency generators.

Table 4.1 Emergency Generator Preventative Maintenance Summary

Description of PM	*Frequency of PM*	*NFPA 110-2005*	*JCAHO*	*Mfg. Recommended*	*Generator Log Reading*
Visual Inspection	Weekly	8.4.1			x
No Load Test	Weekly			x	x
Load Test	Monthly	8.4.1			
Load bank	Annually	8.4.2.3			
Load bank auto shutoff	Annually	8.4.2.4.2			
4 hr. load test at 30%	36 Month	8.4.9/8.4.9.1	X		
Replace starting battery	24-36 Month	A 5.6.4.5.1			
Inspect starting battery	Weekly	8.3.7			
Engine hours	Weekly			x	x
Lube oil pressure	Weekly			x	x
Jacket water temperature	Weekly			x	x
Battery Voltage	Weekly			x	x
Generator output voltage	Weekly			x	x
Generator output amperage	Weekly			x	x
Power factor tag	Weekly			x	x
Frequency	Weekly			x	x
Kilowatts	Weekly			x	x
Kilowatt hours	Weekly			x	x
Air filter	Annually			x	x
Lube oil level	Weekly			x	x
Radiator water level	Weekly			x	x
Day tank level	Weekly			x	x
Main tank level	Monthly			x	x
Belts	Weekly			x	x
Hoses	Weekly			x	x
Block heater temperature	Weekly			x	x
Battery water level	Weekly	8.3.7		x	x
Battery cable check	Weekly			x	x
Battery charger voltage	Weekly			x	x
Battery charger amperage	Weekly			x	x
Battery electrolyte	Monthly	8.3.7.1			F-360

specific gravity					
Fuel sample quality test	Annually	8.3.8/7/9/1/2		x	
10 second start time	Monthly	4.5.4.1.1.1.1			
Simulated cold test	Monthly	8.4.3/8.4.4			F-360
EM breaker exercise	Annually	8.4.7			F-360

5.0 Dual Fuel Boiler Preventative Maintenance

As documented in Section 1.0, Beaumont Health uses the 360 Maintenance software system to manage and schedule preventative maintenance events. Facility representatives can update the information and frequency of events in the 360 Maintenance system based upon new operating experience, equipment history or manufacturer recommendation.

Table 5.1 presents the description of preventative maintenance tasks and their associated frequency for the dual fuel boilers.

Table 5.1 Dual Fuel Boiler Preventative Maintenance Summary

Description of PM	*Frequency of PM*
Test boiler condensate, softener and feedwater once each shift and record results.	Daily
Make necessary water treatment adjustments to feed equipment and record changes.	Daily
Blow down water column and gauge glass once each shift.	Daily
Blow down boiler mud drum once each shift.	Daily
Inspect gauge glass, tighten or replace as needed.	Daily
Perform boiler operational rounds every two hours and record results	Daily
Deaerator water column blow down for float bowl, sight glass and level alarm.	Monthly
Check for proper operation of the blow down tank. Water to trench around 130 ^{o}F.	Monthly
Test fire on fuel oil.	Quarterly
CSD-1 boiler inspection.	Semi-Annually
Test low-water cutoff on boiler (evaporation test method).	Semi-Annually
Test boiler water column try cocks and chain operated gauge glass valves.	Semi-Annually
Test boiler high water level alarm.	Semi-Annually
Test boiler high steam pressure alarm.	Semi-Annually
Test flame safeguard scanner on boiler.	Semi-Annually
Test boiler excess steam pressure cutout.	Semi-Annually
Inspect burner fuel valves and damper linkages.	Semi-Annually
Inspect and/or replace boiler water level gauge glass.	Semi-Annually
Pop test boiler safety relief valves and make sure that they reseated.	Annually
Isolate and drain boiler for annual inspection.	Annually
Disassemble boiler for annual inspection.	Annually
Assist boiler inspector with annual inspection.	Annually
Perform burner combustion analysis.	Annually
Contractor to perform CSD-1 testing.	Annually
Clean boiler VFDs.	Annually

6.0 Attachments

The following documents and materials are included as part of this Preventative Maintenance Plan:

Attachment A: Plan Revision History
Attachment B: Supervisory Personnel

ATTACHMENT A

- PLAN REVISION HISTORY

Attachment A

Preventative Maintenance Plan
Revision History

Date of Revision	Actions / Reason for Revision
4/8/2016	Initial draft of Preventative Maintenance Plan.
5/23/2023	Update equipment list and supervisory personnel.

William Beaumont Hospital – Royal Oak

ATTACHMENT B

- SUPERVISORY PERSONNEL

Attachment B

Preventative Maintenance Plan
Supervisory Personnel

Title	Name	Contact Numbers	
Powerhouse Supervisor	Matthew George	Phone email	248-898-1352 matthew.george@corewellhealth.org
Powerhouse Lead Technician	Howard Bosch	Phone email	248-551-2541 howard.bosch@corewellhealth.org

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

EFFECTIVE DATE: October 16, 2019
REVISION DATES: September 1, 2020, April 5, 2023

ISSUED TO

William Beaumont Hospital

State Registration Number (SRN): G5067

LOCATED AT

3601 West 13 Mile Road, Royal Oak, Michigan 48073

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-G5067-2019b

Expiration Date: October 16, 2024

Administratively Complete ROP Renewal Application
Due Between April 16, 2023 and April 16, 2024

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

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-G5067-2019b

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

Michigan Department of Environment, Great Lakes, and Energy

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Joyce Zhu, Warren District Supervisor

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AUTHORITY AND ENFORCEABILITY

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

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

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

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

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

A. GENERAL CONDITIONS

Permit Enforceability

- All conditions in this permit are both federally enforceable and state enforceable unless otherwise noted. **(R 336.1213(5))**

- Those conditions that are hereby incorporated in a state-only enforceable Source-Wide PTI pursuant to Rule 201(2)(d) are designated by footnote one. **(R 336.1213(5)(a), R 336.1214a(5))**

- Those conditions that are hereby incorporated in a federally enforceable Source-Wide PTI pursuant to Rule 201(2)(c) are designated by footnote two. **(R 336.1213(5)(b), R 336.1214a(3))**

General Provisions

1. The permittee shall comply with all conditions of this ROP. Any ROP noncompliance constitutes a violation of Act 451, and is grounds for enforcement action, for ROP revocation or revision, or for denial of the renewal of the ROP. All terms and conditions of this ROP that are designated as federally enforceable are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and by citizens under the provisions of the federal Clean Air Act (CAA). Any terms and conditions based on applicable requirements which are designated as "state-only" are not enforceable by the USEPA or citizens pursuant to the CAA. **(R 336.1213(1)(a))**

2. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this ROP. **(R 336.1213(1)(b))**

3. This ROP may be modified, revised, or revoked for cause. The filing of a request by the permittee for a permit modification, revision, or termination, or a notification of planned changes or anticipated noncompliance does not stay any ROP term or condition. This does not supersede or affect the ability of the permittee to make changes, at the permittee's own risk, pursuant to Rule 215 and Rule 216. **(R 336.1213(1)(c))**

4. The permittee shall allow the department, or an authorized representative of the department, upon presentation of credentials and other documents as may be required by law and upon stating the authority for and purpose of the investigation, to perform any of the following activities: **(R 336.1213(1)(d))**
   a. Enter, at reasonable times, a stationary source or other premises where emissions-related activity is conducted or where records must be kept under the conditions of the ROP.
   b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the ROP.
   c. Inspect, at reasonable times, any of the following:
      i. Any stationary source.
      ii. Any emission unit.
      iii. Any equipment, including monitoring and air pollution control equipment.
      iv. Any work practices or operations regulated or required under the ROP.
   d. As authorized by Section 5526 of Act 451, sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the ROP or applicable requirements.

5. The permittee shall furnish to the department, within a reasonable time, any information the department may request, in writing, to determine whether cause exists for modifying, revising, or revoking the ROP or to determine compliance with this ROP. Upon request, the permittee shall also furnish to the department copies of any records that are required to be kept as a term or condition of this ROP. For information which is claimed by the permittee to be confidential, consistent with the requirements of the 1976 PA 442, MCL §15.231 et seq., and known as the Freedom of Information Act, the person may also be required to furnish the records directly to the USEPA together with a claim of confidentiality. **(R 336.1213(1)(e))**

6. A challenge by any person, the Administrator of the USEPA, or the department to a particular condition or a part of this ROP shall not set aside, delay, stay, or in any way affect the applicability or enforceability of any other condition or part of this ROP. **(R 336.1213(1)(f))**

7. The permittee shall pay fees consistent with the fee schedule and requirements pursuant to Section 5522 of Act 451. **(R 336.1213(1)(g))**

8. This ROP does not convey any property rights or any exclusive privilege. **(R 336.1213(1)(h))**

Equipment & Design

9. Any collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2).[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% 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 state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**

19. A Responsible Official shall certify to the appropriate AQD District Office and to the USEPA that the stationary source is and has been in compliance with all terms and conditions contained in the ROP except for deviations that have been or are being reported to the appropriate AQD District Office pursuant to Rule 213(3)(c). This certification shall include all the information specified in Rule 213(4)(c)(i) through (v) and shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the certification are true, accurate, and complete. The USEPA address is: USEPA, Air Compliance Data - Michigan, Air and Radiation Division, 77 West Jackson Boulevard, Chicago, Illinois 60604-3507. **(R 336.1213(4)(c))**

20. The certification of compliance shall be submitted annually for the term of this ROP as detailed in the special conditions, or more frequently if specified in an applicable requirement or in this ROP. **(R 336.1213(4)(c))**

21. The permittee shall promptly report any deviations from ROP requirements and certify the reports. The prompt reporting of deviations from ROP requirements is defined in Rule 213(3)(c)(ii) as follows, unless otherwise described in this ROP. **(R 336.1213(3)(c))**
    a. For deviations that exceed the emissions allowed under the ROP, prompt reporting means reporting consistent with the requirements of Rule 912 as detailed in Condition 25. All reports submitted pursuant to this paragraph shall be promptly certified as specified in Rule 213(3)(c)(iii).
    b. For deviations which exceed the emissions allowed under the ROP and which are not reported pursuant to Rule 912 due to the duration of the deviation, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe reasons for each deviation and the actions taken to minimize or correct each deviation.
    c. For deviations that do not exceed the emissions allowed under the ROP, prompt reporting means the reporting of all deviations in the semiannual reports required by Rule 213(3)(c)(i). The report shall describe the reasons for each deviation and the actions taken to minimize or correct each deviation.

22. For reports required pursuant to Rule 213(3)(c)(ii), prompt certification of the reports is described in Rule 213(3)(c)(iii) as either of the following: **(R 336.1213(3)(c))**
    a. Submitting a certification by a Responsible Official with each report which states that, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.
    b. Submitting, within 30 days following the end of a calendar month during which one or more prompt reports of deviations from the emissions allowed under the ROP were submitted to the department pursuant to Rule 213(3)(c)(ii), a certification by a Responsible Official which states that; "based on information and belief formed after reasonable inquiry, the statements and information contained in each of the reports submitted during the previous month were true, accurate, and complete." The certification shall include a listing of the reports that are being certified. Any report submitted pursuant to Rule 213(3)(c)(ii) that will be certified on a monthly basis pursuant to this paragraph shall include a statement that certification of the report will be provided within 30 days following the end of the calendar month.

23. Semiannually for the term of the ROP as detailed in the special conditions, or more frequently if specified, the permittee shall submit certified reports of any required monitoring to the appropriate AQD District Office. All instances of deviations from ROP requirements during the reporting period shall be clearly identified in the reports. **(R 336.1213(3)(c)(i))**

24. On an annual basis, the permittee shall report the actual emissions, or the information necessary to determine the actual emissions, of each regulated air pollutant as defined in Rule 212(6) for each emission unit utilizing the emissions inventory forms provided by the department. **(R 336.1212(6))**

25. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the appropriate AQD District Office. The notice shall be provided not later than two business days after the start-up, shutdown, or discovery of the abnormal conditions or malfunction. Notice shall be by any reasonable means, including electronic, telephonic, or oral communication. Written reports, if required under Rule 912, must be submitted to the appropriate AQD District Supervisor within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5) and shall be certified by a Responsible Official in a manner consistent with the CAA.[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))**

Reopenings

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

Renewals

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

Stratospheric Ozone Protection

36. If the permittee is subject to Title 40 of the Code of Federal Regulations (CFR), Part 82 and services, maintains, or repairs appliances except for motor vehicle air conditioners (MVAC), or disposes of appliances containing refrigerant, including MVAC and small appliances, or if the permittee is a refrigerant reclaimer, appliance owner or a manufacturer of appliances or recycling and recovery equipment, the permittee shall comply with all applicable standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F.

37. If the permittee is subject to 40 CFR Part 82 and performs a service on motor (fleet) vehicles when this service involves refrigerant in the MVAC, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed by the original equipment manufacturer. The term MVAC as used in Subpart B does not include the air-tight sealed refrigeration system used for refrigerated cargo or an air conditioning system on passenger buses using Hydrochlorofluorocarbon-22 refrigerant.

Risk Management Plan

38. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall register and submit to the USEPA the required data related to the risk management plan for reducing the probability of accidental releases of any regulated substances listed pursuant to Section 112(r)(3) of the CAA as amended in 40 CFR 68.130. The list of substances, threshold quantities, and accident prevention regulations promulgated under 40 CFR Part 68, do not limit in any way the general duty provisions under Section 112(r)(1).

39. If subject to Section 112(r) of the CAA and 40 CFR Part 68, the permittee shall comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates as provided in 40 CFR 68.10(a):
    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, EGLE.[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, EGLE, AQD, P. O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation, reconstruction, relocation, or modification of the equipment allowed by the terms and conditions from that PTI.[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
EU-BOILER1	Keeler Model No. DS-30 boiler. Heat input capacity of 39 MMBtu/hour. Capable of producing 30,000 pounds of steam per hour. Combusts natural gas and fuel oil No. 2.	01/01/1978	FG-FUELOIL
EU-BOILER2	Cleaver-Brooks Model D-60-RH (D-series) boiler. Heat input capacity of 48.2 MMBtu/hour using natural gas fuel and 46.4 MMBtu/hour using fuel oil No. 2. Capable of producing 40,000 pounds of steam per hour.	02/01/1998	FG-BOILER2&3, FG-FUELOIL
EU-BOILER3	Cleaver-Brooks Model D-52 (D-series) boiler. Heat input capacity of 48.2 MMBtu/hour using natural gas fuel and 46.4 MMBtu/hour using fuel oil No. 2. Capable of producing 40,000 pounds of steam per hour.	06/26/2002	FG-BOILER2&3, FG-FUELOIL
EU-BOILER4	Erie City boiler. Heat input capacity of 48 MMBtu/hour and capable of producing 40,000 pounds of steam per hour. Combusts natural gas and fuel oil No. 2.	01/01/1973/ 09/09/1998	FG-BOILER4&5, FG-FUELOIL
EU-BOILER5	Keeler Model No. DS-40 boiler. Heat input capacity of 48 MMBtu/hour and capable of producing 40,000 pounds of steam per hours. Combusts natural gas and fuel oil No. 2.	01/01/1973/ 09/09/1998	FG-BOILER4&5, FG-FUELOIL
EU-ELECGEN6	Caterpillar Model 3512 internal combustion engine electrical generator. Heat input capacity of 10.0 MMBtu/hour and capable of producing 1,300 kilowatts of electricity. Combusts fuel oil No. 2.	02/01/1998	FG-FUELOIL, FG-EMERGENCY FG-MACTZZZZ-EMER
EU-ELECGEN7	Caterpillar Model 3512 internal combustion engine electrical generator. Heat input capacity of 10.0 MMBtu/hour and capable of producing 1,300 kilowatts of electricity. Combusts fuel oil No. 2.	02/01/1998	FG-FUELOIL, FG-EMERGENCY FG-MACTZZZZ-EMER
EU-ELECGEN8	Caterpillar Model 3516B internal combustion engine electrical generator. Heat input capacity of 17.0 MMBtu/hour. Capable of producing 2,000 kilowatts of electricity. Combusts fuel oil No. 2.	07/31/2002	FG-FUELOIL, FG-EMERGENCY FG-MACTZZZZ-EMER

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-ELECGEN9	Caterpillar Model 3516B internal combustion engine electrical generator. Heat input capacity of 17.0 MMBtu/hour. Capable of producing 2,000 kilowatts of electricity. Combusts fuel oil No. 2.	07/31/2002	FG-FUELOIL, FG-EMERGENCY FG-MACTZZZZ-EMER
EU-RESGEN1	Caterpillar Model 3508B internal combustion engine electrical generator. Heat input capacity of 6.7 MMBtu/hour. Capable of producing 900 kilowatts of electricity. Combusts fuel oil No. 2.	01/01/1999	FG-MACTZZZZ-EMER
EU-RESGEN2	Caterpillar Model 3508B internal combustion engine electrical generator. Heat input capacity of 6.7 MMBtu/hour. Capable of producing 900 kilowatts of electricity. Combusts fuel oil No. 2.	01/01/1999	FG-MACTZZZZ-EMER
EU-ELECGEN1R	Caterpillar Model 3516C internal combustion engine electrical generator. Heat input capacity of 19.0 MMBtu/hour. Capable of producing 2,000 kilowatts of electricity. Combusts fuel oil No. 2. Manufactured in 2013.	06/26/2015	FG-ELECGEN1&2R
EU-ELECGEN2R	Caterpillar Model 3516C internal combustion engine electrical generator. Heat input capacity of 19.0 MMBtu/hour. Capable of producing 2,000 kilowatts of electricity. Combusts fuel oil No. 2. Manufactured in 2013.	01/15/2016	FG-ELECGEN1&2R
EU-ELECGEN3R	Caterpillar Model 3516C internal combustion engine electrical generator. Heat input capacity of 23.5 MMBtu/hour. Capable of producing 2,500 kilowatts of electricity. Combusts fuel oil No. 2.	01/11/2023	FG-ELECGEN3R&4R
EU-ELECGEN4R	Caterpillar Model 3516C internal combustion engine electrical generator. Heat input capacity of 23.5 MMBtu/hour. Capable of producing 2,500 kilowatts of electricity. Combusts fuel oil No. 2.	01/11/2023	FG-ELECGEN3R&4R
EU-ETOSTERILIZER1	One 3M Steri-Vac 8XL Gas Sterilizer, 100% ethylene oxide (EtO) sterilizer. The sterilizer is controlled by one of three Advanced Air Technologies (AAT) Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.	07/18/2013/ 02/26/2014	FG-ETOSTERILIZERS
EU-ETOSTERILIZER2	One 3M Steri-Vac 8XL Gas Sterilizer, 100% ethylene oxide (EtO) sterilizer. The sterilizer is controlled by one of three Advanced Air Technologies (AAT) Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.	07/18/2013/ 02/26/2014	FG-ETOSTERILIZERS

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-ETOSTERILIZER3	One 3M Steri-Vac 5XL Gas Sterilizer, 100% ethylene oxide (EtO) sterilizer. The sterilizer is controlled by one of three Advanced Air Technologies (AAT) Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.	07/18/2013/ 02/26/2014	FG-ETOSTERILIZERS
EU-ETOSTERILIZER4	One 3M Steri-Vac 5XL Gas Sterilizer, 100% ethylene oxide (EtO) sterilizer. The sterilizer is controlled by one of three Advanced Air Technologies (AAT) Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.	07/18/2013/ 02/26/2014	FG-ETOSTERILIZERS
EU-WOODSHOP	Woodworking shop used on a nonproduction basis, controlled by a dust collector; shop includes a paint spray booth.	10/11/1986	FG-RULE287(2)(c)

EU-BOILER1
EMISSION UNIT CONDITIONS

DESCRIPTION

Keeler Model No. DS-30 boiler. Heat input capacity of 39 MM BTU/hour. Capable of producing 30,000 pounds of steam per hour. Combusts natural gas and fuel oil No. 2.

Flexible Group ID: FG-FUELOIL

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. SO_2	0.33 lb/MMBtu of heat input[2]	24-hour	EU-BOILER1	SC VI.3, FG-FUELOIL SC VI.1	**R 336.1401, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn virgin fuel oil No. 2 during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year.[2] **(40 CFR Part 63 Subpart JJJJJJ)**

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 not burn any fuel in EU-BOILER1 other than natural gas and/or virgin fuel oil No. 2.[2] **(R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

2. The permittee shall monitor and record natural gas and fuel oil No. 2 usage on a monthly basis.[2] **(R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

3. The permittee shall calculate the SO_2 emission rate using the method in Appendix 7.1.[2] **(R 336.1401, R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

4. The permittee shall calculate the NOx emission rate using the method and emission factors in Appendix 7.2.[2] **(R 336.2803, R 336.2804, 40 CFR 52.21(c) & (d))**

5. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER1. The permittee shall record all completed preventative maintenance events.[2] **(R 336.1910, R 336.1911)**

6. The permittee shall monitor and keep records of the number of hours EU-BOILER1 was operated on liquid fuel for periodic testing, maintenance, or operator training during each calendar year. **(R 336.1213)**

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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-STACK1	48[2]	131[2]	**R 336.1401** **R 336.2803** **R 336.2804** **40 CFR 52.21(c) & (d)**

IX. OTHER REQUIREMENT(S)

NA

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
FG-BOILERS2&3	Boiler 2 and Boiler 3. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.	EU-BOILER2, EU-BOILER3
FG-BOILERS4&5	Boiler 4 and Boiler 5. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.	EU-BOILER4, EU-BOILER5
FG-FUELOIL	Emission units subject to a sulfur dioxide emission standard and a fuel oil certification or analysis requirement. Some emission units are also subject to fuel usage limits.	EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9,
FG-EMERGENCY	Includes four permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63, Subpart ZZZZ.	EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9
FG-MACTZZZZ-EMER	Includes four permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63, Subpart ZZZZ. Also includes two existing institutional emergency stationary reciprocating internal combustion engines (EU-RESGEN1, EU-RESGEN2) that are exempt from obtaining a Permit to Install pursuant to R 336.1285(g).	EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9, EU-RESGEN1, EU-RESGEN2
FG-ELECGEN1&2R	Two 2,000 kilowatts (kW) diesel-fueled emergency engine manufactured in 2013.	EU-ELECGEN1R, EU-ELECGEN2R
FG-ELECGEN3R&4R	Two 23.5 MMBTU/hr, 3633bhp (2500 kilowatts (kW)), diesel-fueled emergency engines with a model year of 2011 or later, and a displacement of 4.88 liters/cylinder.	EU-ELECGEN3R, EU-ELECGEN4R
FG-ETOSTERILIZERS	Two (2) 3M Steri-Vac 8XL Gas Sterilizer and two (2) 3M Steri-Vac 5XL Gas Sterilizer, each controlled by one of the three Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.	EU-ETOSTERILIZER1, EU-ETOSTERILIZER2, EU-ETOSTERILIZER3, EU-ETOSTERILIZER4

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-RULE287(2)(c)	Any existing or future emission unit that emits air contaminants that are exempt from R 336.1201 pursuant R 336.1278 and R 336.1287(c)	EU-WOODSHOP

FG-BOILERS2&3
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Boiler 2 and Boiler 3. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.

Emission Units: EUBOILER2, EUBOILER3

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	23.0 tpy, for each boiler individually[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER2, EU-BOILER3	SC VI.4	**40 CFR 52.21(c) & (d)**
2. VE	6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity. The opacity standard shall apply at all times except during periods of startup, shutdown or malfunction.[2]	6-minute average per hour	EU-BOILER2, EU-BOILER3	GC 11, SC VI.6	**40 CFR 60.43c (c) & (d)**
3. SO_2	1.7 pounds per calendar day, for each boiler individually[2]	Calendar month average	EU-BOILER2, EU-BOILER3	SC VI.2	**R 336.1401, 40 CFR 52.21(c) & (d)**

Note: A calendar day is defined as 24 consecutive hours from midnight to midnight.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Natural Gas	420 MMscf per year, for each boiler individually[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER2, EU-BOILER3	SC VI.1	**40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)**
2. Fuel Oil No. 2	200,000 gallons per year, for each boiler individually[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER2, EU-BOILER3	SC VI.1	**40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn virgin fuel oil No. 2 in EU-BOILER2 and EU-BOILER3 during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year.[2] **(40 CFR Part 63 Subpart JJJJJJ)**

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 keep monthly and 12-month rolling natural gas and fuel oil No. 2 usage records for EU-BOILER2 and EU-BOILER3 in a format acceptable to the AQD District Supervisor of the amount of natural gas used in MM cubic feet and of the amount of fuel oil used in gallons each calendar month. The records shall indicate the total amount of natural gas and fuel oil used.[2] **(40 CFR 52.21(c) & (d), 40 CFR 60.48c(g))**

2. The permittee shall calculate average daily SO_2 emissions from EU-BOILER2 and EU-BOILER3 each calendar month using the method delineated in Appendix 7.1.[2] **(R 336.1401, 40 CFR 52.21(c) & (d))**

3. The permittee shall keep a record of the number of operating days in each calendar month for EU-BOILER2 and EU-BOILER3.[2] **(R 336.1401, 40 CFR 52.21(c) & (d))**

4. The permittee shall calculate NOx emissions from EU-BOILER2 and EU-BOILER3 each calendar month and 12-month rolling time period, as determined at the end of each calendar month, using the method and emission factors delineated in Appendix 7.2.[2] **(40 CFR 52.21(c) & (d))**

5. The permittee shall keep a record of the emission calculations for EU-BOILER2 and EU-BOILER3.[2] **(40 CFR 52.21(c) & (d))**

6. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER2 and EUBOILER3. The permittee shall record all preventative maintenance events and have the records available upon request.[2] **(R 336.1910, R 336.1911)**

7. The permittee shall monitor and keep records of the number of hours EU-BOILER2 and EU-BOILER3 were operated on liquid fuel for periodic testing, maintenance, or operator training during each calendar year.[2] **(40 CFR Part 63, Subpart JJJJJJ)**

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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-STACK1	48[2]	131[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Unit.[2] **(40 CFR 60 Subpart Dc)**

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).

FG-BOILERS4&5
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Boiler 4 and Boiler 5. Both boilers combust natural gas as their primary fuel source, but also have the capability of combusting fuel oil No. 2.

Emission Units: EU-BOILER4, EU-BOILER5

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	48.5 tpy combined[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER4, EU-BOILER5	SC VI.4	**40 CFR 52.21(c) & (d)**
2. VE	6-minute average of 20% opacity, except for one 6-minute average per hour of not more than 27% opacity. The opacity standard shall apply at all times except during periods of startup, shutdown or malfunction.[2]	6-minute average per hour	EU-BOILER4, EU-BOILER5	GC 11, SC VI.6	**40 CFR 60.43c(c) & (d)**
3. SO2	1.1 pounds combined for each calendar day.[2]	Calendar month average	EU-BOILER4, EU-BOILER5	SC VI.2	**R 336.1401, 40 CFR 52.21(c) & (d)**

Note: A calendar day is defined as 24 consecutive hours from midnight to midnight.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Natural Gas	693.8 MMscf combined per year[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER4, EU-BOILER5	SC VI.1	**40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)**
2. Fuel Oil No. 2	5,250 gallons combined per year[2]	12-month rolling time period as determined at the end of each calendar month	EU-BOILER4, EU-BOILER5	SC VI.1	**40 CFR 52.21(c) & (d), 40 CFR 60.48c(g)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall only burn virgin fuel oil No. 2 in EU-BOILER4 and EU-BOILER5 during periods of gas curtailment, gas supply emergencies, or periodic testing on liquid fuel. The periodic testing on liquid fuel shall not exceed a combined total of 48 hours, for each boiler, during any calendar year.[2] **(40 CFR Part 63, Subpart JJJJJJ)**

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 keep monthly and 12-month rolling natural gas and fuel oil No. 2 usage records for EU-BOILER4 and EU-BOILER5 in a format acceptable to the AQD District Supervisor of the amount of natural gas used, in MM cubic feet, and of the amount of fuel oil used, in gallons, each calendar month. The records shall indicate the total amount of natural gas and fuel oil used.[2] **(40 CFR 52.21(c) & (d), 40 CFR 60.48c(g))**

2. The permittee shall calculate average daily SO_2 emissions from EU-BOILER4 and EU-BOILER5 each calendar month and on a rolling 12-month time period using the method delineated in Appendix 7.1.[2] **(R 336.1401, 40 CFR 52.21(c) & (d))**

3. The permittee shall keep a record of the number of operating days in each calendar month for EU-BOILER4 and EU-BOILER5.[2] **(R 336.1401, 40 CFR 52.21(c) & (d))**

4. The permittee shall calculate NOx emissions from EU-BOILER4 and EU-BOILER5 each calendar month and 12-month rolling time period, as determined at the end of each calendar month, using the method and emission factors delineated in Appendix 7.2.[2] **(40 CFR 52.21(c) & (d))**

5. The permittee shall keep a record of the emission calculations for EU-BOILER4 and EU-BOILER5.[2] **(40 CFR 52.21(c) & (d))**

6. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-BOILER4 and EU-BOILER5. The permittee shall record all preventative maintenance events and have the records available upon request.[2] **(R 336.1910, R 336.1911)**

7. The permittee shall monitor and keep records of the number of hours EU-BOILER4 and EU-BOILER5 were operated on liquid fuel for periodic testing, maintenance, or operator training during each calendar year.[2] **(40 CFR Part 63, Subpart JJJJJJ)**

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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-BOILER4	30.0[2]	35.1[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**
2. SV-BOILER5	42.0[2]	35.1[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Unit.[2] **(40 CFR 60 Subpart Dc)**

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).

FG-FUELOIL
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Emission units subject to a sulfur dioxide emission standard and a fuel oil certification or analysis requirement. Some emission units are also subject to fuel usage limits.

Emission Units: EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Fuel Oil No. 2	65,000 gallons combined per year[2]	12-month rolling time period as determined at the end of each calendar month	EU-ELECGEN6, EU-ELECGEN7	SC VI.2	**40 CFR 52.21(c) & (d)**
2. Fuel Oil No. 2	65,000 gallons combined per year[2]	12-month rolling time period as determined at the end of each calendar month	EU-ELECGEN8, EU-ELECGEN9	SC VI.2	**40 CFR 52.21(c) & (d)**
3. Sulfur content in fuel	15 ppm sulfur in fuel by weight in each fuel shipment.[2]	Each fuel oil shipment	FG-FUELOIL	SC VI.1	**R 336.1401, 40 CFR 52.21(c) & (d), 40 CFR 60.42c(d)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in any emission unit in FG-FUELOIL, demonstrating that the fuel sulfur content meets the requirement for all emission units covered in FG-FUELOIL. The certification or test data shall include the name of the oil supplier or laboratory, and the sulfur content of the fuel oil.[2] **(R 336.1205(1)(a), R 336.1401, 40 CFR 60.48c(f))**

2. The permittee shall keep fuel oil usage records for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8 and EU-ELECGEN9 in a format acceptable to the AQD District Supervisor indicating the amount of fuel used in gallons each calendar monthly and 12-month rolling. The records shall indicate the total amount of fuel oil used.[2] **(40 CFR 52.21(c) & (d))**

3. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8 and EU-ELECGEN9. The permittee shall record all preventative maintenance events and have the records available upon request.[2] **(R 336.1910, R 336.1911)**

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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

4. The permittee shall submit semiannual reports consisting of fuel oil analyses either conducted by the fuel oil supplier or an independent laboratory and a certified statement signed by a responsible official indicating that the analysis submitted represents all of the fuel oil combusted during the reporting period. Each semiannual report shall be postmarked by the 30th day following the end of the reporting period. The semiannual reporting periods shall coincide with the reporting periods specified for the semiannual deviation reports (January 1 through June 30 and July 1 through December 31, respectively).[2] **(40 CFR 60.48c(d), 40 CFR 60.48c(e), 40 CFR 60.8(j))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

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).

FG-EMERGENCY
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Includes four permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63, Subpart ZZZZ.

Emission Units: EU-ELECGEN6, EU-ELECGEN7, EU ELECGEN8, EU-ELECGEN9

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate any engine in FG-EMERGENCY for more than 500 hours per year on a 12-month rolling time period basis, as determined at the end of each calendar month.[2] **(R 336.1205(1)(a), R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine in FG-EMERGENCY with a non-resettable hour meter to track the operating hours.[2] **(R 336.1205(1)(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 monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine in FG-EMERGENCY, on a monthly and 12-month rolling time period basis, as determined at the end of each calendar month, in a manner that is acceptable to the District Supervisor, Air Quality Division. The permittee shall document how many hours are spent for emergency operation of each engine of FG-EMERGENCY, including what classified the operation as emergency and how many hours are spent for non-emergency operation. All records shall be kept on file and made available to the Department upon request.[2] **(R 336.1205(1)(a))**

2. The permittee shall maintain the following record for each engine in FG-EMERGENCY. The following information shall be recorded and kept on file at the facility:

a. Engine manufacturer;

b. Date engine was manufactured;

c. Engine model number;

d. Engine horsepower;

e. Engine serial number;

f. Engine specification sheet;

g. Date of initial startup of the engine; and

h. Date engine was removed from service at this stationary source.

All of the above information shall be stored in a format acceptable to the AQD District Supervisor.[2] **(R 336.1301, R 336.1331, R 336.1702, R 336.1910, R 336.1911, R 336.1912)**

VII. REPORTING

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

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

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. SV-ELECGEN6	15.6[2]	50[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**
2. SV-ELECGEN7	15.6[2]	50[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**
3. SV-ELECGEN8	18[2]	37[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**
4. SV-ELECGEN9	18[2]	37[2]	**R 336.1224, 40 CFR 52.21(c) & (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and ZZZZ, as they apply to FG-EMERGENCY.[2] **(40 CFR Part 63, Subparts A & 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).

FG-MACTZZZZ-EMER
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Includes four permitted engines that were classified as existing institutional emergency stationary reciprocating internal combustion engines located at an area source of hazardous air pollutants under 40 CFR Part 63, Subpart ZZZZ. Also, includes two existing institutional emergency stationary reciprocating internal combustion engines (EU-RESGEN1, EU-RESGEN2) that are exempt from obtaining a Permit to Install pursuant to R 336.1285(g).

Emission Units: EU-ELECGEN6, EU-ELECGEN7, EU ELECGEN8, EU-ELECGEN9, EU-RESGEN1, EU-RESGEN2

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Engines in FG-MACTZZZZ-EMER shall not operate or be contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), as stated in SC IV.4.b.ii. and iii below. **(40 CFR 63.6585(f)(3))**

2. Engines in FG-MACTZZZZ-EMER shall not be used to supply power as part of a financial arrangement with another entity. **(40 CFR 63.6585(f)(3))**

3. In order for an engine to be considered an emergency stationary RICE, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in 40 CFR 63.6640(f)(1) through (4), and listed below, is prohibited. If you do not operate the engine according to the requirements in paragraphs 40 CFR 63.6640(f)(1) through (4), the engine will not be considered an emergency engine under 40 CFR 63 Subpart ZZZZ and will need to meet all requirements for non-emergency engines.

   a. There is no time limit on the use of emergency stationary RICE in emergency situations. **(40 CFR 63.6640(f)(1))**

   b. You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs 40 CFR 63.6640(f)(2)(i) through (iii), listed below, for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs 40 CFR 63.6640(f) counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

i. Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

ii. Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see 40 CFR 63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

iii. Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. **(40 CFR 63.6640(f)(2)**

c. Emergency stationary RICE may be operated for up to 50 hours per calendar year in non-emergency situations. These 50 hours of operation are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response. **(40 CFR 63.6640(f)(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. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine in FG-MACTZZZZ-EMER, on a monthly and 12-month rolling time period basis, as determined at the end of each calendar month, in a manner that is acceptable to the District Supervisor, Air Quality Division. The permittee shall document how many hours are spent for emergency operation of each engine of FG-MACTZZZZ-EMER, including what classified the operation as emergency and how many hours are spent for non-emergency operation. All records shall be kept on file and made available to the Department upon request. **(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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all provisions of the National Emission Standards for Hazardous Air Pollutants as specified in 40 CFR Part 63, Subparts A and ZZZZ, as they apply to FG-MACTZZZZ-EMER. **(40 CFR Part 63, Subparts A & 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).

FG-ELECGEN1&2R
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two 2,000 kilowatts (kW) diesel-fueled emergency engines manufactured in 2013.

Emission Units: EU-ELECGEN1R, EU-ELECGEN2R

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NMHC + NOx	6.4 g/kW-hr[2]	Hourly	Each engine of FG-ELECGEN1&2R	SC VI.2	**40 CFR 60.4205(b)**
2. CO	3.5 g/kW-hr[2]	Hourly	Each engine of FG-ELECGEN1&2R	SC VI.2	**40 CFR 60.4205(b)**
3. PM	0.20 g/kW-hr[2]	Hourly	Each engine of FG-ELECGEN1&2R	SC VI.2	**40 CFR 60.4205(b)**

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel, in each engine of FG-ELECGEN1&2R with the maximum sulfur content of 15 ppm (0.0015 percent) by weight.[2] **(R 336.1205(1)(a) & (3), R 336.1402(1), 40 CFR 60.4207, 40 CFR 80.510(b))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate either engine of FG-ELECGEN1&2R for more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. The 500 hours includes the hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2.[2] **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d))**

2. The permittee may operate each engine of FG-ELECGEN1&2R for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year. Each engine of FG-ELECGEN1&2R may operate up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted towards the 100 hours per calendar year provided for maintenance and testing. The 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply non-emergency power as part of a financial arrangement with another entity.[2] **(40 CFR 60.4211)**

3. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart IIII, for the same model year, the permittee shall meet the following requirements for each engine of FG-ELECGEN1&2R:

a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions,
b. Keep a maintenance plan and the permittee may only change those engine settings that are permitted by the manufacturer. If you do not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine, and
c. Meet the requirements as specified in 40 CFR 89, as it applies to you.[2] **(40 CFR 60.4211(a))**

4. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for either engine of FG-ELECGEN1&2R and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions.[2] **(40 CFR 60.4211(g)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine of FG-ELECGEN1&2R with non-resettable hours meters to track the operating hours.[2] **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4209)**

2. The nameplate capacity of each engine of FG-ELECGEN1&2R shall not exceed 2,000 kW, as certified by the equipment manufacturer.[2] **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4202, 40 CFR 89.112(a))**

V. TESTING/SAMPLING

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

1. The permittee shall conduct an initial performance test for either engine of FG-ELECGEN1&2R within one year after startup of the engine to demonstrate compliance with the emission limits in 40 CFR 60.4205 unless the engine has been certified by the manufacturer and the permittee maintains the engine as required by 40 CFR Part 60 Subpart IIII. If a performance test is required, the performance test shall be conducted according to 40 CFR 60.4212. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test.[2] **(40 CFR 60.4211, 40 CFR 60.4212, 40 CFR Part 60, Subpart IIII)**

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 in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.[2] **(R 336.1205(1)(a) & (3), 40 CFR 52.21 (c) & (d))**

2. For each engine, the permittee shall keep, in a satisfactory manner, records of testing required in SC V.1 or manufacturer certification documentation indicating that each engine of FG-ELECGEN1&2R meets the applicable emission limitations contained in the federal Standards of Performance for New Stationary Sources 40 CFR Part 60 Subpart IIII. If either engine of FG-ELECGEN1&2R becomes uncertified, then the permittee must also keep records of a maintenance plan and of maintenance activities. The permittee shall keep all records on file and make them available to the Department upon request.[2] **(40 CFR 60.4211)**

3. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine of FG-ELECGEN1&2R, on a monthly and 12-month rolling time period basis, as determined at the end of each calendar month, in a manner acceptable to the District Supervisor, Air Quality Division. The permittee shall document how many hours are spent for emergency operation of each engine of FG-ELECGEN1&2R, including what classified the operation as emergency and how many hours are spent for non-emergency operation.[2] **(R 336.1205(1)(a) & (3), 40 CFR 60.4211, 40 CFR 60.4214)**

4. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in each engine of FG-ELECGEN1&2R, demonstrating that the fuel sulfur

content meets the requirement of 40 CFR 80.510(b). The certification or test data shall include the name of the oil supplier or laboratory, and the sulfur content of the fuel oil.[2] **(R 336.1205(1)(a) & (3), R 336.1402(1), 40 CFR 80.510(b))**

5. The permittee shall develop and implement, in accordance with good engineering practices, a routine preventative maintenance plan for each engine of FG-ELECGEN1&2R. The permittee shall record all preventative maintenance events and have the records available upon request. **(R336.1213(3), R 336.1910, R 336.1911)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of each engine of FG-ELECGEN1&2R.[2] **(R 336.1201(7)(a))**

2. The permittee shall submit a notification specifying whether each engine of FG-ELECGEN1&2R will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation.[2] **(40 CFR Part 60, Subpart IIII)**

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

4. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

5. 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. SV-ELECGEN1R	14.4[2]	40[2]	**R 336.1225, 40 CFR 52.21 (c) & (d)**
2. SV-ELECGEN2R	14.4[2]	40[2]	**R 336.1225, 40 CFR 52.21 (c) & (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60, Subpart A and Subpart IIII, as they apply to each engine of FG-ELECGEN1&2R.[2] **(40 CFR Part 60, Subparts A & IIII, 40 CFR 63.6590)**

2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZ, as they apply to each engine of FG-ELECGEN1&2R, upon startup.[2] **(40 CFR Part 63, Subparts A and ZZZZ, 40 CFR 63.6595)**

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).

FG-ELECGEN3R&4R
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two 23.5 MMBTU/hr, 3,633 bhp (2500 kilowatts (kW)), diesel-fueled emergency engines with a model year of 2011 or later, and a displacement of 4.88 liters/cylinder

Emission Units: EU-ELECGEN3R, EU-ELECGEN4R

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NMHC + NOx[A]	6.4 g/kW-hr[2]	Hourly	Each engine in FG-ELECGEN3R&4R	SC V.1, SC VI.2	**40 CFR 60.4205(b), 40 CFR 60.4202, Table 2 of Appendix I of 40 CFR 1039**
2. CO[A]	3.5 g/kW-hr[2]	Hourly	Each engine in FG-ELECGEN3R&4R	SC V.1, SC VI.2	**40 CFR 60.4205(b), 40 CFR 60.4202, Table 2 of Appendix I of 40 CFR 1039**
3. PM[A]	0.20 g/kW-hr[2]	Hourly	Each engine in FG-ELECGEN3R&4R	SC V.1, SC VI.2	**40 CFR 60.4205(b), 40 CFR 60.4202, Table 2 of Appendix I of 40 CFR 1039**
4. NOx	25.6 tpy[B,2]	12-month rolling time period as determined at the end of each calendar month	FG-ELECGEN3R&4R	SC VI.6	**40 CFR 52.21(c) & (d)**

[A] These emission limits are for certified engines; if testing becomes required to demonstrate compliance, then the tested values must be compared to the Not to Exceed (NTE) requirements determined through 40 CFR 60.4212(c).
[B] Based on the emission factor 6.38 g/bhp-hr at maximum capacity of 3633 bhp at 500 hours as restricted in SC III.1

II. MATERIAL LIMIT(S)

1. The permittee shall burn only diesel fuel, in each engine of FG-ELECGEN3R&4R with the maximum sulfur content of 15 ppm (0.0015 percent) by weight and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent.[2] **(R 336.1205(1)(a) & (3), R 336.1402(1), 40 CFR 60.4207, 40 CFR 1090.305)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate each engine in FG-ELECGEN3R&4R for more than 500 hours per year on a 12-month rolling time period basis as determined at the end of each calendar month. The 500 hours includes the

hours for the purpose of necessary maintenance checks and readiness testing as described in SC III.2.[2] **(R 336.1205(1)(a) & (3), R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d))**

2. The permittee may operate each engine in FG-ELECGEN3R&4R for no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The permittee may petition the Department for approval of additional hours to be used for maintenance checks and readiness testing. A petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency internal combustion engines beyond 100 hours per calendar year.[2] **(40 CFR 60.4211(f)(2))**

3. The permittee may operate each engine in FG-ELECGEN3R&4R up to 50 hours per calendar year in non-emergency situations, but those 50 hours are counted as part of the 100 hours per calendar year provided for maintenance and testing as provided in 40 CFR 60.4211(f)(2). Except as provided in 40 CFR 60.4211(f)(3)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.[2] **(40 CFR 60.4211(f)(3))**

4. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60, Subpart IIII, for the same model year, the permittee shall meet the following requirements for each engine of FG-ELECGEN3R&4R:

   a. Operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions,

   b. Change only those emission-related settings that are permitted by the manufacturer, and

   c. Meet the requirements as specified in 40 CFR 1068, as they apply to the engine.

   If you do not operate and maintain the certified engine and control device according to the manufacturer's emission-related written instructions, the engine will be considered a non-certified engine.[2] **(40 CFR 60.4211(a)**

5. If the permittee purchased a non-certified engine or a certified engine operating in a non-certified manner, the permittee shall keep a maintenance plan for either engine of FG-ELECGEN3R&4R and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions.[2] **(40 CFR 60.4211(g)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine of FG-ELECGEN3R&4R with non-resettable hour meters to track the operating hours.[2] **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4209)**

2. The nameplate capacity of each engine of FG-ELECGEN3R&4R shall not exceed 2,500 kW, as certified by the equipment manufacturer.[2] **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4202, 40 CFR 60.4205, 40 CFR 1039, 40 CFR 1042)**

V. TESTING/SAMPLING

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

1. If any engine in FG-ELECGEN3R&4R is not installed, configured, operated, and maintained according to the manufacturer's emission-related written instructions, or the permittee changes emission-related settings in a way that is not permitted by the manufacturer, the permittee must demonstrate compliance as follows:

   a. Conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

b. If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4212.

c. Conduct subsequent performance testing every 8,760 hours of engine operation or every 3 years thereafter, whichever comes first, to demonstrate compliance with the applicable emission standards.

No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.[2] **(40 CFR 60.4211(g) (3), 40 CFR 60.4212)**

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 in a format acceptable to the AQD District Supervisor by the 30th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.[2] **(R 336.1205(1)(a) & (3), 40 CFR 52.21 (c) & (d))**

2. The permittee shall keep, in a satisfactory manner, the following records for each engine in FG-ELECGEN3R&4R:

   a. For each certified engine: The permittee shall keep records of the manufacturer certification documentation.

   b. For each uncertified engine: The permittee shall keep records of testing required in SC V.1.

   The permittee shall keep all records on file and make them available to the Department upon request.[2] **(40 CFR 60.4211)**

3. The permittee shall keep, in a satisfactory manner, the following records of maintenance activity for each engine in FG-ELECGEN3R&4R:

   a. For each certified engine: The permittee shall keep records of the manufacturer's emission-related written instructions, and records demonstrating that the engine has been maintained according to those instructions, as specified in SC III.4.

   b. For each uncertified engine: The permittee shall keep records of a maintenance plan, as required by SC III.5, and maintenance activities.

   The permittee shall keep all records on file and make them available to the Department upon request.[2] **(40 CFR 60.4211)**

4. The permittee shall monitor and record, the total hours of operation for each engine in FG-ELECGEN3R&4R on a monthly and 12-month rolling time period basis, and the hours of operation during emergency and non-emergency service that are recorded through the non-resettable hour meter for each engine in FG-ELECGEN3R&4R, on a calendar year basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of each engine in FG-ELECGEN3R&4RENGINES, including what classified the operation as emergency and how many hours are spent for non-emergency operation.[2] **(R 336.1205(1)(a) & (3), 40 CFR 60.4211, 40 CFR 60.4214)**

5. The permittee shall keep, in a satisfactory manner, fuel supplier certification records or fuel sample test data, for each delivery of diesel fuel oil used in FG-ELECGEN3R&4R, demonstrating that the fuel meets the requirement of 40 CFR 1090.305. The certification or test data shall include the name of the oil supplier or laboratory, the sulfur content, and cetane index or aromatic content of the fuel oil.[2] **(R 336.1205(1)(a) & (3), R 336.1402(1), 40 CFR 1090.305)**

6. The permittee shall calculate and keep, in a manner acceptable to the AQD supervisor, records of monthly and 12-month rolling NO_x emissions for FG-ELECGEN3R&4R during months of operation. The permittee shall keep all records on file and make them available to the Department upon request. The calculations shall be performed in a method approved by the District Supervisor.[2] **(40 CFR 52.21(c) & (d))**

VII. REPORTING

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

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

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

5. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of each engine of FG-ELECGEN3R&4R.[2] **(R 336.1201(7)(a))**

6. The permittee shall submit a notification specifying whether each engine of FG-ELECGEN3R&4R will be operated in a certified or a non-certified manner to the AQD District Supervisor, in writing, within 30 days following the initial startup of the engine and within 30 days of switching the manner of operation.[2] **(40 CFR Part 60, Subpart IIII)**

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. SV-STACK2	36[2]	126[2]	**R 336.1225, 40 CFR 52.21(c) & (d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with the provisions of the federal Standards of Performance for New Stationary Sources as specified in 40 CFR Part 60 Subpart A and Subpart IIII, as they apply to each engine of FG-ELECGEN3R&4R.[2] **(40 CFR Part 60, Subparts A & IIII, 40 CFR 63.6590)**

2. The permittee shall comply with the provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR, Part 63, Subpart A and Subpart ZZZZ, as they apply to each engine of FG-ELECGEN3R&4R, upon startup.[2] **(40 CFR Part 63, Subparts A and ZZZZ, 40 CFR 63.6595)**

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).

FG-ETOSTERILIZERS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Two (2) 3M Steri-Vac 8XL Gas Sterilizers and two (2) 3M Steri-Vac 5XL Gas Sterilizers, each controlled by one of the three Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.

Emission Units: EU-ETOSTERILIZER1, EU-ETOSTERILIZER2, EU-ETOSTERILIZER3, EU-ETOSTERILIZER4

POLLUTION CONTROL EQUIPMENT:

Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. EtO	0.0059 pph[2]	Hourly	FG-ETOSTERILIZERS (all sterilizers combined)	SC V.1, SC VI.3	**R 336.1227(2)**
2. EtO	3.69 lb/year[2]	12-month rolling time period as determined at the end of each calendar month	FG-ETOSTERILIZERS (all sterilizers combined)	SC VI.2	**R 336.1225(2), R 336.1702(a)**

II. MATERIAL LIMIT(S)

1. The permittee shall not use more than 0.37 lb EtO per cycle/load in EU-ETOSTERILIZER1 or EU-ETOSTERILIZER2. Additionally, the permittee shall not use more than 0.22 lb EtO per cycle/load in EU-ETOSTERILIZER3 or EU-ETOSTERILIZER4.[2] **(R 336.1225, R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate any sterilizer associated with FG-ETOSTERILIZERS unless the Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters are installed, maintained, and operated in a satisfactory manner. Satisfactory operation of the control system includes a minimum EtO destruction efficiency of 99.5 percent by weight, as well as, the Malfunction Abatement Plan (MAP) as described in SC III.2.[2] **(R 336.1225, R 336.1702(a), R 336.1910)**

2. The permittee shall not operate any sterilizer associated with FG-ETOSTERILIZERS unless a malfunction abatement plan (MAP) as described in Rule 911(2), has been submitted within 60 days of permit issuance, and is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.[2] **(R 336.1225, R 336.1702(a), R 336.1910, R 336.1911)**

3. The permittee shall sterilize full loads of items having a common aeration time, except under medically necessary circumstances, as that term is defined in 40 CFR 63.10448. **(40 CFR 63.10390)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate any sterilizer associated with FG-ETOSTERILIZERS unless each respective venturi and compressed air chamber exhaust system is installed, maintained, and operated in a satisfactory manner. The emission units shall not discharge EtO to a wastewater stream.[2] **(R 336.1225, R 336.1702(a))**

V. TESTING/SAMPLING

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

1. The permittee shall verify the destruction efficiency of each acid scrubber and dry bed chemical filter system connected to the vents for EU-ETOSTERILIZER1 and EU-ETOSTERILZER2 by testing at the owner's expense, in accordance with the Department requirements no later than September 30, 2024. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(32), R 336.2001, R 336.2003, R 336.2004)**

2. The permittee shall verify the EtO destruction efficiency of each acid scrubber and dry bed chemical filter system in FG-ETOSTERILIZERS, at a minimum, every five years from the date of the last test. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.This testing requirement may be waived if the most recent approved stack test results remain valid and representative and, an acceptable demonstration is made to and approved by the AQD District Supervisor. **(R 336.1213(3), R 336.2001, R 336.2003, R 336.2004)**

3. The permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor not less than 30 days of the time and place before performance tests are conducted. **(R 336.1213(3))**

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 in a format acceptable to the AQD District Supervisor by the 15th day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition.[2] **(R 336.1225, R 336.1702(a))**

2. The permittee shall keep a separate monthly record of the following information:

   a. The amount of EtO used in each sterilizer per cycle/load.

   b. The number of cycles/loads processed in each sterilizer per calendar day and per calendar month.

   c. EtO mass emission calculations determining the monthly emission rate, in pounds per calendar month, from each sterilizer, and for all sterilizers combined.

   d. EtO mass emission calculations determining the annual emission rate in pounds per 12-month rolling time period as determined at the end of each calendar month, for each sterilizer and for all sterilizers combined.

   The permittee shall keep the records in a format acceptable to the AQD District Supervisor. The permittee shall keep all records on file and make them available to the Department upon request.[2] **(R 336.1225, R 336.1702(a))**

3. The permittee shall monitor a parameter of the Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters, based on either the manufacturer's specifications or a performance test, which assures at least 99.5 percent reduction of EtO emissions. A copy of the manufacturer's specifications for the control device shall be maintained on file.[2] **(R 336.1225, R 336.1910)**

4. The permittee shall keep the following in a satisfactory manner: records of the date, duration, and description of any malfunction of the control equipment; any maintenance performed; replacement of the Advanced Air Technologies Safe-Cell System Model 2002 acid scrubbers and dry bed chemical filters and any testing results for FG-ETOSTERILIZERS. All records shall be kept on file and made available to the Department upon request.[2] **(R 336.1225, R 336.1910)**

5. The permittee shall keep records of the date and time of any sterilization cycle that does not contain a full load of items. The records shall include a statement from a hospital central services staff, a hospital administrator, or a physician that it was medically necessary. **(R 336.1213(3))**

6. The permittee shall keep a copy of the Initial Notification of Compliance Status submitted to comply with 40 CFR 63 Subpart WWWWW. **(40 CFR 63.10432)**

VII. REPORTING

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

2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-ETOSTACK	18[2]	35[2]	**R 336.1225, 40 CFR 52.21 (c) & (d)**

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 Part 63, Subpart A and Subpart WWWWW for Hospital Ethylene Oxide Sterilizers by the initial compliance date.[2] **(40 CFR Part 63, Subpart A and Subpart WWWWW)**

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).

FG-RULE287(2)(c)
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 287(2)(c). Emission units installed/modified before December 20, 2016, may show compliance with Rule 287 in effect at the time of installation/modification.

Emission Units installed on or after December 20, 2016: NA

Emission Units installed prior to December 20, 2016: EU-WOODSHOP

POLLUTION CONTROL EQUIPMENT

Installed fabric filters on each paint booth. Dust collector installed on woodworking equipment.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Underlying Applicable Requirement
1. Coatings	200 Gallons/month (minus water as applied)	Calendar month	Each emission unit	**R 336.1287(2)(c)(i)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Any exhaust system installed on or after December 20, 2016, that serves only coating spray equipment shall be equipped with a dry filter control or water wash control which is installed, maintained, and operated in accordance with the manufacturer's specifications, or the permittee develops a plan which provides to the extent practicable for the maintenance and operation of the equipment in a manner consistent with good air pollution control practices for minimizing emissions. All emission units installed before December 20, 2016, with an exhaust system that serves only coating spray equipment must have a properly installed and operated particulate control system. **(R 336.1213(2), R 336.1287(2)(c)(ii), R 336.1910))**

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 EGLE, AQD Rule 287(2)(c), Permit to Install Exemption Record form (EQP 3562) or in a format acceptable to the AQD District Supervisor. **(R 336.1213(3))**

a. Volume of coating used, as applied, minus water, in gallons. **(R 336.1287(2)(c)(iii))**

b. Documentation of any filter replacements or maintenance of water wash control for exhaust systems serving coating spray equipment or other documentation included in a plan developed by the owner or operator of the equipment. **(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. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**

3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be postmarked or received by the appropriate AQD District Office by March 15 for the previous calendar year. **(R 336.1213(4)(c))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall not operate woodworking tools in EU-WOODSHOP, unless a dust collection system is properly installed, operated, and maintained. **(R 336.1213(3), R. 336.1910, R 336.1301(3))**

2. The permittee shall maintain monthly maintenance records of the dust collection control located in the woodworking area of EU-WOODSHOP. **(R 336.1213(3), R 336.1301(3))**

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
CEMS	Continuous Emission Monitoring System	dscf	Dry standard cubic foot
CFR	Code of Federal Regulations	dscm	Dry standard cubic meter
COM	Continuous Opacity Monitoring	°F	Degrees Fahrenheit
Department/ department	Michigan Department of Environment, Great Lakes, and Energy	gr	Grains
		HAP	Hazardous Air Pollutant
EGLE	Michigan Department of Environment, Great Lakes, and Energy	Hg	Mercury
		hr	Hour
EU	Emission Unit	HP	Horsepower
FG	Flexible Group	H_2S	Hydrogen Sulfide
GACS	Gallons of Applied Coating Solids	kW	Kilowatt
GC	General Condition	lb	Pound
GHGs	Greenhouse Gases	m	Meter
HVLP	High Volume Low Pressure*	mg	Milligram
ID	Identification	mm	Millimeter
IRSL	Initial Risk Screening Level	MM	Million
ITSL	Initial Threshold Screening Level	MW	Megawatts
LAER	Lowest Achievable Emission Rate	NMOC	Non-methane Organic Compounds
MACT	Maximum Achievable Control Technology	NO_x	Oxides of Nitrogen
MAERS	Michigan Air Emissions Reporting System	ng	Nanogram
MAP	Malfunction Abatement Plan	PM	Particulate Matter
MSDS	Material Safety Data Sheet	PM10	Particulate Matter equal to or less than 10 microns in diameter
NA	Not Applicable		
NAAQS	National Ambient Air Quality Standards	PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
NESHAP	National Emission Standard for Hazardous Air Pollutants	pph	Pounds per hour
		ppm	Parts per million
NSPS	New Source Performance Standards	ppmv	Parts per million by volume
NSR	New Source Review	ppmw	Parts per million by weight
PS	Performance Specification	%	Percent
PSD	Prevention of Significant Deterioration	psia	Pounds per square inch absolute
PTE	Permanent Total Enclosure	psig	Pounds per square inch gauge
PTI	Permit to Install	scf	Standard cubic feet
RACT	Reasonable Available Control Technology	sec	Seconds
ROP	Renewable Operating Permit	SO_2	Sulfur Dioxide
SC	Special Condition	TAC	Toxic Air Contaminant
SCR	Selective Catalytic Reduction	Temp	Temperature
SNCR	Selective Non-Catalytic Reduction	THC	Total Hydrocarbons
SRN	State Registration Number	tpy	Tons per year
TEQ	Toxicity Equivalence Quotient	µg	Microgram
USEPA/EPA	United States Environmental Protection Agency	µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
VE	Visible Emissions	yr	Year

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

Appendix 2. Schedule of Compliance

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

Appendix 3. Monitoring Requirements

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

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-G5067-2014. Those ROP revision applications that are being issued concurrently with this ROP renewal are identified by an asterisk (*). Those revision applications not listed with an asterisk were processed prior to this renewal.

Source-Wide PTI No MI-PTI-G5067-2014 is being reissued as Source-Wide PTI No. MI-PTI-G5067-2019b.

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

The following table lists the ROP amendments or modifications issued after the effective date of ROP No. MI-ROP-G5067-2019.

Permit to Install Number	ROP Revision Application Number - Issuance Date	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
95-19	202000085 / September 1, 2020	Incorporate PTI 95-19 into the ROP, which was to modify the monitoring/recordkeeping frequency for fuel usage from daily to monthly. The underlying applicability (UAR) for this condition was 40 CFR Part 60.48c(g) (Subpart Dc). At the time the boilers were initially permitted Subpart DC required daily fuel records; however, it has been amended to allow for records to be maintained on a monthly basis when using a fuel certification in 60.48c(f). The change in recordkeeping impacts the requirement for daily calculations of SO2 and NOx for FG-BOILERS2&3 and FG-BOILERS3&4. The facility requested for monthly calculations instead of daily. Additionally, during permitting, it was determined that EU-RESGEN1 and EU-RESGEN2 could be included in Flexible Groups FG-FUELOIL and FG-EMERGENCY, and therefore, FG-RESGENS was removed. No new equipment was proposed to be installed nor any existing equipment proposed to be physically modified. The only changes requested are related to recordkeeping. This PTI was not required to go through the public participation process.	EU-RESGEN1 EU-RESGEN2 FG-BOILERS2&3 FG-BOILERS4&5 FG-FUELOIL, FG-EMERGENCY
95-19A	202300007 / April 5, 2023	Incorporate PTI No. 95-19A which was to install two emergency reciprocating internal combustion engines, , and to remove two existing emergency Rice gensets. The two existing gensets removed were EU-COGEN1 and EU-COGEN2. The two new emergency RICE gensets are EU-ELECGEN3R and EU-ELECGEN4R and are fueled with No. 2 fuel oil. Additionally, EURESGEN1 and EURESGEN2 are exempt emission units that were kept in the ROP and renamed the associated flexible group as FG-MACTZZZZ-EMER and just carried forward the federal requirements for the emission units. Emission Units EU-ELECGEN6, EU-ELECGEN7, EU-ELECGEN8, EU-ELECGEN9 were also carried forward in as FG-MACTZZZZ-EMER. The flexible group FG-EMERGENCY was added to the ROP from PTI No. 95-19A permitted Conditions.	EU-ELECGEN3R, EU-ELECGEN4R FG-BOILERS2&3, FG-BOILERS4&5 FG-ELECGEN3R&4R FG-FUELOIL FG-EMERGENCY FG-MACTZZZZ-EMER

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 EU-BOILER1, FG-BOILERS2&3, and FG-BOILERS4&5.

7.1 The permittee shall calculate the SO_2 emissions from Boiler No. 1 through Boiler No. 5 using the following equation:

$ESO2_{daily} = F_{fueloil}/O * D * S * 2$

Where:

"$ESO2_{daily}$" is the emission of SO_2, in pounds, on a daily basis recorded each calendar month;

"$F_{fueloil}$" = is the monthly fuel oil usage rate, in gallons;

"D" is the density of the fuel oil in lbs. per gallon based on the most recent fuel supplier certification or fuel sample test data, or 7.2 if not data is available;

"S" is the sulfur content of the fuel oil in lb. per lb. of fuel oil based on the most recent fuel supplier certification or fuel sample test data;

"2" is the conversion of sulfur to sulfur dioxide; and

"O" is the number of operating days recorded each calendar month.

7.2 The permittee shall calculate the NOx emissions from Boiler No. 1 through Boiler No. 5 using the following equation:

$ENOx_{monthly} = (F_{gasflow} * 0.0001) + (F_{fueloil} * 0.02)$

Where:

"$ENOx_{monthly}$" is the emission rate, in pounds, of NOx on a monthly basis which shall be recorded each calendar month;

"$F_{gasflow}$" is the natural gas usage rate, in cubic feet;

"$F_{fueloil}$" is the fuel oil usage rate, gallon(s);

"0.0001" is the emission factor for NOx emissions in pounds per cubic foot of natural gas; and

"0.02" is the emission factor of NOx is pounds per gallon of fuel oil.

$ENOx_{annual}$ in tons = The sum of all $ENOx_{monthly}$ for the previous consecutive 12 calendar months/2000.

$ENOx_{annual}$ shall be recorded each calendar month.

Appendix 8. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

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

B. Other Reporting

Specific reporting requirement formats and procedures are detailed in Part A or the appropriate Source-Wide, Emission Unit and/or Flexible Group Special Conditions. Therefore, Part B of this appendix is not applicable.