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)
B1606	3711	336112	MI-ROP-B1606-2020	1

Source Name
General Motors LLC - Flint Assembly

Street Address
G-3100 Van Slyke

City	State	ZIP Code	County
Flint	MI	48551	Genesee

Section/Town/Range (if address not available)

Source Description
General Motor's Flint Assembly plant is principally involved in the manufacture of automotive light-duty trucks.

☐ 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)
General Motors LLC	

Mailing address (☐ check if same as source address)
300 Renaissance Center

City	State	ZIP Code	County	Country
Detroit	MI	48265	Wayne	USA

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

SRN: B1606	Section Number (if applicable): 1

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	
Kimberly Gerlock			Senior Environmental Engineer	
Company Name & Mailing address (☒ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		
517-275-0717		kimberly.gerlock@gm.com		

Contact 2 Name (optional)			Title	
Jeff Hummel			Senior Environmental Project Engineer	
Company Name & Mailing address (☐ check if same as source address)				
General Motors LLC 920 Townsend Street				
City	State	ZIP Code	County	Country
Lansing	MI	48933	Ingham	USA
Phone number		E-mail address		
517-719-9053		jeffrey.hummel@gm.com		

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name			Title	
Chad Pung			Plant Executive Director	
Company Name & Mailing address (☒ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		
517-202-8139		chad.pung@gm.com		

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

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

SRN: B1606	Section Number (if applicable): 1

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 <u>all</u> 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)

Chad Pung, Plant Executive Director

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

Signature of Responsible Official _____ **Date** 12/2/24

SRN: B1606	Section Number (if applicable): 1

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)	☐ Yes ☒ No
	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
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.	☐ Yes ☒ No
	Is an Acid Rain Permit Renewal Application included with this application?	☐ 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.	☒ Yes ☐ No
	Is a CAM plan included with this application?	☒ Yes ☐ No
	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	☐
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?	☒ Yes ☐ No
	If Yes, then a copy must be submitted as part of the ROP renewal application.	
C10.	Are there any specific requirements that the source proposes to be identified in the ROP as non-applicable?	☐ Yes ☒ No
	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.	
☒	Check here if an AI-001 Form is attached to provide more information for Part C. Enter AI-001 Form ID: AI-Part C	

SRN: B1606	Section Number (if applicable): 1

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-OWSGENERATOR	Oil Water Separator Emergency Generator	Rule 212(4)(e)	Rule 285(2)(g)
EU-BDYGENERATOR2	Body Shop Emergency Generator	Rule 212(4)(e)	Rule 285(2)(g)
	Body Shop Dock Heaters (3)	Rule 212(4)(c)	Rule 282(2)(b)(i)
	Body Shop Air Handling Units (7)	Rule 212(4)(c)	Rule 282(2)(b)(i)

Comments:
Refer to PTE calculations for the Emission Units listed above.

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

SRN: B1606	Section Number (if applicable): 1

PART E: EXISTING ROP INFORMATION

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

E1. Does the source propose to make any additions, changes or deletions to terms, conditions and underlying applicable requirements as they appear in the existing ROP? If Yes, identify changes and additions on Part F, Part G and/or Part H.	☒ Yes ☐ No
E2. For each emission unit(s) identified in the existing ROP, all stacks with applicable requirements are to be reported in MAERS. Are there any stacks with applicable requirements for emission unit(s) identified in the existing ROP that were not reported in the most recent MAERS reporting year? If Yes, identity the stack(s) that was/were not reported on applicable MAERS form(s).	☐ Yes ☒ No
E3. Have any emission units identified in the existing ROP been modified or reconstructed that required a PTI? If Yes, complete Part F with the appropriate information.	☐ Yes ☒ No
E4. Have any emission units identified in the existing ROP been dismantled? If Yes, identify the emission unit(s) and the dismantle date in the comment area below or on an AI-001 Form.	☐ Yes ☒ No
Comments:	

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

SRN: B1606	Section Number (if applicable): 1

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. ☐ Yes ☒ No
If No, go to Part G.

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: B1606	Section Number (if applicable): 1

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-**

PART H: REQUIREMENTS FOR ADDITION OR CHANGE

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

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

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

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

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

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

EU-THREE WET – Basecoat prime heated flash was changed to ambient temperature. Please refer to Redline ROP page 27 for proposed revisions.

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

FG-PAINT & ASSEMBLY – TESTING/SAMPLING, V.1, V.2, V.3, V.4 – GM requests to change the test plan submission to "30 days prior to testing". Please refer to Redline ROP pages 47-48 for proposed revisions.

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

GM requests to remove SC VII.4 in FG-PAINT & ASSEMBLY, which requires submission of quarterly emissions data. Under General Condition 24, emissions data is reported annually to demonstrate compliance with emission limits included in SC I.1 through SC I.6. Please refer to Redline ROP page 49 for proposed revisions.

SRN: B1606	Section Number (if applicable): 1

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-**	

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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: B1606	Section Number (if applicable): 1

1. Additional Information ID
AI-PART C & D

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

Part C

1. Operation and Maintenance Plan (O & M Plan) for FG-CONTROLS
2. AUTOMACT Work Practice Plan (112024_AutoMACT WPP_Review & Update.pdf)
3. Abatement Malfunction Plan (Flint Assembly Abatement Malfunction Plan_2024.xlsx)
4. Compliance Assurance Monitoring (CAM) Plan (FA_Compliance Assurance Monitoring_THREE WET Plan_2024.pdf)
5. Compliance Assurance Monitoring (CAM) Plan (FA_Compliance Assurance Monitoring_ECOAT Plan_2024.pdf)
6. EU-OWSGENERATOR Information (Specifications and PTE)
7. EU-BDYGENERATOR2 Information (Specifications and PTE)
8. PTE Calculations (Flint Assembly PTE summary 2024-8-1.xlsx)
9. Redline ROP document (B1606 Final 10-29-2020_ROP Redline.docx)

PART D

1. Exempt Emission Units PTE
   a. Flint Assembly Body Shop Emissions.xlsx
   b. Flint Assembly OWS Emergency Generator Emissions.xlsx

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RENEWABLE OPERATING PERMIT RENEWAL APPLICATION FORM

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GENERAL INSTRUCTIONS

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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)
B1606	3465	336370	MI-ROP-B1606-2020	2

Source Name: General Motors LLC - Flint Metal Center

Street Address: G-2238 Bristol Road

City	State	ZIP Code	County
Flint	MI	48553	Genesee

Section/Town/Range (if address not available)

Source Description: General Motor's Flint Metal Center is principally involved in the manufacture of automotive parts.

☐ 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)
General Motors LLC	

Mailing address (☐ check if same as source address): 300 Renaissance Center

City	State	ZIP Code	County	Country
Detroit	MI	48265	Wayne	USA

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

SRN: B1606	Section Number (if applicable): 2

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	
Kim Gerlock			Senior Environmental Engineer	
Company Name & Mailing address (☒ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		
517-275-0717		kimberly.gerlock@gm.com		

Contact 2 Name (optional)			Title	
Jeff Hummel			Senior Environmental Project Engineer	
Company Name & Mailing address (☐ check if same as source address)				
General Motors LLC 920 Townsend Street				
City	State	ZIP Code	County	Country
Lansing	MI	48933	Ingham	USA
Phone number		E-mail address		
517-719-9053		jeffrey.hummel@gm.com		

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name			Title	
Jim Gaeschke			Plant Director	
Company Name & Mailing address (☒ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		
248-639-9876		jim.gaeschke@gm.com		

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

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

SRN: B1606	Section Number (if applicable): 2

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.

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☒ Mark-up copy of existing ROP using official version from the AQD website (required)	☐ Stack information
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☒ 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)

Jim Gaeschke, Plant Director

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

Signature of Responsible Official — **Date** 12/5/24

SRN: B1606	Section Number (if applicable): 2

PART C: SOURCE REQUIREMENT INFORMATION

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

C1.	Actual emissions and associated data from **all** emission units with applicable requirements (including those identified in the existing ROP, Permits to Install and other equipment that have not yet been incorporated into the ROP) are required to be reported in MAERS. Are there any emissions and associated data that have not been reported in MAERS for the most recent emissions reporting year? If Yes, identify the emission unit(s) that was/were not reported in MAERS on an AI-001 Form. Applicable MAERS form(s) for unreported emission units must be included with this application.	☐ Yes ☒ No
C2.	Is this source subject to the federal regulations on ozone-depleting substances? (40 CFR Part 82)	☒ Yes ☐ No
C3.	Is this source subject to the federal Chemical Accident Prevention Provisions? (Section 112(r) of the Clean Air Act Amendments, 40 CFR Part 68) If Yes, a Risk Management Plan (RMP) and periodic updates must be submitted to the USEPA. Has an updated RMP been submitted to the USEPA?	☐ Yes ☒ No ☐ Yes ☒ No
C4.	Has this stationary source **added or modified** equipment since the last ROP renewal that changes the potential to emit (PTE) for criteria pollutant (CO, NOx, PM10, PM2.5, SO_2, VOC, lead) emissions? If Yes, include potential emission calculations (or the PTI and/or ROP revision application numbers, or other references for the PTE demonstration) for the added or modified equipment on an AI-001 Form. If No, criteria pollutant potential emission calculations do not need to be included.	☐ Yes ☒ No
C5.	Has this stationary source **added or modified** equipment since the last ROP renewal that changes the PTE for hazardous air pollutants (HAPs) regulated by Section 112 of the federal Clean Air Act? If Yes, include potential emission calculations (or the PTI and/or ROP revision application numbers or other references for the PTE demonstration) for the added or modified equipment on an AI-001 Form. Fugitive emissions must be included in HAP emission calculations. If No, HAP potential emission calculations do not need to be included.	☐ Yes ☒ No
C6.	Are any emission units subject to the Cross-State Air Pollution Rule (CSAPR)? If Yes, identify the specific emission unit(s) subject to CSAPR on an AI-001 Form.	☐ Yes ☒ No
C7.	Are any emission units subject to the federal Acid Rain Program? If Yes, identify the specific emission unit(s) subject to the federal Acid Rain Program on an AI-001 Form. Is an Acid Rain Permit Renewal Application included with this application?	☐ Yes ☒ No ☐ Yes ☒ No
C8.	Are any emission units identified in the existing ROP subject to compliance assurance monitoring (CAM)? If Yes, identify the specific emission unit(s) subject to CAM on an AI-001 Form. If a CAM plan has not been previously submitted to EGLE, one must be included with the ROP renewal application on an AI-001 Form. If the CAM Plan has been updated, include an updated copy. Is a CAM plan included with this application? If a CAM Plan is included, check the type of proposed monitoring included in the Plan: 1. Monitoring proposed by the source based on performance of the control device, or 2. Presumptively Acceptable Monitoring, if eligible	☐ Yes ☒ No ☐ Yes ☒ No ☐ ☐
C9.	Does the source have any plans such as a malfunction abatement plan, fugitive dust plan, operation/maintenance plan, or any other monitoring plan that is referenced in an existing ROP, Permit to Install requirement, or any other applicable requirement? If Yes, then a copy must be submitted as part of the ROP renewal application.	☐ Yes ☒ No
C10.	Are there any specific requirements that the source proposes to be identified in the ROP as non-applicable? If Yes, then a description of the requirement and justification must be submitted as part of the ROP renewal application on an AI-001 Form.	☐ Yes ☒ No
☐	Check here if an AI-001 Form is attached to provide more information for Part C. Enter AI-001 Form ID: **AI**-Part C	

SRN: B1606	Section Number (if applicable): 2

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

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

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

If No, go to Part E.

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

Emission Unit ID	**Emission Unit Description**	**Rule 212(4) Citation** [e.g. Rule 212(4)(c)]	**Rule 201 Exemption Rule Citation** [e.g. Rule 282(2)(b)(i)]

Comments:

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

SRN: B1606	Section Number (if applicable): 2

PART E: EXISTING ROP INFORMATION

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

E1. Does the source propose to make any additions, changes or deletions to terms, conditions and underlying applicable requirements as they appear in the existing ROP? If Yes, identify changes and additions on Part F, Part G and/or Part H.	☐ Yes ☒ No
E2. For each emission unit(s) identified in the existing ROP, all stacks with applicable requirements are to be reported in MAERS. Are there any stacks with applicable requirements for emission unit(s) identified in the existing ROP that were not reported in the most recent MAERS reporting year? If Yes, identity the stack(s) that was/were not reported on applicable MAERS form(s).	☐ Yes ☒ No
E3. Have any emission units identified in the existing ROP been modified or reconstructed that required a PTI? If Yes, complete Part F with the appropriate information.	☐ Yes ☒ No
E4. Have any emission units identified in the existing ROP been dismantled? If Yes, identify the emission unit(s) and the dismantle date in the comment area below or on an AI-001 Form.	☐ Yes ☒ No
Comments:	

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

SRN: B1606	Section Number (if applicable): 2

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: B1606	Section Number (if applicable): 2

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-**

PART H: REQUIREMENTS FOR ADDITION OR CHANGE

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

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

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

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

H8. Does the source propose to add, change and/or delete **emission limit** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below.	☐ Yes ☒ No
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: B1606	Section Number (if applicable): 2

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: B1606	Section Number (if applicable): 2

1. Additional Information ID
AI-PART C

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

1. PTE

Emission Units Inventory for ROP Renewal Application
Updated: 8-1-2024

Emission Unit	Emission Unit Description	PTI Exempt	TPY NOx	CO	PM/PM10/ PM2.5	VOC	SO_2	Lead	Comment
Emission units - Current Title V									
EU-PAINTSHOP (Maintenance paint booth)	Maintenance paint shop booth with dry fabric filters.	287(2)(c)	--	--	--	0.4	--	--	use 200 gallons/mo at 3.5 # VOC / gallon
EU-INKMARKING	Ink marking operation.	287(2)(c)	--	--	--	0.7	--	--	
FG-COLDCLEANERS	Cold cleaners exempt from Rule 201 per Rule 281(h) or Rule 285(r)(iv).	281(2)(h)	--	--	--	0.0	--	--	
EU-B-1 BOILER	A 2.2 MMBtu/hr natural gas-fired boiler that serves the Administrative Building.	282(2)(b)(i)	0.9	0.2	0.1	0.1	0.0	--	
EU-B-2 BOILER	A 2.2 MMBtu/hr natural gas-fired boiler that serves the Administrative Building.	282(2)(b)(i)	0.9	0.2	0.1	0.1	0.0	--	
EU-GENERATOR#1	A 80.4 HP natural gas-fired emergency spark ignition (SI) generator located on the roof of the Administration Building.	285(2)(g)	0.4	0.1	0.0	0.0	0.0	--	
EU-GENERATOR#2	A 225 HP natural gas-fired emergency spark ignition (SI) generator located at the F-12 platform.	285(2)(g)	1.1	0.2	0.0	0.0	0.0	--	
EU-GENERATOR#3	A 225 HP natural gas-fired emergency spark ignition (SI) generator located in the basement at L-19.	285(2)(g)	1.1	0.2	0.0	0.0	0.0	--	
EU-FIREPUMP	A 420 HP diesel fuel-fired fire pump compression ignition (CI) engine located east of the main plant.	285(2)(g)	3.3	0.7	0.2	0.3	0.2	--	
	Subtotal Current Title V Emission Units		**7.7**	**1.4**	**0.4**	**1.5**	**0.2**	**0.0**	
Emission Units - Included in Title V application									
EU-SPACEHEATERS	Natural gas fired space heaters (also known as make-up air units)	282(2)(b)(i)	43.8	8.8	3.8	2.3	0.3	--	
EU-1K-GASTANK	One 1,000 gal gasoline tank & dispensing equipment	284(2)(g)(i)	--	--	--	0.0	--	--	
EU-ALSCRAP	Aluminum scrap transfer system	291	--	--	9.9	--	--	--	
	Included in Title V Permit		**43.8**	**8.8**	**13.7**	**2.3**	**0.3**	**0.0**	

General Motors Flint Metal Center

Potential to Emit Summary

Emission Unit	Emission Unit Description	PTI Exempt	TPY NOx	CO	PM/PM10/ PM2.5	VOC	SO_2	Lead	Comment
Insignificant Non-Permited Activities									
	Maintenance/nonproduction machining operations emitting inside plant environment (Tool Room - SW Corner of the plant). Torit use to collect particulate	285(2)(l)(vi)(A)	--	--	--	--	--	--	Internal exhaust, particulate only, no PTE
	Maintenance woodworking - venting back inside the plant	285(2)(l)(vi)(A)	--	--	--	--	--	--	Internal exhaust, particulate only, no PTE
	Maintenance welding operations - internal exhaust	285(2)(i)	--	--	--	--	--	--	
	3 Washbooths	281(2)(e), 285(2)(l)(iii) and/or 285(2)(r)(iv)	--	--	--	5.1	--	--	7-17-2020 update: rename to Washbooths as steam is no longer used, removed one washbooth from east die room (approx. column J-19)
	Production metal stamping operations	285(2)(l)(i)	--	--	--	3.4	--	--	
	Production welding operations - internal exhaust	285(2)(i)	--	--	--		--	--	In the assembly area, some still remain
EU-DIESELDISP	Two diesel tanks (500 gal and 1000 gal each)	284(2)(d)	--	--	--	0.0	--	--	
	Subtotal Insignificant Activities		0.0	0.0	0.0	8.5	0.0	0.0	

	TPY NOx	CO	PM/PM10/ PM2.5	VOC	SO_2	Lead
Grand Total	51.6	10.2	14.1	12.3	0.5	0.0

Emission Unit Description: EU-COLDCLNRS

Any cold cleaner grandfathered or exempt per Rule 281(2)(h) or Rule (285)(r)(iv)

Note: as of 5-16-2019, FMCE has one coldcleaner installed at the site in the maintenance paint spray booth area.

For PTE calculation, assume 1 units and use the AP-42 emission factor found in Table 4.6-2

AP-42 emission factor for cold cleaning units = 0.33 tons VOC/unit/yr

# of units 1

PTE VOC TPY	0.33

Note actual emissions reported in 2018 MAERs was 20 lbs VOC or 0.01 TPY.

Armaclean 4 in 1

Ozzyjuice

GM Flint Metal Center

Emission Unit Description: **EU B-1 Boiler** 2.2 MMBTU/hr capacity

Natural Gas Heater	Air Contaminant	Potential Usage Usage* MMcf/yr	Emission Factor lb/MMcf	Potential Emissions	
				lbs/yr	ton/yr
SCC: 1-05-001-06	CO	18.9	20.0	377.88	0.19
	NOx	18.9	100	1,889.41	0.94
	PM10Primary	18.9	8.7	164.38	0.08
	PM2.5Primary	18.9	8.7	164.38	0.08
	SO2	18.9	0.6	11.34	0.01
	VOC	18.9	5.3	100.14	0.05

Note: From FMC Combustion Sources Heater List.xlsx sorted and counted by mmBTU.

MMcf/yr =(2.2 MMBTU/hr*24 hrs/year* 365 days/year)/1020 BTU/cf natural gas 18.9 MMCF/year

scf = standard cubic feet
Mcf =thousand cubic feet
MMcf = million cubic feet 1 MMcf = 1,000,000 cf

GM Flint Metal Center

Emission Unit Description: **EU B-2 Boiler** 2.2 MMBTU/hr capacity

Natural Gas Heater	Air Contaminant	Potential Usage Usage* MMcf/yr	Emission Factor lb/MMcf	Potential Emissions	
				lbs/yr	ton/yr
SCC: 1-05-001-06	CO	18.9	20.0	377.88	0.19
	NOx	18.9	100	1,889.41	0.94
	PM10Primary	18.9	8.7	164.38	0.08
	PM2.5Primary	18.9	8.7	164.38	0.08
	SO2	18.9	0.6	11.34	0.01
	VOC	18.9	5.3	100.14	0.05

Note: From FMC Combustion Sources Heater List.xlsx sorted and counted by mmBTU.

MMcf/yr =(2.2 MMBTU/hr*24 hrs/year* 365 days/year)/1020 BTU/cf natural gas 18.9 MMCF/year

scf = standard cubic feet
Mcf =thousand cubic feet
MMcf = million cubic feet 1 MMcf = 1,000,000 cf

Emission Unit Description: **Emergency Engines - see below summary**
PTE based on 500 hours per year for each engine

Emergency Engine Summary				
	EU-GENERATOR#1	**EU-GENERATOR#2**	**EU-GENERATOR#3**	**EU-FIREPUMP**
HP (output)	80.4	225	225	420
HP (input)	221	620	620	
	natural gas	natural gas	natural gas	diesel fuel
BTU / hr input	563464	1576860	1576860	
Fuel usage - ng ft3/hr	552	1546	1546	
Maximum yearly operating hours	500	500	500	500

Efficiency Factor per AP-42	36.3%
BTU/hp-hr	2544
nat gas heat content (BTU/Cubic Feet)	1020

EU-GENERATOR#1							
	Units	**CO**	**NOx**	**PM-10, Filterable**	**PM-2.5, Filterable**	**SO2**	**VOC/TOC**
Emission Factor	***lb/MMCF***	399.0	2840.0	20.11	20.11	0.6	116.00
Source for Emission Factor	**---**	MAERS	MAERS	MAERS	MAERS	MAERS	MAERS
Emissions	***lb/year***	0.06	0.39	0.00	0.00	0.00	0.02

EU-GENERATOR#2							
	Units	**CO**	**NOx**	**PM-10, Filterable**	**PM-2.5, Filterable**	**SO2**	**VOC/TOC**
Emission Factor	***lb/MMCF***	399.0	2840.0	20.11	20.11	0.6	116.00
Source for Emission Factor	**---**	MAERS	MAERS	MAERS	MAERS	MAERS	MAERS
Emissions	***lb/year***	0.15	1.10	0.01	0.01	0.00	0.04

EU-GENERATOR#3							
	Units	CO	NOx	PM-10, Filterable	PM-2.5, Filterable	SO2	VOC/TOC
Emission Factor	***lb/MMCF***	399.0	2840.0	20.11	20.11	0.6	116.00
Source for Emission Factor	***---***	MAERS	MAERS	MAERS	MAERS	MAERS	MAERS
Emissions	***lb/year***	0.15	1.10	0.01	0.01	0.00	0.04

EU-FIREPUMP								
	Units	CO	NOx	PM-10, Filterable	PM-2.5, Filterable	SO_2	TOC	VOC
Emission Factor	***lb/hp-hr power output***	6.68E-03	0.031	2.20E-03	0.00	2.05E-03	2.51E-03	2.51E-03
Source for Emission Factor	***---***	AP42	AP42	AP42	AP42	AP42	AP42	AP42
Emissions	***TPY***	0.70	3.26	0.23	0.23	0.22	0.26	0.26

Emission Unit Description: **EU-HEATERS**

Natural Gas Heater	Air Contaminant	Potential Usage Usage* MMcf/yr	Emission Factor lb/MMcf	Potential Emissions lbs/yr	Potential Emissions ton/yr
SCC: 1-05-001-06	CO	876.7	20.0	17,533.40	8.77
	NOx	876.7	100	87,666.99	43.83
	PM10Primary	876.7	8.7	7,627.03	3.81
	PM2.5Primary	876.7	8.7	7,627.03	3.81
	SO2	876.7	0.6	526.00	0.26
	VOC	876.7	5.3	4,646.35	2.32

Note: From FMC Combustion Sources Heater List.xlsx sorted and counted by mmBTU.

			total
6	space heater	6.6 mmBTU	39.6
7	space heater	3.78 mmBTU	26.46
1	space heater	1.89 mmBTU	1.89
1	space heater	1.134 mmBTU	1.134
1	space heater	1.22 mmBTU	1.22
1	space heater	7 mmBTU	7
1	space heater	4.374 mmBTU	4.374
1	space heater	3.5 mmBTU	3.5
2	space heater	3 mmBTU	6
1	space heater	2.8 mmBTU	2.8
1	space heater	2.1 mmBTU	2.1
1	space heater	1 mmBTU	1
5	space heater	<1 mmBTU	5
			102.078

MMcf/yr =(102.1 MMBTU/hr*24 hrs/year* 365 days/year)/1020 BTU/cf natural gas 876.7 MMCF/year

scf = standard cubic feet
Mcf =thousand cubic feet
MMcf = million cubic feet 1 MMcf = 1,000,000 cf

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)
B1606	3714	336112	MI-ROP-B1606-2020	3

Source Name: General Motors LLC - Flint Engine Operations

Street Address: 2100 West Bristol Road

City	State	ZIP Code	County
Flint	MI	48552	Genesee

Section/Town/Range (if address not available)

Source Description: General Motor's Flint Engine plant is principally involved in engine assembly operations which includes machining operations.

☐ 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)
General Motors LLC	

Mailing address (☐ check if same as source address): 300 Renaissance Center

City	State	ZIP Code	County	Country
Detroit	MI	48265	Wayne	USA

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

SRN: B1606	Section Number (if applicable): 3

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	
Kimberly Gerlock			Senior Environmental Engineer	
Company Name & Mailing address (☒ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		
517-275-0717		kimberly.gerlock@gm.com		

Contact 2 Name (optional)			Title	
Jeff Hummel			Senior Environmental Project Engineer	
Company Name & Mailing address (☐ check if same as source address)				
General Motors LLC 920 Townsend Street				
City	State	ZIP Code	County	Country
Lansing	MI	48933	Ingham	USA
Phone number		E-mail address		
517-719-9053		jeffrey.hummel@gm.com		

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name			Title	
Lisa Mack			Plant Director	
Company Name & Mailing address (☒ check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		
419-408-1366		lisa.mack@gm.com		

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

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

SRN: B1606	Section Number (if applicable): 3

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)

Lisa Mack, Plant Director

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.

Lisa Mack — 12-5-24

Signature of Responsible Official — **Date**

SRN: B1606	Section Number (if applicable): 3

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)	☐ Yes ☒ No
	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
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.	☐ Yes ☒ No
	Is an Acid Rain Permit Renewal Application included with this application?	☐ 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.	☐ Yes ☒ No
	Is a CAM plan included with this application?	☐ Yes ☒ No
	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	☐
C9.	Does the source have any plans such as a malfunction abatement plan, fugitive dust plan, operation/maintenance plan, or any other monitoring plan that is referenced in an existing ROP, Permit to Install requirement, or any other applicable requirement? If Yes, then a copy must be submitted as part of the ROP renewal application.	☐ Yes ☒ No
C10.	Are there any specific requirements that the source proposes to be identified in the ROP as non-applicable? If Yes, then a description of the requirement and justification must be submitted as part of the ROP renewal application on an AI-001 Form.	☐ Yes ☒ No

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

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)]
	Natural Gas Dock Heaters (2)	Rule 212(4)(c)	Rule 282(2)(b)(i)
	Aluminum Production Part Washing (Vents through mist collectors to general in-plant environment)	Rule 212(4)(e)	Rule 285(2)(r)(iv)
	GEN6 RTV (Room Temperature Vulcanizing Process)	Rule 212(4)(i)	Rule 291

Comments:

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

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:

Emission Units identified in the existing ROP that have been dismantled are:

a. *EU-SGE-CLEANING: SGE miscellaneous cleaning operations*
b. *EU-SGE-SEALERS: SGE other sealer application*
c. *EU-SGE-RTV: SGE room vulcanizing process*

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

SRN: B1606	Section Number (if applicable): 3

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, identify 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: B1606	Section Number (if applicable): 3

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	GEN6 CLEANING – Aluminum production part washing (Vents through mist collectors to general in-plant environment)	4/16/2024
☐ 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: B1606	Section Number (if applicable): 3

PART H: REQUIREMENTS FOR ADDITION OR CHANGE

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

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

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

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

H8. Does the source propose to add, change and/or delete **emission limit** requirements? If Yes, identify the addition/change/deletion in a mark-up of the corresponding section of the ROP and provide a justification below. *EU-SGE-RTV has been dismantled. Please refer to ROP Redline document.*	☒ 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. *EU-SGE-RTV has been dismantled. Please refer to ROP Redline document.*	☒ 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. *EU-SGE-RTV has been dismantled. Please refer to ROP Redline document.*	☒ 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. *EU-SGE-RTV has been dismantled. Please refer to ROP Redline document.*	☒ 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. *EU-SGE-RTV has been dismantled. Please refer to ROP Redline document.*	☒ 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. *EU-SGE-RTV has been dismantled. Please refer to ROP Redline document.*	☒ 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. *EU-SGE-RTV has been dismantled. Please refer to ROP Redline document.*	☒ Yes ☐ No

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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. *EU-SGE-RTV has been dismantled. Please refer to ROP Redline document.*	☒ 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. *EU-SGE-RTV has been dismantled. Please refer to ROP Redline document.*	☒ 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: B1606	Section Number (if applicable): 3

1. Additional Information ID
AI-PART C & D

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

PART C
1. Flint Engine Site PTE (FEO PTE summary 2024-8-1.xlsx)

PART D

1. Exempt Emission Units PTE
   a. Flint Engine Building Expansion PTE.xlsx
   b. GM Flint Engine GEN6 RTV toxic analysis and VOC emissions.xlsx

Emission Units Inventory for ROP Renewal Application
Updated on 11-19-2024

Emission Unit	Emission Unit Description	PTI Exempt	TPY NOx	CO	PM10/ PM2.5	VOC	SO_2	Lead	Data Source	
Emission units - Current Title V										
~~EU-SGE-RTV~~	~~SGE RTV Application~~	~~No~~	~~-~~	~~-~~	~~-~~	~~1.2~~		~~-~~	~~ROP limit~~	
EU-DIESELGEN#1	Engine for Computer Room Generator	285(2)(g)	0.40	0.09	0.03	0.03	0.03	-	MAERS emission factors and 500 hours / year	
EU-DIESELGEN#2	Engine for HFV6 Generator	285(2)(g)	0.08	0.02	0.01	0.01	0.01	-	MAERS emission factors and 500 hours / year	
EU-FIREPUMPENG#1	Engine for Fire Pump #1	285(2)(g)	0.28	0.06	0.02	0.02	0.02	-	MAERS emission factors and 500 hours / year	
EU-FIREPUMPENG#2	Engine for Fire Pump #2	285(2)(g)	0.28	0.06	0.02	0.02	0.02	-	MAERS emission factors and 500 hours / year	
FG-COLD CLEANERS-3	Cold Cleaners	281(2)(h)	-	-	-	0.7	-	-	Note: currently aqueous based. However for PTE calculation will use AP 42 emission factor (0.33 tons / unit) and 2 units.	
EU-MARKING-PENS	Marking Pens SGE Final Assembly	287(2)(c)	-	-	-	12.0	-	-	use 200 gallons/mo at 10.0 # VOC / gallon	
~~EU-SGE-SEALERS~~	~~SGE Sealers~~	~~287(2)(c)~~	~~-~~	~~-~~	~~-~~	~~1.4~~	~~-~~	~~-~~	~~Use 200 gallons/mo at 1.2 # VOC / gallon~~	Decommissioned July 2023
~~EU-SGE-CLEANING~~	~~SGE Cleaning~~	~~290~~	~~-~~	~~-~~	~~-~~	~~6.0~~	~~-~~	~~-~~	~~Rule 290 maximum allowed in 1000 # / month~~	
	Subtotal Current Title V Emission Units		1.0	0.2	0.1	12.7	0.1	-		
Emission units - Requested to be added to Title V										
EU-SGE-EMERGEN	100 kW natural gas fired emergency generator for SGE	285(2)(g)	0.16	0.33	-	0.08	-	-	USEPA emission factors and 500 hours/ / year	
EU-CSS-RTV	CSS RTV application process	290	-	-	-	6.0	-	-	Rule 290 maximum allowed in 1000 # / month	
EU-CSS-SEALERS	CSS Sealer application process	287(2)(c)	-	-	-	1.4	-	-	Use 200 gallons/mo at 1.2 # VOC / gallon	
~~EU-CSS INKS~~	~~CSS Ink application process~~	~~287(2)(c)~~	~~-~~	~~-~~	~~-~~	~~12.0~~	-	-	use 200 gallons/mo at 10.0 # VOC / gallon Note: will request removal of this EU from the ROP application so have zeroed out PTE.	
EU-CSS-CLEANING	CSS miscellaneous cleaning operations	290	-	-	-	6.0	-	-	Rule 290 maximum allowed in 1000 # / month	
	Subtotal Additions to Title V Permit		0.2	0.3	0.0	13.5	0.0	-	Excluded EU-CSS-INKS	

Emission Unit	Emission Unit Description	PTI Exempt	TPY NOx	CO	PM10/ PM2.5	VOC	SO_2	Lead	Data Source
Emission units - Exempt from Title V									
EU-HEATERS	Natural gas fired dock door heaters	282(2)(b)(i)	17.9	3.6	1.6	0.9	0.1	-	MAERS emission factors
EU-HFV6BOILER EU-FAM0BOILER 3 Fire Pump hot water heaters	Sitewide hot water heaters	282(2)(b)(i)	0.36	0.30	0.03	0.02	0.00	-	MAERS emission factors
EU-MACHINING	Sitewide machining operations	285(2)(l)(vi)(b) and (c)	-	-	#REF!	26.1	-	-	2018 MAERs for SGE with proration for SGE and CSS annual production capacity
EU-PARTSWASHER	Production Parts Washers (SGE and L6)	285(2)(l)(iii) 281(2)(k)	-	-	-	0.02	-	-	2018 MAERs for SGE with proration for SGE and CSS annual production capacity
EU-ENGCOLDTEST	L6 Engine cold test process	284(2)(i)	-	-	-	0.02	-	-	L6 Exemption Documentation
SGE Induction Hardening	The crankshaftsare electrically heated and then quenched using aqueous polymer based quench.	285(2)(a)(i)	-	-	-	-	-	-	Quench is included with Machining VOC
EU-PLASMA	Plasma treat is a system which energizes the surface of the part to become more receptive for applying the RTV sealer. Plasma jet only uses controlled electrical energy and air to generate plasma which is then projected on the surface to be treated.	285(2)(i)	0.44	-	-	-	-	-	SGE and CSS plasma treat operations
EU-CSSLINER	L6 Block Furnace and Liner Insertion	282(2)(a)(i)	0.5	0.4	0.4	0.0	0.0	-	L6 PTI Exemption Determination (12-16-2016)
L6 Induction Hardening	The crankshafts of the L6 engines are electrically heated and then quenched using aqueous polymer based quench.	285(2)(a)(i)							included in L6 machining VOC emissions
Aqueous parts washer - maintenance	Aqueous based parts washers for maintenance activities.	281(2)(k)				0.1			
Hand Held Aerosol Can Usage	Parts are sprayed with a coating from an aersol for testing the effectiveness of washer jet placement. The testing is only done in a downdraft spray booth. Exhaust is filtered through a fabric filter and carbon filter before venting internally.	285(2)(hh)				0.1			
	Subtotal Title V exempt emission units		19.2	4.3	#REF!	27.3	0.1	-	

Emission Unit	Emission Unit Description	PTI Exempt	TPY NOx	CO	PM10/ PM2.5	VOC	SO_2	Lead	Data Source
Insignificant Non-Permited Activities									
EU-LABTEST	Sediment testing cabinet located in the sediment lab used for quality checks of part cleanliness. *Note: this process is incoming and is not yet in place*	283(2)(b)	-	-	-	0.1	-	-	
EU-SURFACEPREP	Engine surface conversion coating wiping process prior to RTV sealant application	285(2)(r)	-	-	-	0.03	-	-	
	Subtotal Insignificant Activities		0.0	0.0	0.0	0.1	0.0	-	

	TPY NOx	CO	PM10/ PM2.5	VOC	SO_2	Lead
Grand Total	20.4	4.9	#REF!	53.7	0.2	-

Notes

PTE for internally exhausted PM emissions are assumed NA

Emission Unit Description: **4 Emergency Engines (See EUs below)**
PTE based on 500 hours per year for each engine

Monthly Runtime (hours)				
	EU-FIREPUMENG#1	**EU-FIREPUMENG#2**	**EU-DIESELGEN#1**	**EU-DIESELGEN#2**
HP (output)	265	265	380	80
HP (input)	730	730	1047	220
Gallons input	2	2	3	1
Maximum yearly operating hours	500	500	500	500

Efficiency Factor per AP-42	36.3%
BTU/hp-hr	2544

MAERS Emission Form Data - EU-FIREPUMPENG#1								
	Units	**CO**	**NOx**	**PM-10, Filterable**	**PM-2.5, Filterable**	**SO_2**	**TOC**	**VOC**
Emission Factor	***lb/1,000 gallons***	130.0	604.0	42.50	42.50	39.7	49.30	49.30
Source for Emission Factor	***---***	MAERS	MAERS	MAERS	MAERS	MAERS	MAERS	MAERS
Emissions	***lb/year***	0.06	0.28	0.02	0.02	0.02	0.02	0.02

MAERS Emission Form Data - EU-FIREPUMPENG#2								
	Units	**CO**	**NOx**	**PM-10, Filterable**	**PM-2.5, Filterable**	**SO_2**	**TOC**	**VOC**
Emission Factor	***lb/1,000 gallons***	130.0	604.0	42.50	42.50	39.7	49.30	49.30
Source for Emission Factor	***---***	MAERS	MAERS	MAERS	MAERS	MAERS	MAERS	MAERS
Emissions	***lb/year***	0.06	0.28	0.02	0.02	0.02	0.02	0.02

MAERS Emission Form Data - EU-DIESELGEN#1								
	Units	**CO**	**NOx**	**PM-10, Filterable**	**PM-2.5, Filterable**	**SO_2**	**TOC**	**VOC**
Emission Factor	***lb/1,000 gallons***	130.0	604.0	42.50	42.50	39.7	49.30	49.30
Source for Emission Factor	***---***	MAERS	MAERS	MAERS	MAERS	MAERS	MAERS	MAERS
Emissions	***lb/year***	0.09	0.40	0.03	0.03	0.03	0.03	0.03

MAERS Emission Form Data - EU-DIESELGEN#2								
	Units	**CO**	**NOx**	**PM-10, Filterable**	**PM-2.5, Filterable**	**SO_2**	**TOC**	**VOC**
Emission Factor	***lb/1,000 gallons***	130.0	604.0	42.50	42.50	39.7	49.30	49.30
Source for Emission Factor	***---***	MAERS	MAERS	MAERS	MAERS	MAERS	MAERS	MAERS
Emissions	***lb/year***	0.02	0.08	0.01	0.01	0.01	0.01	0.01

Emission Unit Description: EU-COLDCLNRS

Any cold cleaner grandfathered or exempt per Rule 281(2)(h) or Rule (285)(r)(iv)

Note: as of 5-16-2019, FEO does not have any coldcleaner installed at the site.

For PTE calculation, assume 2 units and use the AP-42 emission factor found in Table 4.6-2

AP-42 emission factor for cold cleaning units =	0.33	tons VOC/unit/yr
# of units	2	
PTE VOC TPY	0.66	

Emission Unit Description: **EU-SGE-EMERGEN**

New Engine subject to 40 CFR Part 60 Subpart JJJJ for Emergency Engines

Engine Model:	100 kW Wolverine SG100 engine	EPA default conversion for BTU input /hp-hr output	7000
Brake HP (output HP)	148.9		
BTU / hour heat input	1,042,300		
Fuel	natural gas		
Fuel Flow (lb/hr)	46.86 from Wolverine Specifications.		
EPA certificate No.	HGNXB08.92C1-035		

Unit	No. of Units	Rated Capacity of Engine, hp	Operating Hours for calculating PTE
Natural gas fired emergency generator	1	148.9	500

Potential Emisisons	Emission Factor, Gr/hp-hr	Emission Factor Source	PTE, Tons per Year (TPY)
NOx	2	USEPA Stationary Emergency SI Emission Standard (40 CFR Part 60 Subpart JJJJ, Table 1)	0.16
CO	4		0.33
HC (VOC)	1		0.08

TABLE 1
PM EMISSION ESTIMATES
Flint Engine Operations
Michigan

Process	Substrate	PM Emission Factor (mg/m3)[4,5]	Air Flow (SCFM)	Exhaust Configuration	Uncontrolled PM Emissions[2] (lb/hr)	Uncontrolled PM Emissions[2] (tons/yr)	Uncontrolled PM Emissions[2] (lbs/day)	Factor to Convert PM to PM_{10} /$PM_{2.5}$[2]	Mist Collector Efficiency[3] (%)	Controlled Emissions (lbs/hr) (Actual)	Controlled Emissions (tons/yr) (Actual)
Wet Machining	Aluminum	7.34	57,886	Internal	1.6	6.964	38.2	1.0	95%	0.08	0.3
Washers	Aluminum	0.05	7,600	Internal	0.001	0.006	0.0	1.0	95%	0.00	0.0
Total Emissions					1.6	7.0	38.2			0.08	0.3

Notes:

1. Wet machining operations were conservatively assumed to be operating continuously throughout the year. In reality, machining time is less than 1/2 the potential available hours due to operational limitations (e.g., loading and unloading of parts).
2. As a conservative estimate, emissions of PM_{10} and $PM_{2.5}$ were estimated by assuming that they each comprise 100 percent of the PM emission factor.
3. Mist collectors with a minimum efficiency of 95%. Actual mist collector efficiency is anticipated to be in the 99.7% range.
4. PM emission factors for Block and Head Machining are based on lab testing conducted by GM R&D.
5. PM emission factors for fluid filtration and washers are based on Engineering Estimate.

$$\text{PM (lb/hr)} = \text{Airflow (acfm)} \times \frac{1\,\text{m}^3}{35.3145\,\text{ft}^3} \times \text{Emiss. Factor (mg/m3)} \times \frac{60\,\text{min}}{1\,\text{hr}} \times \frac{1\,\text{lb}}{453.6\,\text{g}} \times \frac{1\,\text{g}}{1000\,\text{mg}}$$

TABLE 2
VOC EMISSION ESTIMATES
Flint Engine Operations
Michigan

Process	Typical Material	Exhaust Configuration	Material Usage, (Gal/yr)	VOC Content (lb/gal)	Uncontrolled Emissions (lb/yr)	Uncontrolled Emissions (lb/hr)	Uncontrolled Emissions (tons/yr)
Wet Machining	Hocut 4549-200	Internal	990	0.000	0	0.0	0.0
Wet Machining	Quakeral 350	Internal	11,500	0.68	7,820	0.9	3.9
					Block Total Emissions:		**3.91**
				Total Emissions:	**7,820**	**0.9**	**3.9**

VOC = Material Usage (gal/yr) x VOC Content (lb/gal)

TABLE 3
CRITERIA AIR POLLUTANT AND HAP EMISSION ESTIMATES
NATURAL GAS-FIRED SPACE HEATERS/AIR SUPPLY HOUSES
Flint Engine Operations
Michigan

Natural Gas Dock Heaters

Pollutant	Maximum Heat Input (MMBtu/hr)	AP-42 Emission Factor[1] (lb/MMscf)	Natural Gas Heat Value (Btu/scf)	Emissions (lb/hr)	Annual Operations (hrs/yr)	Emissions (tons/yr)
Criteria Air Pollutants						
CO	0.6	84	1,020	0.05	8,760	0.22
NOx	0.6	100	1,020	0.06	8,760	0.26
SO2	0.6	0.6	1,020	0.00	8,760	0.00
PM/PM10/PM2.5	0.6	7.6	1,020	0.00	8,760	0.02
VOC	0.6	5.5	1,020	0.00	8,760	0.01
Hazardous Air Pollutants						
2-Methylnaphthalene	0.6	2.4E-05	1,020	1.41E-08	8,760	6.18E-08
3-Methylchlorantrene	0.6	1.8E-06	1,020	1.06E-09	8,760	4.64E-09
7,12-Dimethylbenz(a)anthracene	0.6	1.6E-05	1,020	9.41E-09	8,760	4.12E-08
Acenaphthene	0.6	1.8E-06	1,020	1.06E-09	8,760	4.64E-09
Acenaphthylene	0.6	1.8E-06	1,020	1.06E-09	8,760	4.64E-09
Anthracene	0.6	2.4E-06	1,020	1.41E-09	8,760	6.18E-09
Benz(a)anthracene	0.6	1.8E-06	1,020	1.06E-09	8,760	4.64E-09
Benzene	0.6	2.1E-03	1,020	1.24E-06	8,760	5.41E-06
Benzo(a)pyrene	0.6	1.2E-06	1,020	7.06E-10	8,760	3.09E-09
Benzo(b)fluoranthene	0.6	1.8E-06	1,020	1.06E-09	8,760	4.64E-09
Benzo(g,h,i)perylene	0.6	1.2E-06	1,020	7.06E-10	8,760	3.09E-09
Benzo(k)fluoranthene	0.6	1.8E-06	1,020	1.06E-09	8,760	4.64E-09
Chrysene	0.6	1.8E-06	1,020	1.06E-09	8,760	4.64E-09
Dibenzo(a,h)anthracene	0.6	1.2E-06	1,020	7.06E-10	8,760	3.09E-09
Dichlorobenzene	0.6	1.2E-03	1,020	7.06E-07	8,760	3.09E-06
Fluoranthene	0.6	3.0E-06	1,020	1.76E-09	8,760	7.73E-09
Fluorene	0.6	2.8E-06	1,020	1.65E-09	8,760	7.21E-09
Formaldehyde	0.6	7.5E-02	1,020	4.41E-05	8,760	1.93E-04
Hexane	0.6	1.8E+00	1,020	1.06E-03	8,760	4.64E-03
Indeno(1,2,3-cd)pyrene	0.6	1.8E-06	1,020	1.06E-09	8,760	4.64E-09
Naphthalene	0.6	6.1E-04	1,020	3.59E-07	8,760	1.57E-06
Phenanthrene	0.6	1.7E-05	1,020	1.00E-08	8,760	4.38E-08
Pyrene	0.6	5.0E-06	1,020	2.94E-09	8,760	1.29E-08
Toluene	0.6	3.4E-03	1,020	2.00E-06	8,760	8.76E-06
Arsenic	0.6	2.0E-04	1,020	1.18E-07	8,760	5.15E-07
Beryllium	0.6	1.2E-05	1,020	7.06E-09	8,760	3.09E-08
Cadmium	0.6	1.1E-03	1,020	6.47E-07	8,760	2.83E-06
Chromium	0.6	1.4E-03	1,020	8.24E-07	8,760	3.61E-06
Cobalt	0.6	8.4E-05	1,020	4.94E-08	8,760	2.16E-07
Manganese	0.6	3.8E-04	1,020	2.24E-07	8,760	9.79E-07
Mercury	0.6	2.6E-04	1,020	1.53E-07	8,760	6.70E-07
Nickel	0.6	2.1E-03	1,020	1.24E-06	8,760	5.41E-06
Selenium	0.6	2.4E-05	1,020	1.41E-08	8,760	6.18E-08
					Total HAPs:	**0.005**
					Max HAP	0.005

Notes:
1. AP-42 Section 1.4, Compilation of Air Pollutant Emission Factors, U.S. EPA, July 1998.

$$Emissions = \frac{Maximum\ Heat\ Input\ (\frac{MMBtu}{hr})}{(Natural\ Gas\ Heat\ Value\ (Btu/scf)} \ x\ \frac{AP42\ Emission\ Factor\ (lb/MMscf)\ x\ (8760\ hrs)}{2000\ lbs/ton}$$

TABLE 4
LASER ABLATION
Flint Engine Operations
Michigan

Laser Ablation – used to clean surfaces of the parts. It is basically upscaled laser marking. Most of the constituents will be aluminum vapor and whatever was on the surface of the part.
We expect to put it in a single cell containing 2 operations. 1st we will cut holes. See the chart below for metal removal. The 2nd operation in the cell would be the ablation operation. It is a cleaning pass done by a laser. Similar passes we do currently for laser part marking. Picture below the hole chart is a description of the work. This process typically removes 20 to 25 microns of base material, so overall, surface volume analysis shows that 0.000075-(volume lost from laser ablation per 1 cm^2 of surface area. Using the higher number would mean approximately 0.006 cm^3 lost per part x 2.7 g/cm^3 = 0.0162 g/part.

Vent internally w/ HEPA filter

Density of aluminum:	2.7	g/cm^3
Aluminum removed:	0.0162	g/part
Volume Lost:	0.00013	$cm^3/1\ cm^2$
Grams to Lbs CF:	0.0022	lbs/gram

R 336.1285(2)(l)(vi) Equipment for carving, cutting, routing, turning, drilling, machining, sawing, surface grinding, sanding, planing, buffing, sand blast cleaning, shot blasting, shot peening, or polishing ceramic artwork, leather, metals, graphite, plastics, concrete, rubber, paper board, wood, wood products, stone, glass, fiberglass, or fabric which meets any of the following: (B) Equipment that has emissions that are released only into the general in-plant

Parts	Etch Area (cm^2)	Volume Aluminum Removed (cm^3)	Uncontrolled Al removed per part (lbs)	Parts per hour	lb of Al/yr	Uncontrolled PTE Tons Al/yr	Control Efficiency	Controlled PTE Tons Al/yr
Blocks	46.5	0.006	0.00004	19	5.99	0.003	90%	0.0003
Heads	24.5	0.003	0.00002	57	9.47	0.005	90%	0.0005
							Total	0.0008

RE: Gen 5 exemption data

Eric Mwacalimba
To: Jeff Hummel
Retention Policy: Inbox (3 years)
Expires: 4/12/2027
Start your reply all with: Thank you! | Got it, thanks! | Thank you very much! | Feedback

Hi Jeff,

Here is the data for the etching process.

Blocks = 400 / day
Heads = 1200 / day

Block Laser etch area = 15 mm x 15 mm barcode and 40 mm x 6 mm human readable serial number
Head laser etch area = 35 mm x 7 mm human readable serial number

Eric Mwacalimba
Environmental Engineer, Flint Engine Operations
eric.mwacalimba@gm.com tel: +1 517-290-5650

TABLE 4
LASER ABLATION
Flint Engine Operations
Michigan

r to the cleaning
0.00013 cm^3

TABLE 5
TOTAL POTENTIAL TO EMIT ESTIMATES
Flint Engine Operations
Michigan

Flint Engine Building Expansion PTE						
Pollutant	**Wet Machining (tons/yr)**	**Washers (tons/yr)**	**Dock Heaters (tons/yr)**	**Laser Etching (tons/yr)**	**TOTAL (tons/yr)**	**EGLE Significant Emission Rate (tons/yr)**
CO	-	-	0.22	-	0.22	<100
NOx	-	-	0.26	-	0.26	<40
SO2	-	-	0.00	-	0.00	<40
PM	0.08	0.00	0.02	0.00	0.10	<25
PM_{10}	0.08	0.00	0.02	0.00	0.10	<15
$PM_{2.5}$	0.08	0.00	0.02	0.00	0.10	<10
VOC	3.9	0.00	0.01	-	3.92	<40

TABLE 6
PM EMISSION ESTIMATES
Flint Engine Operations
Michigan

Process	PM Emission Factor (mg/m3)[4]	Air Flow (SCFM)	Exhaust Configuration	Uncontrolled PM Emissions[2] (lb/hr)	Uncontrolled PM Emissions[2] (tons/yr)	Uncontrolled PM Emissions[2] (lbs/day)	Factor to Convert PM to PM_{10} /$PM_{2.5}$[2]	Mist Collector Efficiency[3] (%)	Controlled Emissions (lbs/hr) (Actual)	Controlled Emissions (tons/yr) (Actual)
Washbay	0.05	4,000	External	0.001	0.003	0.02	1.0	95%	0.00004	0.0002
Total Emissions				0.001	0.003	0.02			0.00004	0.0002

Notes:

1. $$\text{PM (lb/hr)} = \text{Airflow (acfm)} \times \frac{1\,\text{m}^3}{35.3145\,\text{ft}^3} \times \text{Emiss. Factor (mg/m3)} \times \frac{60\,\text{min}}{1\,\text{hr}} \times \frac{1\,\text{lb}}{453.6\,\text{g}} \times \frac{1\,\text{g}}{1000\,\text{mg}}$$

2. As a conservative estimate, emissions of PM_{10} and $PM_{2.5}$ were estimated by assuming that they each comprise 100 percent of the PM emission factor.
3. Mist collectors with a minimum efficiency of 95%. Actual mist collector efficiency is anticipated to be in the 99.7% range.
4. PM emission factors for fluid filtration and washers are based on Engineering Estimate.

Table 1
Potential Toxics Air Contaminant (TAC) Emission Rate
GEN6 Room Temperature Vulcanizing
(RTV) application process

Total wt loss from sealer	2.5%	Only 50% of wt loss is MEKO based on ThreeBond Technical Document
Sealer density, lb/gal	11.26	
Wt loss, lbs/gal	0.28	
Usage (lb/engine)	0.1998	=0.0906 kg * 2.205 lb/kg
Engines/Year	441000	
Annual usage, gals	7,824	
		Exp 1 Total Area[1] **Exp 2 Total Area[1]**
Days/yr	245	
Hrs/yr	5,320	4.01E+09 6.29E+09

TAC Name	CAS No.	AQD SL ($\mu g/m^3$)	Chemical Peak Area[1]		% of the Weight Loss[1]		Avg % in the Weight Loss	PTE lb/year	Rule 336.291 (2)(a)-(d)
			Exp 1	Exp 2	Exp 1	Exp 2			
Trimethylsilanol	1066-40-6	65	3.10E+07	2.26E+07	0.77%	0.36%	0.57%	12.5	No
Methyl ethyl ketone	78-93-3	5000	3.40E+07	5.21E+07	0.85%	0.83%	0.84%	18.5	No
Methylethylketoxime	96-29-7	2.5	2.31E+09	2.68E+09	57.61%	42.61%	50.11%	1103.6	No
Hexamethylcyclotrisiloxane	541-05-9	50	2.56E+07	1.07E+07	0.64%	0.17%	0.40%	8.9	No
Octamethylcyclotetrasiloxane	556-67-2	75	2.44E+08	2.85E+08	6.08%	4.53%	5.31%	116.9	No
Decamethylcyclopentasiloxane	541-02-6	200	6.46E+08	6.64E+08	16.11%	10.56%	13.33%	293.7	No
Dodecamethylpetasiloxane	141-63-9	0.1	5.01E+07	6.88E+07	1.25%	1.09%	1.17%	25.8	Yes
Dodecamethylcyclohexasiloxane	540-97-6	400	4.67E+08	8.79E+08	11.65%	13.97%	12.81%	282.1	No
~Hexasiloxane	~995-82-4	0.1	4.72E+07	7.09E+08	1.18%	11.27%	6.22%	137.1	Yes
Toluene	108-88-3	5000					4.00%	88.1	No

Notes:
1. From GM Orion Permit Application

2. 336.1291(2)(b)-(d) do not apply to any TAC listed above.

TAC Emissions (tpy)	0.08	<0.12 tpy (336.1291(2)(a))
VOC Emissions (tpy)	1.04	< 5 tpy (336.1291(2)(f))

R 336.1291 Permit to install exemptions; emission units with "de minimis" emissions.

Rule 291. (1) This rule does not apply if prohibited by R 336.1278 and unless the requirements of R 336.1278a have been met.

(2) The requirement of R 336.1201(1) to obtain a permit to install does not apply to any emission unit in which potential emissions meet the conditions listed in subdivisions (a) to (d) of this subrule and table 23 for all air contaminants listed. In addition, records shall be maintained in accordance with subdivisions (e) and (f) of this subrule.

(a) The combined potential emissions of all toxic air contaminants with screening levels greater than or equal to 0.04 micrograms per cubic meter and less than 2 micrograms per cubic meter shall not exceed 0.12 tons per year.

(b) The combined potential emissions of all toxic air contaminants with screening levels greater than or equal to 0.005 micrograms per cubic meter and less than 0.04 micrograms per cubic meter shall not exceed 0.06 tons per year.

(c) The combined potential emissions of all toxic contaminants with screening levels less than 0.005 micrograms per cubic meter shall not exceed 0.006 tons per year.

(d) The emission unit has no potential emissions of asbestos and/or subtilisin proteolytic enzymes.

(e) A description of the emission unit shall be maintained throughout the life of the unit.

(f) Documentation and/or calculations identifying the quality, nature, and quantity of the air contaminant emissions are maintained in sufficient detail to demonstrate that the potential emissions are less than those listed in subdivisions (a) to (d) of this subrule and Table 23. Such documentation shall include the toxic air contaminant screening level applicable at the time of installation and/or modification of the emission unit.

Table 23. Potential Emissions from Air Contaminants

Air Contaminant	Potential Emissions Not to be Exceeded
CO_2 equivalent	75,000 tons per year
CO	10 tons per year
NO_x	10 tons per year
SO_2	10 tons per year
VOC (as defined in R 336.1122)	5 tons per year
PM	10 tons per year
PM-10	5 tons per year
PM-2.5	3 tons per year
Lead	0.1 tons per year
Fluorides	1 ton per year
Sulfuric acid mist	0.12 tons per year
Hydrogen sulfide	2 tons per year
Total reduced sulfur	2 tons per year
Reduced sulfur compounds	2 tons per year
Total mercury	0.12 pounds per year
Total toxic air contaminants not listed in table 23 with any screening level	5 tons per year
Total air contaminants not listed in table 23 that are non-carcinogenic and do not have a screening level	6 tons per year

TABLE 2

Potential to Emit of VOCs from RTV Sealer Application, Other Sealant Application, Ink Marking, and Cold Cleaners
GM Powertrain HFV6 Engine Plant - Flint, Michigan

Emission Source	Chemical Name	Usage (gallons/year)	Usage (gallons/month)	Density (lb/gal)	Emission Factor (VOC, lb/gal)	Uncontrolled VOC Emissions (tpy)	Uncontrolled VOC Emissions (lb/month)
GEN6 RTV Operation	TB1217H	7,824	652	11.3	0.2603	1.0	170
			>200 gal/month (336.1287(c))			< 5 tpy (336.1291(2)(f))	> 20 lbs/month (336.1290(2)(a)(ii)(B))
			N/A				N/A

Usage (lb/engine)	0.199773
Engines/yr	441000

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

EFFECTIVE DATE: October 29, 2020

ISSUED TO

General Motors LLC - Flint Assembly, Flint Metal Center, Flint Engine Operations

State Registration Number (SRN): B1606

LOCATED AT

Flint Assembly, G-3100 Van Slyke, Flint, Genesee County, Michigan 48551

Flint Metal Center, G-2238 Bristol Road, Flint, Genesee County, Michigan 48553

Flint Engine Operations, 2100 West Bristol Road, Flint, Genesee County, Michigan 48552

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-B1606-2020

Expiration Date: October 29, 2025

Administratively Complete ROP Renewal Application Due Between
April 29, 2024 and April 29, 2025

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-B1606-20XX

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

_____

Brad Myott, Lansing 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.

SECTION 1 – FLINT ASSEMBLY

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))**

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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 SPECIAL CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

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

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-PRETREATMENT	Pretreatment of vehicle surface to prepare it for prime coat (E-coat).	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY FG-MACT-NC
EU-ECOAT	Prime coating operations are performed in an electrodeposition tank followed by a curing oven, oven canopy, cooler zone, and a dry filter scuff booth.	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY FG-CONTROLS FG-MACT-NC
EU-SEALERS & ADHESIVES	Sealers and adhesives are applied both in the body shop and the paint shop. Various sealer materials application stations in the paint shop are followed by a curing oven.	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY FG-CONTROLS FG-MACT-NC
EU-SOUND DAMP	An acoustical damper product (Liquid Applied Sound Deadener (LASD)) that will be applied using robotic spray equipment.	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY FG-MACT-NC
EU-THREE WET	Two parallel coating processes each consisting of an automatic basecoat prime booth, a heated flash-off area, an automatic basecoat booth, a heated flash-off area, an automatic clearcoat booth, a curing oven, a cooling zone, and a finesse booth.	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY FG-CONTROLS FG-MACT-NC
EU-GLASS INSTALL	Materials used to bond the windshield and rear windows to the vehicle.	2000	FG-PAINT & ASSEMBLY FG-MACT-NC
EU-FINAL REPAIR	Dry filter booths used for repair paint application.	2001	FG-PAINT & ASSEMBLY FG-CONTROLS FG-MACT-NC
EU-PURGE&CLEAN	Solvents used for cleanup and purge of facility paint systems. A solvent recovery system is in place to recover solvents used in the purging of automatic spray guns. Also included is a manual body wipe and other miscellaneous solvent uses.	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY FG-CONTROLS FG-MACT-NC

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Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-VEHICLE FLUID FILL	Each new vehicle will be filled with various fluids such as power steering fluid, antifreeze, transmission fluid, engine oil, windshield washer fluid, refrigerant, and fuel. All vehicles filled with gasoline shall be equipped with an Onboard Re-Fueling Vapor Recovery System (ORVR) to control VOC emissions.	2000	FG-PAINT & ASSEMBLY
EU-NATURAL GAS	Natural gas burning will take place in the ovens, the paint booth air supply houses, the thermal oxidizers, and miscellaneous support equipment installed under this permit in the new paint shop.	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY
EU-PSEMERGEN	383 hp natural gas fired emergency generator supporting the paint shop.	06-2015	FG-PAINT & ASSEMBLY FG-EMERGENERATOR-1
EU-GASOLINE TANK1	An underground fuel storage tank equipped with submerged fill pipes and conservation vents. The fuel storage tank is filled using a vapor balance system.	1998	FG-TANKS FG-PAINT & ASSEMBLY
EU-GASOLINE TANK2	An underground fuel storage tank equipped with submerged fill pipes and conservation vents. The fuel storage tank is filled using a vapor balance system.	1998	FG-TANKS FG-PAINT & ASSEMBLY
EU-DIESEL TANK1	An underground fuel storage tank equipped with submerged fill pipes and conservation vents.	1998	FG-TANKS FG-PAINT & ASSEMBLY
EU-DIESEL TANK2	An underground fuel storage tank equipped with submerged fill pipes and conservation vents.	1998	FG-TANKS FG-PAINT & ASSEMBLY
EU-AF TANK1	An underground antifreeze storage tank equipped with submerged fill pipes and conservation vents.	1998	FG-TANKS FG-PAINT & ASSEMBLY
EU-AF TANK2	An underground antifreeze storage tank equipped with submerged fill pipes and conservation vents.	1998	FG-TANKS FG-PAINT & ASSEMBLY
EU-TF TANK1	An underground transmission fluid storage tank equipped with submerged fill pipes and conservation vents.	1998	FG-TANKS FG-PAINT & ASSEMBLY
EU-POWER STEERING TANK	An above ground power steering fluid storage tank equipped with submerged fill pipes and conservation vents.	1998	FG-TANKS FG-PAINT & ASSEMBLY
EU-NPSPRGRECTNK	An indoor, above ground reclaim purge solvent storage tank	11-15-2015	FG-PAINT & ASSEMBLY FG-TANKS FG-MACT-NC

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Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-WBPURGETANK	An indoor, above ground waterborne purge solvent storage tank	06-01-2017	FG-PAINT & ASSEMBLY FG-MACT-NC
EU-COLDCLEANER1	Small non-chlorinated cold cleaners.	After 1979	FG-COLD CLEANERS-1
EU-FIREPUMPENGINE#1	A 420 HP fire pump diesel engine located at the North Pump House.	07-23-2000	FG-EMERGENCY ENGINES-1
EU-FIREPUMPENGINE#2	A 196 HP fire pump diesel engine located at the David Road Pump House.	1985	FG-EMERGENCY ENGINES-1
EU-NATGASGENERATOR#1	A 105 HP emergency natural gas generator located outside security post #2.	06-01-2006	FG-EMERGENCY ENGINES-1
EU-NATGASGENERATOR#2	A 11.7 HP emergency natural gas generator located on the admin roof.	07-2004	FG-EMERGENCY ENGINES-1
EU-NATGASGENERATOR#3	A 300 HP emergency natural gas generator located on the dock A roof.	12-13-2003	FG-EMERGENCY ENGINES-1
EU-NATGASGENERATOR#4	A 150 HP emergency natural gas generator located at Pit 7.	02-02-2005	FG-EMERGENCY ENGINES-1
EU-NATGASGENERATOR#5	A 89 HP emergency natural gas generator located at Pit 9.	05-23-2005	FG-EMERGENCY ENGINES-1
EU-NATGASGENERATOR#6	A 195 HP emergency natural gas generator located at Pit 10.	05-23-2005	FG-EMERGENCY ENGINES-1
EU-BOILER1	An 8 MMBTU/hr natural gas fired hot water generator/boiler that will be utilized in the pretreatment operations of the paint shop.	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY FG-BOILERS
EU-BOILER2	An 8 MMBTU/hr natural gas fired hot water generator/boiler that will be utilized in the pretreatment operations of the paint shop.	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY FG-BOILERS
EU-BOILER3	An 8 MMBTU/hr natural gas fired hot water generator/boiler that will be utilized in the pretreatment operations of the paint shop.	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY FG-BOILERS
EU-BOILER4	An 8 MMBTU/hr natural gas fired hot water generator/boiler that will be utilized in the pretreatment operations of the paint shop.	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY FG-BOILERS
EU-BOILER5	An 8 MMBTU/hr natural gas fired hot water generator/boiler that will be utilized in the pretreatment operations of the paint shop.	04-08-2014, 02-06-2015, 06-23-2015, 01-09-2017	FG-PAINT & ASSEMBLY FG-BOILERS
EU-NORTHHEATER	North basement hot water heater/boiler with capacity less than 5 MMBTU/hr. Subject to 40 CFR Part 63, Subpart DDDDD.	07-08-2015	FG-NATGASEQUIP FG-63-5D-WTRHEATERS
EU-SOUTHHEATER	South basement hot water heater/boiler with capacity less than 5 MMBTU/hr. Subject to 40 CFR Part 63, Subpart DDDDD.	07-08-2015	FG-NATGASEQUIP FG-63-5D-WTRHEATERS

Section 1 – Flint Assembly

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-NATGASEQUIP	All-natural gas-fired equipment in the existing assembly plant including any hot water heaters/boilers which are not subject to 40 CFR Part 63, Subpart DDDDD requirements. This emission unit includes the general assembly building extension; however, it excludes the new paint shop.	04-01-2015, 02-02-2017	FG-NATGASEQUIP
EU-GAGENERATOR	100 kW (153.2 HP) Emergency generator powered by a natural gas spark ignition engine supporting general assembly.	07-25-2017	FG-NATGASEQUIP FG-EMERGENERATOR-1
EU-BDYGENERATOR	85 kW (131.6 HP) Emergency generator powered by a natural gas spark ignition engine supporting the body shop	12-01-2017	FG-EMERGENERATOR-1
EU-LOCGENERATOR	A 162.7 HP emergency natural gas generator located west of J dock.	1-22-2020	FG-EMERGENERATOR-1
EU-MTAGENERATOR	A 158 HP emergency natural gas generator located outside security post #2.	3-16-2020	FG-EMERGENERATOR-1
EU-BDYGENERATOR2	A 176 HP emergency generator powered by a natural gas spark ignition engine supporting the body shop.	TBD	FG-EMERGENERATOR-1
EU-OWSGENERATOR	A 402 HP emergency natural gas generator located outside the oil water separator building.	11-22-2022	FG-EMERGENERATOR-1

EU-PRETREATMENT
EMISSION UNIT CONDITIONS

DESCRIPTION

Pretreatment of vehicle surface to prepare it for prime coat (E-coat).

Flexible Group ID: FG-PAINT & ASSEMBLY, FG-MACT-NC

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The pretreatment materials used in EU-PRETREATMENT shall not contain any VOCs.[2] **(R 336.1225, R 336.1702(a))**

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 maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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)**

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 8-1

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).

EU-ECOAT
EMISSION UNIT CONDITIONS

DESCRIPTION

Prime coating operations are performed in an electrodeposition tank followed by a curing oven, oven canopy, cooler zone, and a dry filter scuff booth.

Flexible Group ID: FG-PAINT & ASSEMBLY, FG-CONTROLS, FG-MACT-NC

POLLUTION CONTROL EQUIPMENT

Two regenerative thermal oxidizers to control VOC emissions from the electrodeposition tank and the curing oven. Dry filter particulate controls on the scuff booth.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate the electrodeposition tank and curing oven portions of EU-ECOAT unless the regenerative thermal oxidizer is installed, maintained and operated in a satisfactory manner. Satisfactory operation of regenerative thermal oxidizer includes maintaining a minimum combustion chamber temperature at the temperature during the most recent control device performance test which demonstrated compliance with a minimum of 95 percent destruction efficiency based upon a three-hour average, and a minimum retention time of 0.5 seconds.[2] **(R 336.1225, R 336.1702(a), R 336.1910, R 336.1213(3), 40 CFR 64.6(c)(1)(i),(ii)))**
2. **)**

V. TESTING/SAMPLING

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

1. The VOC content, water content and density of the resin, pigment and additives, as applied and as received, shall be determined using federal Reference Test Method 24 or an alternative approved by the AQD District Supervisor. Alternatively, the VOC content may be determined from manufacturer's formulation data. If the tested and the formulation values should differ, the tested results shall be used to determine compliance. Upon request of the District Supervisor, the VOC content, water content and density of the resin, pigment and additives as added to the EU-ECOAT tank shall be verified by testing using federal Reference Test Method 24.[2] **(R 336.1702(a), R 336.2003, R 336.2004, R 336.2040(5))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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)**

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 8-1

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-C7 (ECOAT Oven RTO #1)	36[2]	86[2]	**R 336.1225 40 CFR 52.21(c) and (d)**
2. SV-C9 (ECOAT Oven RTO #2)	36[2]	86[2]	**R 336.1225 40 CFR 52.21(c) and (d)**

3. The exhaust gases from the scuff booth portion of EU-ECOAT shall not be discharged to the ambient air at any time.[2] **(R 336.1225, 40 CFR 52.21(c) and (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).

EU-SEALERS & ADHESIVES
EMISSION UNIT CONDITIONS

DESCRIPTION

Sealers and adhesives are applied both in the body shop and the paint shop. Various sealer materials application stations in the paint shop are followed by a curing oven.

Flexible Group ID: FG-PAINT & ASSEMBLY, FG-CONTROLS, FG-MACT-NC

POLLUTION CONTROL EQUIPMENT

Regenerative thermal oxidizer to control VOC emissions from the curing oven in the paint shop.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate the curing oven portion of EU-SEALERS & ADHESIVES unless the regenerative thermal oxidizer is installed, maintained and operated in a satisfactory manner. Satisfactory operation of regenerative thermal oxidizer includes maintaining a minimum combustion chamber temperature at the temperature during the most recent control device performance test which demonstrated compliance with a minimum of 95 percent destruction efficiency based upon a three-hour average, and a minimum retention time of 0.5 seconds.[2] **(R 336.1225, R 336.1702(a), R 336.1910, R 336.1213(3), 40 CFR 64.6(c)(1)(i),(ii))**

V. TESTING/SAMPLING

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

1. The VOC content of each sealer and adhesive as applied and as received shall be determined using federal Reference Test Method 24 or an alternative approved by the AQD District Supervisor. Alternatively, the VOC content may be determined from manufacturer's formulation data. If the tested and the formulation values should differ, the test results shall be used to determine compliance. Upon request of the AQD District Supervisor, the VOC content of each sealer and adhesive shall be verified by testing.[2] **(R 336.1702(a), R 336.2003, R 336.2004, R 336.2040(5))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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)**

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 8-1

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-C10 (Sealer Oven RTO)	34[2]	86[2]	**R 336.1225** **40 CFR 52.21(c) and (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).

EU-SOUND DAMP
EMISSION UNIT CONDITIONS

DESCRIPTION

An acoustical damper product (Liquid Applied Sound Deadener (LASD)) that will be applied using robotic spray equipment.

Flexible Group ID: FG-PAINT & ASSEMBLY, FG-MACT-NC

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The sound dampening materials used in EU-SOUND DAMP shall not contain any VOCs.[2] **(R 336.1225, R 336.1702(a))**

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 maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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)**

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 8-1

VIII. STACK/VENT RESTRICTION(S)

1. The exhaust gases from EU-SOUND DAMP material application zone shall not be discharged to the ambient air at any time.[2] **(R 336.1225, 40 CFR 52.21(c) and (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).

EU-THREE WET
EMISSION UNIT CONDITIONS

DESCRIPTION

Two parallel coating processes each consisting of an automatic basecoat prime booth, a ~~heated~~ flash-off area, an automatic basecoat booth, a heated flash-off area, an automatic clearcoat booth, ~~a~~ two curing ovens, a cooling zone, and a finesse booth.

Flexible Group ID: FG-PAINT & ASSEMBLY, FG-CONTROLS, FG-MACT-NC

POLLUTION CONTROL EQUIPMENT

Three regenerative thermal oxidizers to control VOC emissions from the two clearcoat booths, the ~~four~~ two heated flash-off areas, and the ~~two~~ four curing ovens. Water wash or wet eliminators particulate controls on the spray booths.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate the two clearcoat booths, the ~~heated~~ four flash-off areas, and the fourtwo curing ovens portions of EU-THREE WET unless the regenerative thermal oxidizers are installed, maintained and operated in a satisfactory manner. Satisfactory operation of the regenerative thermal oxidizers include maintaining a minimum combustion chamber temperature at the temperature during the most recent control device performance test which demonstrated compliance with a minimum of 95 percent destruction efficiency based upon a three-hour average, and a minimum retention time of 0.5 seconds.[2] **(R 336.1225, R 336.1702(a), R 336.1910, R 336.1213(3), 40 CFR 64.6(c)(1)(i),(ii))**

2. The permittee shall not operate the spray booth portions of EU-THREE WET unless the water wash or wet eliminators particulate controls are installed, maintained and operated in a satisfactory manner. Satisfactory operation of the particulate controls includes conducting the required monitoring and recordkeeping pursuant to FG-CONTROLS, SC VI.3.[2] **(R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

V. TESTING/SAMPLING

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

1. The VOC content, water content and density of any coating material as applied and as received, shall be determined using federal Reference Test Method 24 or an alternative approved by the AQD District Supervisor. Alternatively, the VOC content may be determined from manufacturer's formulation data. If the tested and the formulation values should differ, the tested results shall be used to determine compliance. Upon request of the AQD District Supervisor, the VOC content, water content and density of any coating or material shall be verified using federal Reference Test Method 24.[2] **(R 336.1702(a), R 336.2003, R 336.2004, R 336.2040(5))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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)**

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 8-1

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-R16 (Heated flash & Clearcoat Booth RTO Stack)	70[2]	115[2]	**R 336.1225 40 CFR 52.21(c) and (d)**
2. SV-C11 (Topcoat Oven No. 2 RTO Stack)	32[2]	86[2]	**R 336.1225 40 CFR 52.21(c) and (d)**
3. SV-C12 (Topcoat Oven No. 1 RTO Stack)	32[2]	86[2]	**R 336.1225 40 CFR 52.21(c) and (d)**
4. SV-09 (Basecoat Prime Stack 1)	38[2]	105[2]	**R 336.1225 40 CFR 52.21(c) and (d)**
5. SV-10 (Basecoat Prime Stack 2)	38[2]	105[2]	**R 336.1225 40 CFR 52.21(c) and (d)**
6. SV-11 (Basecoat Stack 1A)	26[2]	105[2]	**R 336.1225 40 CFR 52.21(c) and (d)**
7. SV-12 (Basecoat Stack 2A)	26[2]	105[2]	**R 336.1225 40 CFR 52.21(c) and (d)**
8. SV-14(Basecoat Stack 2B)	26[2]	105[2]	**R 336.1225 40 CFR 52.21(c) and (d)**
9. SV-15 (Basecoat Stack 1B)	26[2]	105[2]	**R 336.1225 40 CFR 52.21(c) and (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).

EU-GLASS INSTALL
EMISSION UNIT CONDITIONS

DESCRIPTION

Materials used to bond the windshield and rear windows to the vehicle.

Flexible Group ID: FG-PAINT & ASSEMBLY, FG-MACT-NC

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)

NA

V. TESTING/SAMPLING

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

1. The VOC content, water content and density of any glass adhesive material as applied and as received, shall be determined using federal Reference Test Method 24 or an alternative approved by the AQD District Supervisor. Alternatively, the VOC content may be determined from manufacturer's formulation data. If the tested and the formulation values should differ, the tested results shall be used to determine compliance. Upon request of the AQD District Supervisor, the VOC content, water content and density of any coating or material shall be verified using federal Reference Test Method 24.[2] **(R 336.1702(a), R 336.2003, R 336.2004, R 336.2040(5))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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)**

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 8-1

VIII. STACK/VENT RESTRICTION(S)

1. The exhaust gases from EU-GLASS INSTALL shall not be discharged to the ambient air at any time.[2] **(R 336.1225, 40 CFR 52.21(c) and (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).

EU-FINAL REPAIR
EMISSION UNIT CONDITIONS

DESCRIPTION

Dry filter booths used for repair paint application.

Flexible Group ID: FG-PAINT & ASSEMBLY, FG-CONTROLS, FG-MACT-NC

POLLUTION CONTROL EQUIPMENT

Dry filter particulate controls on the spray booths.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate the spray booth portions of EU-FINAL REPAIR unless the dry filter particulate controls are installed, maintained and operated in a satisfactory manner. Satisfactory operation of the dry filter particulate controls includes conducting the required monitoring and recordkeeping pursuant to FG-CONTROLS, SC VI.3.[2] **(R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

V. TESTING/SAMPLING

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

1. The VOC content, water content and density of any coating as applied and as received, shall be determined using federal Reference Test Method 24 or an alternative approved by the AQD District Supervisor. Alternatively, the VOC content may be determined from manufacturer's formulation data. If the tested and the formulation values should differ, the tested results shall be used to determine compliance. Upon request of the AQD District Supervisor, the VOC content, water content and density of any coating shall be verified using federal Reference Test Method 24.[2] **(R 336.1702(a), R 336.2003, R 336.2004, R 336.2040(5))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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)**

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 8-1

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-MD3 (Final Repair)	40[2]	53[2]	**R 336.1225** **40 CFR 52.21(c) and (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).

EU-PURGE&CLEAN
EMISSION UNIT CONDITIONS

DESCRIPTION

Solvents used for cleanup and purge of facility paint systems. A solvent recovery system is in place to recover solvents used in the purging of automatic spray guns. Also, included is a manual body wipe and other miscellaneous solvent uses.

Flexible Group ID: FG-PAINT & ASSEMBLY, FG-CONTROLS, FG-MACT-NC

POLLUTION CONTROL EQUIPMENT

Clearcoat purge solvent recovery system

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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)**

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 8-1

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).

EU-VEHICLE FLUID FILL
EMISSION UNIT CONDITIONS

DESCRIPTION

Each new vehicle will be filled with various fluids such as power steering fluid, antifreeze, engine oil, windshield washer fluid, refrigerant, and fuel. All vehicles filled with gasoline shall be equipped with an Onboard Re-Fueling Vapor Recovery System (ORVR) to control VOC emissions.

Flexible Group ID: FG-PAINT & ASSEMBLY

POLLUTION CONTROL EQUIPMENT

All vehicles filled with gasoline shall be equipped with an Onboard Re-Fueling Vapor Recovery System (ORVR) to control VOC emissions.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not add gasoline to any vehicle without an Onboard Re-fueling Vapor Recovery system unless the VOC emissions from the gasoline filling process are controlled by a VOC control device, which achieves a minimum of 95 percent destruction efficiency.[2] **(R336.1225, R 336.1702(a), R336.1910)**

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 a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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)**

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 8-1

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. SVFLD1	34[2]	105[2]	**R 336.1225** **40 CFR 52.21 (c) & (d)**
2. SVFLD2	47[2]	116[2]	**R 336.1225** **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).

EU-GAGENERATOR
EMISSION UNIT CONDITIONS

DESCRIPTION

100 kW emergency generator powered by a 153.2 HP natural gas spark ignition engine supporting general assembly.

Flexible Group ID: FG-NATGASEQUIP

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	2.0[2] g/HP-hr	Hourly	EU-GAGENERATOR	SC VI.1	**R 336.1205 40 CFR 60.4233(e)**
2. CO	4.0[2] g/HP-hr	Hourly	EU-GAGENERATOR	SC VI.1	**R 336.1205 40 CFR 60.4233(e)**
3. VOC	1.0[2] g/ HP-hr	Hourly	EU-GAGENERATOR	SC VI.1	**R 336.1205 40 CFR 60.4233(e)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EU-GAGENERATOR for more than a total of 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 EU-GAGENERATOR 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. 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. EU-GAGENERATOR 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 non-emergency demand response, or to generate income for a facility to supply non-emergency power as part of a financial arrangement with another entity.[2] **(40 CFR 60.4243(d))**

3. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60 Subpart JJJJ, for the same model year, the permittee shall meet the following requirements for EU-GAGENERATOR:[2] **(40 CFR 60.4243(b))**
   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 Part 1068, Subparts A through D.

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 EU-GAGENERATOR 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 60.4243(b))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain EU-GAGENERATOR with a non-resettable hours meter to track the operating hours.[2] **(R 336.1205(1)(a) & (3), R 336.1225, 40 CFR 60.4237)**

2. The nameplate capacity of EU-GAGENERATOR shall not exceed 154 HP, as certified by the equipment manufacturer.[2] **(R 336.1205(1)(a) & (3), 40 CFR 60.4243)**

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 EU-GAGENERATOR within one year after startup of the engine to demonstrate compliance with the emission limits in 40 CFR 60.4233(e), unless the engines have been certified by the manufacturer as required by 40 CFR Part 60, Subpart JJJJ and the permittee maintains the engine as required by 40 CFR 60.4243(b)(1). If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4244. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission limits includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test.[2] **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 60.4243, 40 CFR 60.4244, 40 CFR Part 60, Subpart JJJJ)**

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, records of testing required in SC V.1 or manufacturer certification and maintenance records documenting that EU-GAGENERATOR meets the applicable emission limitations contained in the federal Standards of Performance for New Stationary Sources, 40 CFR Part 60, Subpart JJJJ. The permittee shall keep all records on file and make them available to the Department upon request.[2] **(40 CFR 60.4243)**

2. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for EU-GAGENERATOR, on a monthly, calendar year, and 12-month rolling time period basis in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of EU-GAGENERATOR, including what classified the operation as emergency and how many hours are spent for non-emergency operation.[2] **(R 336.1225, R 336.1702(a), 40 CFR 52.21 (c) & (d), 40 CFR 60.4245(b))**

3. The permittee shall keep records of the following information for EU-GAGENERATOR:[2] **(40 CFR 60.4245(a))**
   a. All notifications submitted to comply with 40 CFR Part 60 Subpart JJJJ and all documentation supporting any notification.
   b. Maintenance conducted on EU-GAGENERATOR.
   c. If EU-GAGENERATOR is a certified engine, documentation from the manufacturer that the EU-GAGENERATOR is certified to meet the emission standards and information as required in 40 CFR Parts 90, 1048, 1054, and 1060, as applicable.
   d. If EU-GAGENERATOR is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR 60.4243(a)(2), documentation that EU-GAGENERATOR meets the emission standards.

VII. REPORTING

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

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

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

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

See Appendix 8-1

VIII. STACK/VENT RESTRICTION(S)

NA

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, Subparts A and JJJJ, as they apply to EU-GAGENERATOR.[2] **(40 CFR Part 60 Subparts A & JJJJ)**

2. The permittee shall comply with the 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 EU-GAGENERATOR.[2] **(40 CFR Part 63, Subparts A and ZZZZ)**

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

D. FLEXIBLE GROUP SPECIAL CONDITIONS

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

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

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-TANKS	Any existing (placed into operation before 7/1/79), new (placed into operation on or after 7/1/79) or modified storage tank.	EU-GASOLINE TANK1 EU-GASOLINE TANK2 EU-DIESEL TANK1 EU-DIESEL TANK2 EU-AF TANK1 EU-AF TANK2 EU-TF TANK1 EU-POWER STEERING TANK EU-NPSPRGRECTNK EU-WBPURGETANK
FG-PAINT & ASSEMBLY	This flexible group covers equipment used for automotive assembly and painting operations for the Flint Assembly Plant.	EU-PRETREATMENT EU-ECOAT EU-SEALERS & ADHESIVES EU-SOUND DAMP EU-THREE WET EU-GLASS INSTALL EU-FINAL REPAIR EU-PURGE&CLEAN EU-VEHICLE FLUID FILL EU-NATURAL GAS EU-GASOLINE TANK1 EU-GASOLINE TANK2 EU-DIESEL TANK1 EU-DIESEL TANK2 EU-AF TANK1 EU-AF TANK2 EU-TF TANK1 EU-POWER STEERING TANK EU-NPSPRGRECTNK EU-WBPURGETANK EU-BOILER1 EU-BOILER2 EU-BOILER3 EU-BOILER4 EU-BOILER5 EU-PSEMERGEN

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-CONTROLS	Six regenerative thermal oxidizers used for control of VOC emissions from the electrodeposition tank and curing oven, sealer oven, basecoat prime ~~heated~~ flash-off, basecoat heated flash-off, clearcoat paint spray booths, and curing ovens and particulate control for spray booth.	EU-ECOAT EU-SEALERS & ADHESIVES EU-THREE WET EU-FINAL REPAIR
FG-MACT-NC	Each new, reconstructed, or existing affected source as defined in Title 40 of the Code of Federal Regulations (CFR), Part 63.3082, that is located at a facility which applies topcoat to new automobile or new light duty truck bodies or body parts for new automobiles or new light duty trucks; AND/OR in which you choose to include, pursuant to 40 CFR 63.3082(c), any coating operations which apply coatings to new other motor vehicle bodies or body parts for new other motor vehicles; parts intended for use in new automobiles, new light duty trucks or new other motor vehicles; or aftermarket repair or replacement parts for automobiles, light duty trucks or other motor vehicles; and that is a major source, is located at a major source, or is part of a major source of emissions of hazardous air pollutants (HAPs) except as provided in 40 CFR 63.3081(c). This includes equipment covered by other permits, grandfathered equipment, and exempt equipment.	EU-PRETREATMENT EU-ECOAT EU-SEALERS & ADHESIVES EU-SOUND DAMP EU-THREE WET EU-PURGE&CLEAN EU-GLASS INSTALL EU-FINAL REPAIR EU-NPSPRGRECTNK EU-WBPURGETANK
FG-BOILERS	Five (5) 8 MMBTU/hr natural gas fired hot water generator/boilers that will be utilized in the pretreatment operations of the paint shop. New boilers and process heaters subject to 40 CFR Part 63 Subpart DDDDD in the units designed to burn Gas 1 subcategory. The subcategory includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition. Gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply interruptions of any duration are also included in this definition. These units must comply with 40 CFR Part 63, Subpart DDDDD upon startup. This flexible group consists of five (5) 8 MMBTU/hr natural gas fired hot water generator/boilers that are utilized in the pretreatment operations of the paint shop.	EU-BOILER1 EU-BOILER2 EU-BOILER3 EU-BOILER4 EU-BOILER5
FG-NATGASEQUIP	All-natural gas-fired equipment in the existing assembly plant (excluding new paint shop and body shop).	EU-NORTHHEATER EU-SOUTHHEATER EU-NATGASEQUIP EU-GAGENERATOR

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-63-5D-WTRHEATERS	Gas 1 Fuel Subcategory requirements for new Boilers and Process Heaters at major sources of Hazardous Air Pollutants per 40 CFR Part 63, Subpart DDDDD. These new boilers or process heaters must comply with 40 CFR Part 63, Subpart DDDDD upon startup. These conditions apply to boilers or process heaters with a heat input capacity less than 5 MMBTU per hour.	EU-NORTHHEATER EU-SOUTHHEATER
FG-COLD CLEANERS-1	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv). Existing cold cleaners were placed into operation prior to July 1, 1979. New cold cleaners were placed into operation on or after July 1, 1979.	EU-COLDCLEANER1
FG-EMERGENCY ENGINES-1	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), located at a major source of HAP emissions, existing emergency, compression ignition RICE less than 500 bhp.	EU-FIREPUMPENGINE#1 EU-FIREPUMPENGINE#2 EU-NATGASGENERATOR#1 EU-NATGASGENERATOR#2 EU-NATGASGENERATOR#3 EU-NATGASGENERATOR#4 EU-NATGASGENERATOR#5 EU-NATGASGENERATOR#6
FG-EMERGENERATOR-1	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines as found at 40 CFR Part 60, Subpart JJJJ	EU-BDYGENERATOR EU-PSEMERGEN EU-GAGENERATOR EU-LOCGENERATOR EU-MTAGENERATOR EU-BDYGENERATOR2 EU-OWSGENERATOR

FG-TANKS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any existing (placed into operation before 7/1/79), new (placed into operation on or after 7/1/79) or modified storage tank, including those that are exempt from the requirements of R 336.1201 pursuant to R 336.1284.

Emission Units: EU-GASOLINE TANK1, EU-GASOLINE TANK2, EU-DIESEL TANK1, EU-DIESEL TANK2, EU-AF TANK1, EU-AF TANK2, EU-TF TANK1, EU-POWER STEERING TANK, EU-NPSPRGRECTNK, EU-WBPURGETANK

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not load or allow the loading of gasoline from a delivery vessel into any existing stationary vessel of more than 2,000 gallons (7.57 cubic meters or 7,571 liters) capacity unless such stationary vessel is equipped with a permanent submerged fill pipe.[2] **(R 336.1606(1))**

2. The permittee shall not load or allow the loading of gasoline from a delivery vessel into any new stationary vessel of more than 2,000 gallons (7.57 cubic meters or 7,571 liters) capacity unless such stationary vessel is equipped with a permanent submerged fill pipe.[2] **(R 336.1703(1))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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)**

2. The permittee shall keep a record of the following for each storage vessel:
   a. The identification (name, tank #, etc.).
   b. Location within the plant.
   c. The capacity of the vessel.

d. The date of installation / modification.
e. The type of material contained in the vessel.
f. The true vapor pressure of the material contained in the vessel at actual storage conditions.
g. The applicable requirements.

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 336.1606, R 336.1703, 40 CFR Part 60, Subparts K, Ka, Kb)**

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 8-1

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. Any existing gasoline tank (placed into operation before 07/01/79) shall comply with the requirements of Rule 606.[2] **(R 336.1606)**

2. Any new gasoline tank (placed into operation on or after 07/01/79) shall comply with the requirements of Rule 703.[2] **(R 336.1703)**

3. Any gasoline tank or volatile organic liquid (VOL) storage tank shall comply with New Source Performance Standards, 40 CFR Part 60 Subparts A, K, Ka, Kb based upon installation or modification date and applicability and designation of affected facility provisions in 40 CFR 60.110, 60.110a, 60.110b. Construction, reconstruction, or modification dates are as follows:[2] **(40 CFR Part 60 Subparts A, K, Ka, Kb)**
   a. Subpart K: after June 11, 1973 and prior to May 19,1978
   b. Subpart Ka: after May 18,1978 and prior to July 23, 1984
   c. Subpart Kb: after July 23, 1984.

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-PAINT & ASSEMBLY
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

This flexible group covers equipment used for automotive assembly and painting operations for the Flint Assembly Plant.

Emission Units: EU-PRETREATMENT, EU-ECOAT, EU-SEALERS & ADHESIVES, EU-SOUND DAMP, EU-THREE WET, EU-GLASS INSTALL, EU-FINAL REPAIR, EU-PURGE&CLEAN, EU-VEHICLE FLUID FILL, EU-NATURAL GAS, EU-GASOLINE TANK1, EU-GASOLINE TANK2, EU-DIESEL TANK1, EU-DIESEL TANK2, EU-AF TANK1, EU-AF TANK2, EU-TF TANK1, EU-POWER STEERING TANK, EU-NPSPRGRECTNK, EU-WBPURGETANK, EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, EU-PSEMERGEN

POLLUTION CONTROL EQUIPMENT

Six regenerative thermal oxidizers used for control of VOC emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. VOC	649.6 tpy[2]	12-month rolling time period as determined at the end of each calendar month	FG-PAINT & ASSEMBLY	SC VI.2	**R 336.1205(1)(a) and (1)(b)** **R 336.1702(a)**
2. VOC	4.8 pounds per job[2,a]	12-month rolling time period as determined at the end of each calendar month	FG-PAINT & ASSEMBLY	SC VI.2	**R 336.1702(a)** **40 CFR Part 60, Subpart MM**
3. PM	25.1 tpy[2]	12-month rolling time period as determined at the end of each calendar month	FG-PAINT & ASSEMBLY	SC VI.2	**R 336.1331** **R 336.1205(1)(a) and (1)(b)**
4. PM10	25.1 tpy[2]	12-month rolling time period as determined at the end of each calendar month	FG-PAINT & ASSEMBLY	SC VI.2	**R 336.1205(1)(a) and (1)(b)** **40 CFR 52.21(c) and (d)**
5. PM2.5	25.1 tpy[2]	12-month rolling time period as determined at the end of each calendar month	FG-PAINT & ASSEMBLY	SC VI.2	**R 336.1205(1)(a) and (1)(b)** **40 CFR 52.21(c) and (d)**
6. NOx	50.0 tpy[2]	12-month rolling time period as determined at the end of each calendar month	FG-PAINT & ASSEMBLY	SC VI.2	**R 336.1205(1)(a) and (1)(b)** **40 CFR 52.21(c) and (d)**

[a] In accordance with Rule 213(2) and Rule 213(6), compliance with this streamlined VOC emission limit shall be considered compliance with the VOC emission limit established by **R 336.1225, R 336.1702(a) and 40 CFR 52.21** and also compliance with the VOC emissions limit in **40 CFR 60.392**, an additional applicable requirement that has been subsumed within this condition.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Natural Gas	1,000 MM cubic feet per year[2]	12-month rolling time period as determined at the end of each calendar month	FG-PAINT & ASSEMBLY	SC VI.2	**R 336.1205(1)(a) and (1)(b)**

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))**

1. The permittee shall verify the overall transfer efficiency on one representative basecoat prime booth, one representative basecoat booth, and one representative clearcoat booth, capture efficiency across EU-THREE WET and the curing oven portion of EU-SEALERS & ADHESIVES, and the destruction efficiency of the regenerative thermal oxidizers, by in-plant testing at owner's expense, in accordance with Department requirements, 40 CFR Part 51 Appendix M, and the USEPA "Protocol for Determining the Daily Volatile Organic Compound Emission Rate of automobile and Light-Duty Truck Topcoat Operations," December 1988, EPA 450//3-88-018, as amended. The permittee may No less than ~~60~~ 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. Testing shall be repeated at least once every five years, unless the permittee maintains a demonstration that the most recent acceptable test remains valid and representative.[2] **(R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

2. The permittee shall verify PM emission rates from one representative basecoat prime booth portion of EU-THREE WET, one representative basecoat booth portion of EU-THREE WET, the heated flash/clearcoat booth regenerative thermal oxidizer, one representative topcoat oven regenerative thermal oxidizer, the sealer oven regenerative thermal oxidizer and one representative EU-ECOAT oven regenerative thermal oxidizer by testing at owner's expense, in accordance with Department requirements. No less than ~~60~~ 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. Testing shall be repeated at least once every five years, unless the permittee maintains a demonstration that the most recent acceptable test remains valid and representative.[2] **(R 336.1331, R 336.2001, R 336.2003, R 336.2004)**

3. The permittee shall verify PM10 emission rates from one representative basecoat prime booth portion of EU-THREE WET, one representative basecoat booth portion of EU-THREE WET, the heated flash/clearcoat booth regenerative thermal oxidizer, one representative topcoat oven regenerative thermal oxidizer, the sealer oven regenerative thermal oxidizer and one representative EU-ECOAT oven regenerative thermal oxidizer by testing at owner's expense, in accordance with Department requirements. No less than ~~60~~ 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. Testing shall be repeated at least once every five years, unless the permittee maintains a

demonstration that the most recent acceptable test remains valid and representative.[2] **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) and (d), R336.1213(3))**

4. The permittee shall verify PM2.5 emission rates from one representative basecoat prime booth portion of EU-THREE WET, one representative basecoat booth portion of EU-THREE WET, the heated flash/clearcoat booth regenerative thermal oxidizer, one representative topcoat oven regenerative thermal oxidizer, the sealer oven regenerative thermal oxidizer and one representative EU-ECOAT oven regenerative thermal oxidizer by testing at owner's expense, in accordance with Department requirements. No less than ~~60~~ 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. Testing shall be repeated at least once every five years, unless the permittee maintains a demonstration that the most recent acceptable test remains valid and representative.[2] **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) and (d))**

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, R 336.1225, R 336.1702)**

2. The permittee shall keep the following information on a monthly basis for FG-PAINT & ASSEMBLY.
   a. For each material used in FG-PAINT & ASSEMBLY:
      i. Material identification;
      ii. Material VOC content; and,
      iii. Material usage.
   b. Number of jobs each calendar month, where a job is defined as a painted vehicle leaving the assembly line.
   c. Calculations showing the FG-PAINT & ASSEMBLY monthly and annual mass VOC emission rates, in tons per month and tons per 12-month rolling time period, as determined at the end of each calendar month. Calculations must show the capture and control efficiency of each control device used. Calculations must also include a sample calculation based on the production of a single job and that specifies all measured or assumed process parameters (e.g., transfer, capture and control efficiencies, booth splits, etc.) and VOC emissions due to natural gas combustion.
   d. Calculations showing the VOC emission rate (lb/job) on a 12-month rolling basis, as determined at the end of each calendar month for the equipment covered by FG-PAINT & ASSEMBLY.
   e. Calculations showing the PM mass emission rate in tons on a monthly and 12-month rolling time period, as determined at the end of each calendar month for the equipment in FG-PAINT & ASSEMBLY after the testing required in SC V.2, is completed to develop PM emission factors.
   f. Calculations showing the PM10 mass emission rate in tons on a monthly and 12-month rolling time period, as determined at the end of each calendar month for the equipment in FG-PAINT & ASSEMBLY after the testing required in SC V.3, is completed to develop PM10 emission factors.
   g. Calculations showing the PM2.5 mass emission rate in tons on a monthly and 12-month rolling time period, as determined at the end of each calendar month for the equipment in FG-PAINT & ASSEMBLY after the testing required in SC V.4, is completed to develop PM2.5 emission factors.
   h. Records of the total natural gas used in FG-PAINT & ASSEMBLY during each calendar month and 12-month rolling time period in million cubic feet.
   i. Calculations showing the NOx mass emission rate in tons on a monthly and 12-month rolling time period, as determined at the end of each calendar month for the equipment in FG-PAINT & ASSEMBLY.
   j. Hours of operation for each calendar month and 12-month rolling time period.

The permittee shall keep the records in a format acceptable to the AQD District Supervisor. All records shall be kept on file and made available to the Department upon request.[2,b] **(R 336.1205, R 336.1225, R 336.1331, R 336.1702(a))**

[b] In accordance with Rule 213(2) and Rule 213(6), compliance with this streamlined VOC monitoring condition shall be considered compliance with the VOC monitoring condition established by **R 336.1225, R 336.1702(a) and 40 CFR 52.21** and also compliance with the VOC emissions limit in **40 CFR 60.393**, an additional applicable requirement that has been subsumed within this condition.

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.[c] **(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.[c] **(R 336.1213(4)(c))**

~~4. For each EU in this flexible group (FG-PAINT & ASSEMBLY), the permittee shall submit to the AQD District Supervisor, in an acceptable format, within 30 days following the end of the quarter in which the data was collected, the actual VOC, PM10, PM2.5, and NOx emission rates for each limit included in SC I.1 through SC I.6.[2] (40 CFR 60.395, R 336.1205, R 336.1702(a), 40 CFR 52.21(c) and (d))~~

4~~5~~. The permittee shall notify the AQD District Supervisor, in writing, of projects authorized by SC IX.3 and 4 at least 30 days prior to initialization of the activity. The notification shall include, at a minimum, a description of the type of project and any changes in testing, monitoring, recordkeeping or other compliance evaluation activities.[2] **(R 336.1201)**

[c] In accordance with Rule 213(2) and Rule 213(6), compliance with this streamlined reporting condition shall be considered compliance with the reporting conditions in **R 336.1213(3)**; and also compliance with the reporting conditions for VOCs in **40 CFR 60.395(b)**, an additional applicable requirement that has been subsumed within this Condition.

See Appendix 8-1

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. This permit covers automotive assembly and painting operations for the Flint Assembly Plant. Changes to these operations or replacement with a different process type are subject to the requirements of R 336.1201, except as disallowed by R 336.1278 or as allowed by R 336.1279 through R 336.1290 or SC IX.3 or 4.[2] **(R 336.1201)**

2. The Department has determined that compliance with the limits listed in SC I.1 and 2 provides a level of control that is at least equivalent to and not less stringent than the standards in 40 CFR 60.392, *et seq.* and R 336.1610. Accordingly, compliance with the limitations in this permit meets all applicable requirements of 40 CFR Part 60, Subpart MM and R 336.1610.[2] **(R 336.1610, 40 CFR Part 60, Subpart MM)**

3. This permit authorizes any activities including projects involving physical changes or changes in the method of operation to existing emission units that do not require an increase in the emissions limits or performance levels specified in SC I.1, 2, 3, 4, 5, and 6. As a state only enforceable requirement[1], the changes to the emission unit(s) shall not result in a meaningful change in the nature or quantity of toxic air contaminants emitted from the stationary source. The permittee shall keep on file a demonstration, consistent with AQD Policy and Procedure number AQD-025, or according to the method outlined in SC IX. 4. Such activities do not require the facility to obtain any federal or state air permits.[2] **(R 336.1201)**

4. This permit authorizes projects involving the installation of new emission units that do not require an increase in the emissions limits or performance levels specified in SC I.1, 2, 3, 4, 5, and 6 under the following conditions:
   a. As a state-only enforceable requirement, the new emission unit will not result in an exceedance of any air toxics standards found in R 336.1226 or R 336.1227. The permittee shall keep on file, a copy of all demonstrations that the air toxics impact from the new emission unit(s) will comply with the levels specified in R 336.1226 or R 336.1227. The permittee may devise its own method to perform this demonstration subject to approval by the department;
   b. The new emissions unit will not be a newly constructed or reconstructed major source of hazardous air pollutants as defined in and subject to 40 CFR 63.2 and 40 CFR 63.5(b)(3), National Emission Standard for Hazardous Air Pollutants; and,
   c. The installation of the new emissions unit will not cause the violation of any applicable air requirement.

   A demonstration that the new installation meets these criteria shall be kept on site for the life of the new emission unit and made available to the Department upon request. The permittee must notify the Department of the installation of the new emission unit. This notification must contain the information specified in R 336.1215(3)(c)(i) through (v). Construction of the new emission unit may commence upon submittal of the notice.[2] **(R 336.1201)**

5. The emission limits and performance levels specified in SC I.1, 2, 3, 4, 5, and 6 may be reviewed and/or adjusted when newly applicable federal requirements or any other requirement that is enforceable as a practical matter and that the Department, under the State Implementation Plan, may impose on the facility become applicable during the term of the permit that would lower allowable emissions. Adjustments to SC I.1, 2, 3, 4, 5, and 6 will be made through a permit revision as of the effective date of the new applicable requirements and will reflect the impact the new applicable requirements will have on the affected emission units. Initial compliance with the adjusted emission limits and performance levels will be demonstrated over the initial compliance period granted by the newly applicable federal requirement.[2] **(R 336.1225, R 336.1702(a))**

6. The permittee may, at any time, request that the Department terminate the flexible emission limit provisions of this permit and issue a traditional permit. In the event of such termination, the requirements of this permit shall remain in effect until a new permit is issued. At that time, the permit conditions for any existing emission unit that has not been modified and to which new requirements have not become applicable will revert to those found in the previous permits. For any new or modified emission unit or any emission unit for which new requirements have become applicable the permit conditions will reflect requirements contemporaneous with the date of installation, modification or new requirement applicability.[2] **(R 336.1225, R 336.1702(a))**

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-CONTROLS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Six regenerative thermal oxidizers used for control of VOC emissions from the electrodeposition tank and curing oven, sealer oven, basecoat prime heated flash-off, basecoat heated flash-off, clearcoat paint spray booths, and curing ovens and particulate control for spray booth.

Emission Units: EU-ECOAT, EU-SEALERS & ADHESIVES, EU-THREE WET, EU-FINAL REPAIR

POLLUTION CONTROL EQUIPMENT

Six regenerative thermal oxidizers used for control of VOC emissions from the clearcoat paint spray booths, the flash-off areas, and the curing ovens. Water wash system, wet eliminators, or dry filters to control particulate matter.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Upon startup of commercial operations at the facility, the permittee shall develop, maintain and implement an Operation and Maintenance Plan (O & M Plan) for FG-CONTROLS. The O & M Plan shall contain the minimum requirements as outlined in Appendix 3. The O & M Plan shall be updated as necessary to reflect changes in equipment and monitoring, to implement corrective actions and to address malfunctions. Changes in the O & M Plan as outlined in Appendix 3 shall be submitted to the AQD District Supervisor for review and approval. All records and activities associated with the O & M Plan shall be made available to the Department upon request.[2] **(R 336.1225, R 336.1702(a), R 336.1910, R 336.1911, 40 CFR 52.21 (c) and (d), 40 CFR 64.6(c)(1)(i),(ii), 40 CFR 64.7(e))**

See Appendix 3-1

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall install, maintain and operate in a satisfactory manner, a combustion chamber temperature monitoring device for the thermal oxidizers in FG-CONTROLS to monitor and record the temperature on a continuous basis during operation. Temperature data recording shall consist of measurements made at equally spaced intervals at least once every 15 minutes. All records shall be kept on file and made available to the Department upon request.[2,a] **(R 336.1225, R 336.1702(a), R 336.1910, 40 CFR Part 60, Subpart MM, 40 CFR 64.6(c)(1)(i) and (ii))**

2. The permittee shall maintain records of maintenance and repair activities. Records shall identify the equipment inspected and the date of the inspection. The permittee shall also record any maintenance activities or corrective actions taken as a result of equipment inspections or due to malfunction. All records shall be kept on file and made available to the Department upon request.[2] **(R 336.1910)**

3. The permittee shall monitor the condition of each particulate control system through weekly visual inspections of each basecoat and clearcoat spray booths and monthly visual inspections of each final repair spray booth. The permittee shall keep records of visual inspections of each exhaust filter, wet eliminator, or water wash particulate control system which include the dates and results of the inspections, and the dates and reasons for repairs. All records shall be kept on file and made available to the Department upon request.[2] **(R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) and (d))**

4. The permittee shall maintain a record of modifications to any add-on control equipment including any testing and monitoring to demonstrate satisfactory operation upon which compliance depends.[2] **(R 336.1205, R 336.1225, R 336.1301, R 336.1331, R 336.1702(a), R 336.1910, 40 CFR 52.21(c) and (d))**

5. For each control device in operation during production, the permittee shall conduct bypass monitoring for each bypass valve such that the valve or closure method cannot be opened without creating an alarm condition for which a record shall be made. Records of the bypass line that was open and the length of time the bypass was open shall be kept on file and made available to the Department upon request.[2] **(R 336.1702, R 336.1910, 40 CFR 64.3(a)(2))**

6. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). **(40 CFR 64.7(d))**

7. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**

8. The permittee shall properly maintain the monitoring system including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**

[a] In accordance with Rule 213(2) and Rule 213(6), compliance with this streamlined monitoring condition shall be considered compliance with the monitoring condition established by **R 336.1702(a), R 336.1910 and 40 CFR**

64.6(c)(1)(i),(ii); and also compliance with the monitoring conditions in **40 CFR 60.394**, an additional applicable requirement that has been subsumed within this condition.

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. Each semiannual report of monitoring and deviations shall include summary information on the number, duration and cause of excursions or exceedances, as applicable and the corrective actions taken. If there were no excursions or exceedances in the reporting period, then this report shall include a statement that there were no excursions or exceedances. **(40 CFR 64.9(a)(2)(i))**

See Appendix 8-1

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. For the purposes of Compliance Assurance Monitoring (CAM), excursions will be defined as follows: **(40 CFR 64.6(c)(2))**

    a. A temperature excursion is defined as a confirmed three-hour period during which the average fails to meet the specified temperature requirements in SC III.2.
    b. A monitoring excursion is defined as a failure to properly monitor as required in SC VI.1.
    c. A monitoring excursion is defined as failure to properly implement and/or maintain the O&M plan or records of maintenance as required in SC III.1 or VI.2
    d. An exceedance is defined as a failure to meeting the emission limit(s) in FG-PAINT & ASSEMBLY, SC I.1 or I.2.

2. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**

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-MACT-NC
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Each new, reconstructed, or existing affected source as defined in Title 40 of the Code of Federal Regulations (CFR), Part 63.3082, that is located at a facility which applies topcoat to new automobile or new light duty truck bodies or body parts for new automobiles or new light duty trucks; AND/OR in which you choose to include, pursuant to 40 CFR 63.3082(c), any coating operations which apply coatings to new other motor vehicle bodies or body parts for new other motor vehicles; parts intended for use in new automobiles, new light duty trucks or new other motor vehicles; or aftermarket repair or replacement parts for automobiles, light duty trucks or other motor vehicles; and that is a major source, is located at a major source, or is part of a major source of emissions of hazardous air pollutants (HAPs) except as provided in 40 CFR 63.3081(c). This includes equipment covered by other permits, grandfathered equipment, and exempt equipment. No add-on control equipment is relied upon to comply with the emission limits in SC I.1 through I.4.

Emission Units: EU-PRETREATMENT, EU-ECOAT, EU-SEALERS & ADHESIVES, EU-SOUND DAMP, EU-THREE WET, EU-GLASS INSTALL, EU-FINAL REPAIR, EU-NPSPRGRECTNK, EU-WBPURGETANK

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Organic HAP	0.30 lb per GACS[2]	Calendar month	**New –** FG-MACT-NC WITH EU-ECOAT	SC III.2, SC V.1 SC VI.3	**40 CFR 63.3090(a)**
2. Organic HAP*	0.50 lbs per GACS[2]	Calendar month	**New –** FG-MACT-NC	SC III.2, SC V.1 SC VI.3	**40 CFR 63.3090(b)**
3. Organic HAP	0.01 lb per lb of coating[2]	Calendar month	**New –** EU-SEALERS & ADHESIVES	SC III.2, SC V.1 SC VI.3	**40 CFR 63.3090(c) or 40 CFR 63.3091(c)**
4. Organic HAP	0.01 lb per lb of coating[2]	Calendar month	**New –** Deadener Materials	SC III.2, SC V.1 SC VI.3	**40 CFR 63.3090(d) or 40 CFR 63.3091(d)**

- **FG-MACT-NC** includes Guidecoat, Topcoat, Final Repair, Glass Bonding Primer, and Glass Bonding Adhesive operations plus all coatings and thinners, except for deadener materials and adhesive and sealers not part of glass bonding systems.
- **FG-MACT-NC WITH EU-ECOAT** also includes Electrocoat operations in addition to all of the operations of FG-MACT-NC.
- **EU-SEALERS & ADHESIVES** include only adhesives and sealers that are not part of glass bonding systems.

* The permittee may choose to comply with this limit if the requirements of SC I.5 is met.

5. The permittee may choose to comply with either SC I.1 or I.2. The permittee may choose to comply with SC I.2 only if Electrocoat system (EU-ECOAT) meets the following requirement.[2] **(40 CFR 63.3090)**
   a. Each individual material added to the Electrocoat system contains no more than 1.0 percent by weight of any organic HAP and no more than 0.10 percent by weight of any OHSA-defined carcinogenic organic HAP.

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall develop and implement a work practice plan to minimize the organic HAP emissions from the storage, mixing and conveying of coatings, thinners, and cleaning materials used in, and waste materials generated by all coating operations for which an emission limit has been established under SC I.1 through I.4. The work practice plan must specify practices and procedures to ensure that, at a minimum, the following elements are implemented consistent with the requirements of 40 CFR 63.3094: The permittee shall comply with the applicable work practice plans at all times.
   a. All organic-HAP-containing coatings, thinners, cleaning materials, and waste materials must be stored in closed containers.
   b. The risk of spills of organic-HAP containing coatings, thinners, cleaning materials, and waste materials must be minimized.
   c. Organic-HAP-containing coatings, thinners, cleaning materials, and waste materials must be conveyed from one location to another in closed containers or pipes.
   d. Mixing vessels, other than day tanks equipped with continuous agitation systems, which contain organic-HAP-containing coatings and other materials must be closed except when adding to, removing, or mixing the contents.
   e. Emissions of organic HAP must be minimized during cleaning of storage, mixing, and conveying equipment.
   f. Organic HAP emissions from cleaning and from purging of equipment associated with all coating operations subject to emission limits in SC I.1 through I.4 above must be minimized through a plan addressing:
      i. Vehicle body wipe pursuant to 40 CFR 63.3094(c)(1)(i);
      ii. Coating line purging pursuant to 40 CFR 63.3094(c)(1)(ii);
      iii. Coating system flushing pursuant to 40 CFR 63.3094(c)(1)(iii);
      iv. Cleaning of spray booth grates pursuant to 40 CFR 63.3094(c)(1)(iv);
      v. Cleaning of spray booth walls pursuant to 40 CFR 63.3094(c)(1)(v);
      vi. Cleaning of spray booth equipment pursuant to 40 CFR 63.3094(c)(1)(vi);
      vii. Cleaning of external spray booth areas pursuant to 40 CFR 63.3094(c)(1)(vii);
      viii. Additional housekeeping measures pursuant to 40 CFR 63.3094(c)(1)(viii).

   The permittee may choose to comply with an alternative to the work practice standard, after receiving prior approval from the USEPA in accordance with 40 CFR 63.6(g).[2] **(40 CFR 63.3100(c), 40 CFR 63.4493(b) and (c))**

2. The work practice plan shall not become part of the facility's Renewable Operating Permit (ROP). Revisions to the work practice plan likewise do not represent revisions to the facility's ROP. Copies of the current work practice plan and any earlier plan developed within the past 5 years are required to be made available for inspection and copying by the AQD upon request.[2] **(40 CFR 63.3094)**

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))**

1. The permittee shall perform the applicable performance tests and compliance demonstrations in accordance with 40 CFR 63.3160, 40 CFR 63.3163-3164, 40 CFR 63.3170-3171, and 40 CFR 63.3173.[2] **(40 CFR Part 63, Subpart IIII)**

2. The permittee may rely upon the results of transfer efficiency tests that have been previously conducted upon written approval from the AQD District Supervisor. Any such previous tests must meet the criteria identified in 40 CFR 63.3160(c)(1) through (3).[2] **(40 CFR 63.3160)**

3. The permittee shall determine the mass fraction of each organic HAP for each material used according to the procedures established under 40 CFR 63.3151(a)(1) through (5). The permittee may use the USEPA Method ALT-017 as an alternative for any material used, after demonstrating that its use as an alternative test methodology for that material, has been approved by the USEPA pursuant to the requirements of 40 CFR 63.3151(a)(3) and 40 CFR 63.7.[2] **(40 CFR 63.7, 40 CFR 63.3151)**

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 compile all required records and complete all required calculations in a format acceptable to the AQD District Supervisor and make them available by the end of the calendar month following each compliance period unless otherwise specified in any monitoring/recordkeeping condition. **(R 336.1213(3))**

2. The permittee shall keep all records as required by 40 CFR 63.3130 in the format and timeframes outlined in 40 CFR 63.3131.[2] **(40 CFR 63.3152(c), 40 CFR 63.3163(j))**

3. The permittee shall maintain, at a minimum, the following records as of the applicable compliance date, for each compliance period:[2]
   a. A copy of each notification and report that is submitted to comply with 40 CFR Part 63, Subpart IIII and the documentation supporting each notification and report. **(40 CFR 63.3130(a))**
   b. A current copy of information provided by materials suppliers or manufactures, such as manufacturer's formulation data, or test data used to determine the mass fraction of organic HAP for each coating, thinner and cleaning material, the density for each coating and thinner, and the volume fraction of coating solids for each coating. **(40 CFR 63.3130(b))**
   c. For each coating or thinner used in FG-MACT-NC or FG-MACT-NC WITH EU-ECOAT, the volume used in each month, the mass fraction organic HAP content, the density, and the volume fraction of solids. **(40 CFR 63.3130(c))**
   d. For each material used in EU-SEALERS & ADHESIVES, the mass used in each month and the mass organic HAP content. **(40 CFR 63.3130(c))**
   e. Calculations of the organic HAP emission rate for FG-MACT-NC or FG-MACT-NC WITH EU-ECOAT in pounds per gallon of applied coating solids. If permittee chooses to comply with the option identified in SC I.5.a., a record of the weight fraction of each organic HAP in each material added to the Electrocoat system. These calculations and records must include all raw data, algorithms, and intermediate calculations. If the ''Protocol for Determining Daily Volatile Organic Compound Emission Rate of Automobile and Light-Duty Truck Topcoat Operations,'' EPA–450/3–88–018 (Docket ID No. OAR–2002–0093 and Docket ID No. A–2001–22), is used, all data input to this protocol must be recorded. If these data are maintained as electronic files, the electronic files, as well as any paper copies must be maintained. **(40 CFR 63.3130(c), 40 CFR 63.3163, 40 CFR 63.3173)**
   f. Calculation of the average monthly mass organic HAP content in pounds per pound of coating, separately for EU-SEALERS & ADHESIVES. **(40 CFR 63.3130(c), 40 CFR 63.3152)**
   g. The name, volume, mass fraction organic HAP content and density of each cleaning material used. **(40 CFR 63.3130(d) - (f))**
   h. Any additional records pertaining to deviations; transfer efficiency determinations; and work practice plans, pursuant to 40 CFR 63.3130(g), (m), and (n) . **(40 CFR 63.3130(g), (m), and (n))**

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 all semiannual compliance reports as required by 40 CFR 63.3120(a). These reports shall be due March 15 for the reporting period July 1 to December 31 and September 15 for the reporting period January 1 to June 30.[2] **(40 CFR 63.3120(a))**

5. The permittee shall submit applicable notifications specified in 40 CFR 63.7(b) and (c), 40 CFR 63.8(f)(4) and 40 CFR 63.9(b) through (e) and (h), as specified in 40 CFR 63.3110.[2] **(40 CFR Part 63, Subparts A and IIII)**

6. For any coating operation, the permittee shall submit all performance test reports for transfer efficiency tests as required by 40 CFR 63.3120(b).[2] **(40 CFR 63.3120(b))**

See Appendix 8-1

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart IIII for Surface Coating of Automobiles and Light Duty Trucks by the initial compliance date as they apply to FG-MACT-NC. The permittee may choose an alternative compliance method not listed in FG-MACT-NC by providing the appropriate notifications required under 40 CFR, Part 63.9(j), maintaining a log required by 40 CFR, Part 70.6(9), and by complying with all applicable provisions required by Subpart IIII for the compliance option chosen.[2] **(40 CFR 70.6(a)(9), 40 CFR Part 63.9(j), 40 CFR Part 63, Subparts A and IIII)**

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-BOILERS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

New boilers and process heaters subject to 40 CFR Part 63, Subpart DDDDD in the units designed to burn Gas 1 subcategory. The subcategory includes any boiler or process heater that burns only natural gas, refinery gas, and/or other gas 1 fuels. Gaseous fuel boilers and process heaters that burn liquid fuel for periodic testing of liquid fuel, maintenance, or operator training, not to exceed a combined total of 48 hours during any calendar year, are included in this definition. Gaseous fuel boilers and process heaters that burn liquid fuel during periods of gas curtailment or gas supply interruptions of any duration are also included in this definition. These units must comply with 40 CFR Part 63, Subpart DDDDD upon startup. This flexible group consists of five (5) 8 MMBTU/hr natural gas fired hot water generator/boilers that are utilized in the pretreatment operations of the paint shop.

Emission Units: EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall only combust natural gas, refinery gas, and/or other gas 1 fuels in the boiler or process heater, except during periods of time as allowed in the *Unit designed to burn gas 1 subcategory* definition in 40 CFR 63.7575.[2] **(40 CFR 63.7499(l))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee must meet the requirements in paragraphs 40 CFR 63.7500(a)(1) through (3), except as provided in 40 CFR 63.7500(b) through (e). The permittee must meet these requirements at all times the affected unit is operating, except as provided in 40 CFR 63.7500(f).[2] **(40 CFR 63.7500(a))**

2. The permittee must meet the work practice standard in 40 CFR Part 63, Subpart DDDDD Table 3 that applies to the boiler or process heater, for each gas 1 boiler or process heater at the source.[2] **(40 CFR 63.7500(a)(1))**

3. At all times, the permittee must operate and maintain any affected source (as defined in 40 CFR 63.7490), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.[2] **(40 CFR 63.7500(a)(3))**

4. For new or reconstructed affected sources (as defined in 40 CFR 63.7490), the permittee must demonstrate initial compliance with the applicable work practice standards in Table 3 to 40 CFR Part 63 Subpart DDDDD within the biennial schedule as specified in 40 CFR 63.7540(a) following the initial compliance date specified in 40 CFR 63.7495(a). Thereafter, the permittee is required to complete the biennial tune-up as specified in 40 CFR 63.7540(a). A tune-up of the affected equipment that has a continuous oxygen trim system, as defined in 40 CFR 63.7575, shall be completed every five years.[2] **(40 CFR 63.7510(g))**

5. The permittee shall conduct biennial tune-up according to 40 CFR 63.7540(a)(11). Each biennial tune-up specified in 40 CFR 63.7540(a)(11) must be conducted no more than 25 months after the previous tune-up. The first biennial tune-up must be no later than 25 months after the initial startup of the new or reconstructed affected source. The biennial frequency do not apply if the emission units have continuous oxygen trim systems that maintain an optimum air to fuel ratio, as defined in 40 CFR 63.7575. A tune-up of the affected equipment that has a continuous oxygen trim system, as defined in 40 CFR 63.7575, shall be completed every five years (no more than 61 months after the previous tune-up) as specified in 40 CFR 63.7540(a)(12).[2] **(40 CFR 63.7515(d), 40 CFR 63.7540(a)(11), 40 CFR 63.7540(a)(12))**

6. As provided in 40 CFR 63.6(g), EPA may approve use of an alternative to the work practice standards.[2] **(40 CFR 63.7500(b))**

7. The permittee shall comply with standards at all times of operation, except during periods of startup and shutdown, during which 40 CFR Part 63, Subpart DDDDD, Table 3 requirements apply.[2] **(40 CFR 63.7500(f))**

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 must keep records according to 40 CFR 63.7555(a)(1) and (2).[2] **(40 CFR 63.7555(a))**
   a. A copy of each notification and report that is submitted to comply with 40 CFR 63.75555, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). **(40 CFR 63.7555(a)(1))**
   b. Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in 40 CFR 63.10(b)(2)(viii). **(40 CFR 63.7555(a)(2))**

2. If the permittee operates a unit designed to burn gas 1 subcategory that is subject to 40 CFR Part 63, DDDDD, and uses an alternative fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart under 40 CFR Part 63, other gas 1 fuel, or gaseous fuel subject to another subpart of 40 CFR Part 63 or 40 CFR Parts 60, 61, or 65, the permittee must keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies.[2] **(40 CFR 63.7555(h))**

3. The permittee must maintain records in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1).[2] **(40 CFR 63.7560(a))**

4. As specified in 40 CFR 63.10(b)(1), the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.[2] **(40 CFR 63.7560(b))**

5. The permittee must keep each record on site, or they must be accessible from on-site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The permittee can keep the records off site for the remaining 3 years.[2] **(40 CFR 63.7560(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))**

4. The permittee must meet the notification requirements in 40 CFR 63.7545 according to the schedule in 40 CFR 63.7545 and in 40 CFR Part 63, Subpart A.[2] **(40 CFR Part 63, Subpart A, 40 CFR 63.7495(d))**

5. The permittee must submit to the Administrator all of the notifications in 40 CFR 63.7(b) and (c), 40 CFR 63.8(e), (f)(4) and (6), and 40 CFR 63.9(b) through (h) that apply by the dates specified.[2] **(40 CFR 63.7545(a))**

6. As specified in 40 CFR 63.9(b)(4) and (5), if the startup of a new or reconstructed affected source occurs on or after January 31, 2013, the permittee must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.[2] **(40 CFR 63.7545(c))**

7. The permittee must submit each report in Table 9 of 40 CFR Part 63, Subpart DDDDD that applies.[2] **(40 CFR 63.7550(a))**

8. Unless the EPA Administrator has approved a different schedule for submission of reports under 40 CFR 63.10(a), the permittee must submit each report, according to 40 CFR 63.7550(h), by the date in **Table 9,** of 40 CFR Part 63, Subpart DDDDD and according to the requirements in 40 CFR 63.7550(b)(1) through (4). For units that are subject only to a requirement to conduct an annual, biennial, or 5-year tune-up according to 40 CFR 63.7540(a)(10), (11), or (12), respectively, and not subject to emission limits or operating limits, the permittee may submit only an annual, biennial, or 5-year compliance report, as applicable, as specified in 40 CFR 63.7550(b)(1) through (4), instead of a semi-annual compliance report.[2] **(40 CFR 63.7550(b))**
   a. The first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in 40 CFR 63.7495 and ending on June 30 or December 31, whichever date is the first date that occurs at least 180 days (or 1, 2, or 5 years, as applicable, if submitting an annual, biennial, or 5-year compliance report) after the compliance date that is specified for the source in 40 CFR 63.7495. **(40 CFR 63.7550(b)(1))**
   b. The first compliance report must be postmarked or submitted no later than September 15 or March 15, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for each boiler or process heater in 40 CFR 63.7495. The first annual, biennial, or 5-year compliance report must be postmarked or submitted no later than January 31. **(40 CFR 63.7550(b)(2), 40 CFR 63.10(a)(5))**
   c. Each subsequent compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Annual, biennial, and 5-year compliance reports must cover the applicable 1, 2, or 5-year periods from January 1 to December 31. **(40 CFR 63.7550(b)(3))**
   d. Each subsequent compliance report must be postmarked or submitted no later than September 15 or March 15, whichever date is the first date following the end of the semiannual reporting period. Annual, biennial, and 5-year compliance reports must be postmarked or submitted no later than March 15. **(40 CFR 63.7550(b)(4), 40 CFR 63.10(a)(5)**

9. A compliance report must contain the following information depending on how the permittee chooses to comply with the limits set in this rule.[2] **(40 CFR 63.7550(c))**
   a. If the facility is subject to the requirements of a tune up they must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii) and (xiv) of 40 CFR 63.7550. **(40 CFR 63.7550(c)(1))**

10. The permittee must submit the reports according to the procedures specified in 40 CFR 63.7550(h)(1) through (3).[2] **(40 CFR 63.7550(h))**

See Appendix 8-1

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subparts A and DDDDD for Industrial, Commercial and Institutional Boilers and Process Heaters by the compliance date.[2] **(40 CFR Part 63, Subparts A and DDDDD)**

2. If the permittee has a new or reconstructed boiler or process heater, then the permittee must comply with 40 CFR Part 63, Subpart DDDDD upon startup of the boiler or process heater.[2] **(40 CFR 63.7495(a))**

3. The permittee must be in compliance with the emission limits, work practice standards, and operating limits in 40 CFR Part 63, Subpart DDDDD. These limits apply at all times the affected unit is operating except for the periods noted in 40 CFR 63.7500(f).[2] **(40 CFR 63.7505(a))**

4. The permittee must demonstrate continuous compliance with the work practice standards in Table 3 to 40 CFR Part 63 Subpart DDDDD that apply according to the methods specified in 40 CFR 63.7540(a).[2] **(40 CFR 63.7540(a))**

5. The permittee must complete an annual tune-up as specified in 40 CFR 63.7540 for all units with a heat input capacity of 10 MMBTU/hr or greater and no O2 trim system. This tune-up satisfies Work Practice requirements for all standards.[2] **(40 CFR 63.7540)**

6. The permittee must comply with the applicable General Provisions in 40 CFR 63.1 through 63.15 that apply to this source per 40 CFR Part 63, Subpart DDDDD Table 10.[2] **(40 CFR 63.7565)**

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-NATGASEQUIP
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

All-natural gas-fired equipment in the existing assembly plant (excluding new paint shop and body shop).

Emission Units: EU-NORTHHEATER, EU-SOUTHHEATER, EU-NATGASEQUIP, EU-GAGENERATOR

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO_x	35.8 tpy[2*]	12-month rolling time period as determined at the end of each calendar month.	FG-NATGASEQUIP	SC VI.2	**R 336.1205(1)(a) & (3)**

*Emission factor used for EU-GAGENERATOR is 2 gr/HP-hr. The emission factor used for all other equipment is 100 lb/MMscf.

II. MATERIAL LIMIT(S)

1. The permittee shall burn only pipeline quality natural gas in FG-NATGASEQUIP.[2] **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

2. The total combined natural gas usage for FG-NATGASEQUIP excluding EU-GAGENERATOR, shall not exceed 709.0 MMcf 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) & (3), R 336.1224, R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (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 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), R 336.1224, R 336.1225, R 336.1702(a), 40 CFR 52.21(c) & (d))**

2. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling total NOx emissions for FG-NATGASEQUIP, as required by SC I.1. The emissions from EU-GAGENERATOR shall be calculated based upon the engine capacity and records of the hours of operation, as required by EU-GAGENERATOR SC VI.2. The permittee shall keep all records on file and make them available to the Department upon request.[2] **(R 336.1205(1)(a) & (3))**

3. The permittee shall keep, in a format acceptable to the AQD District Supervisor, monthly and 12-month rolling natural gas usage records in million cubic feet for FG-NATGASEQUIP excluding EU-GAGENERATOR. The permittee shall keep all records on file at the facility and make them available to the Department upon request.[2] **(R 336.1205(1)(a) & (3), R 336.1224, R 336.1225, R 336.1702(a), 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))**

See Appendix 8-1

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-63-5D-WTRHEATERS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Gas 1 Fuel Subcategory requirements for new Boilers and Process Heaters at major sources of Hazardous Air Pollutants per 40 CFR Part 63, Subpart DDDDD. These new boilers or process heaters must comply with 40 CFR Part 63, Subpart DDDDD upon startup. These conditions apply to boilers or process heaters with a heat input capacity less than 5 MMBTU per hour.

Emission Units: EU-NORTHHEATER, EU-SOUTHHEATER

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

1. The permittee shall only burn fuels as allowed in the Unit designed to burn gas 1 subcategory definition in 40 CFR 63.7575.[2] **(40 CFR 63.7499(l))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee must meet the requirements in paragraphs (a)(1) and (3) of 40 CFR 63.7500, as listed below, except as provided in paragraphs (b) and (e) of 40 CFR 63.7500, stated in SC III.2 and SC III.3. The permittee must meet these requirements at all times the affected unit is operating.[2] **(40 CFR 63.7500(a))**
   a. The permittee must meet each work practice standard in Table 3 of 40 CFR Part 63, Subpart DDDDD that applies to the boiler or process heater, for each boiler or process heater at the source. **(40 CFR 63.7500(a)(1))**
   b. At all times, the permittee must operate and maintain any affected source (as defined in 40 CFR 63.7490, stated in SC IX.1), including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **(40 CFR 63.7500(a)(3))**

2. As provided in 40 CFR 63.6(g), the USEPA may approve use of an alternative to the work practice standards.[2] **(40 CFR 63.7500(b))**

3. Boilers and process heaters in the units designed to burn gas 1 fuels subcategory are not subject to the emission limits in Tables 1 and 2 or 11 through 13 of 40 CFR Part 63, Subpart DDDDD, or the operating limits in Table 4 of 40 CFR Part 63, Subpart DDDDD. Boilers and process heaters in the units designed to burn gas 1 fuel subcategory with a heat input capacity of less than or equal to 5 million BTU per hour must complete a tune-up every 5 years as specified in 40 CFR 63.7540, stated in SC IX.6.[2] **(40 CFR 63.7500(e))**

4. The permittee must demonstrate initial compliance with the applicable work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD within the applicable 5-year schedule as specified in 40 CFR 63.7515(d), stated in SC III.5, following the initial compliance date specified in 40 CFR 63.7495(a), stated in SC IX.3. Thereafter, you are required to complete the applicable 5-year tune-up as specified in 40 CFR 63.7515(d), stated in SC III.5.[2] **(40 CFR 63.7510(g))**

5. If the permittee is required to meet an applicable tune-up work practice standard, the permittee must:[2] **(40 CFR 63.7515(d))**
   a. Conduct the first 5-year tune-up no later than 61 months after the initial startup of the new boiler.
   b. Conduct the 5-year performance tune-up according to 40 CFR 63.7540(a)(12), stated in SC IX.6.b. Each 5-year tune-up specified in 40 CFR 63.7540(a)(12) must be conducted no more than 61 months after the previous tune-up.

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. FG-63-5D-WTRHEATERS shall apply only to boilers or process heaters with a heat input capacity less than or equal to 5 MMBTU per hour.[2] **(40 CFR Part 63, Subpart DDDDD)**

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 must keep records according to paragraphs (a)(1) and (2) of 40 CFR 63.7555, as listed below.[2] **(40 CFR 63.7555(a))**
   a. A copy of each notification and report that the permittee submitted to comply with 40 CFR Part 63, Subpart DDDDD, including all documentation supporting any Initial Notification or Notification of Compliance Status or semiannual compliance report that the permittee submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). **(40 CFR 63.7555(a)(1))**
   b. Records of performance tests, fuel analyses, or other compliance demonstrations and performance evaluations as required in 40 CFR 63.10(b)(2)(viii). **(40 CFR 63.7555(a)(2))**

2. If the permittee operates a unit in the unit designed to burn gas 1 subcategory that is subject to 40 CFR Part 63, Subpart DDDDD, and the permittee uses an alternative fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart under 40 CFR Part 63, other gas 1 fuel, or gaseous fuel subject to another subpart of 40 CFR Part 63 or Parts 60, 61, or 65, the permittee must keep records of the total hours per calendar year that alternative fuel is burned and the total hours per calendar year that the unit operated during periods of gas curtailment or gas supply emergencies.[2] **(40 CFR 63.7555(h))**

3. The permittee's records must be in a form suitable and readily available for expeditious review, according to 40 CFR 63.10(b)(1).[2] **(40 CFR 63.7560(a))**

4. As specified in 40 CFR 63.10(b)(1), the permittee must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.[2] **(40 CFR 63.7560(b))**

5. The permittee must keep each record on site, or they must be accessible from on-site (for example, through a computer network), for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to 40 CFR 63.10(b)(1). The permittee can keep the records off site for the remaining 3 years.[2] **(40 CFR 63.7560(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))**

4. The permittee must meet the notification requirements in 40 CFR 63.7545 according to the schedule in 40 CFR 63.7545, both stated in SC VII.6 through SC VII.9, and in Subpart A of 40 CFR 63.[2] **(40 CFR 63.7495(d))**

5. The permittee must submit to the Administrator all of the notifications in 40 CFR 63.7(b) and (c), 40 CFR 63.8(e), (f)(4) and (6), and 40 CFR 63.9(b) through (h) that apply to the permittee by the dates specified.[2] **(40 CFR 63.7545(a))**

6. As specified in 40 CFR 63.9(b)(4) and (5), if the permittee starts up the new or reconstructed affected source on or after January 31, 2013, the permittee must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source.[2] **(40 CFR 63.7545(c))**

7. If the permittee operates a unit designed to burn natural gas, refinery gas, or other gas 1 fuels that is subject to 40 CFR Part 63, Subpart DDDDD, and the permittee intends to use a fuel other than natural gas, refinery gas, gaseous fuel subject to another subpart of 40 CFR Part 63, Part 60, Part 61, or Part 65, or other gas 1 fuel to fire the affected unit during a period of natural gas curtailment or supply interruption, as defined in 40 CFR 63.7575, the permittee must submit a notification of alternative fuel use within 48 hours of the declaration of each period of natural gas curtailment or supply interruption, as defined in 40 CFR 63.7575. The notification must include the information specified in paragraphs (f)(1) through (5) of 40 CFR 63.7545, as listed below.[2] **(40 CFR 63.7545(f))**
   a. Company name and address. **(40 CFR 63.7545(f)(1))**
   b. Identification of the affected unit. **(40 CFR 63.7545(f)(2))**
   c. Reason the permittee is unable to use natural gas or equivalent fuel, including the date when the natural gas curtailment was declared or the natural gas supply interruption began. **(40 CFR 63.7545(f)(3))**
   d. Type of alternative fuel that the permittee intends to use. **(40 CFR 63.7545(f)(4))**
   e. Dates when the alternative fuel use is expected to begin and end. **(40 CFR 63.7545(f)(5))**

8. The permittee must submit each report in Table 9 of 40 CFR Part 63, Subpart DDDDD that applies.[2] **(40 CFR 63.7550(a))**

9. Unless the EPA Administrator has approved a different schedule for submission of reports under 40 CFR 63.10(a), the permittee must submit each report, according to paragraph (h) of 40 CFR 63.7550, stated in SC VII.10, by the date in Table 9 of 40 CFR Part 63, Subpart DDDDD and according to the requirements in paragraphs (b)(1) through (4) of 40 CFR 63.7550, as listed below. For units that are subject only to a requirement to conduct a 5-year tune-up according to 40 CFR 63.7540(a)(12), stated in SC IX.6.b, and not subject to emission limits or operating limits, the permittee may submit only a 5-year compliance report, as applicable, as specified in paragraphs (b)(1) through (4) of 40 CFR 63.7550, as listed below, instead of a semi-annual compliance report.[2] **(40 CFR 63.7550(b))**
   a. The first compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in 40 CFR 63.7495, stated in SC IX.3, and ending on December 31 within 5 years after the compliance date that is specified for the source in 40 CFR 63.7495, stated in SC IX.3. **(40 CFR 63.7550(b)(1))**
   b. The first 5-year compliance report must be postmarked or submitted no later than March 15. **(40 CFR 63.10(a)(5), 40 CFR 63.7550(b)(2), 40 CFR 63.7550(b)(5))**
   c. Each subsequent 5-year compliance report must cover the applicable 5-year period from January 1 to December 31. **(40 CFR 63.7550(b)(3))**
   d. Each subsequent 5-year compliance report must be postmarked or submitted no later than March 15. **(40 CFR 63.10(a)(5), 40 CFR 63.7550(b)(5))**

10. A compliance report must contain the following information depending on how the permittee chooses to comply with the limits set in this rule.[2] **(40 CFR 63.7550(c))**
    a. If the facility is subject to the requirements of a tune up the permittee must submit a compliance report with the information in paragraphs (c)(5)(i) through (iii), (xiv), and (xvii) of 40 CFR 63.7550. **(40 CFR 63.7550(c)(1))**

11. The permittee must submit the reports according to the procedures specified in 40 CFR Part 63.7550 (h)(1) through (3).[2] **(40 CFR 63.7550(h))**

See Appendix 8-1

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. 40 CFR Part 63, Subpart DDDDD applies to new affected sources as described in paragraph (a)(2) of 40 CFR 63.7490, as listed below.[2] **(40 CFR 63.7490(a))**
   a. The affected source of 40 CFR Part 63, Subpart DDDDD is each new or reconstructed industrial, commercial, or institutional boiler or process heater, as defined in 40 CFR 63.7575, located at a major source.[2] **(40 CFR 63.7490(a)(2))**

2. A boiler or process heater is:
   a. New if the permittee commences construction of the boiler or process heater after June 4, 2010, and the permittee meets the applicability criteria at the time the permittee commences construction.[2] **(40 CFR 63.7490(b))**
   b. Reconstructed if the permittee meets the reconstruction criteria as defined in 40 CFR 63.2, the permittee commences reconstruction after June 4, 2010, and the permittee meets the applicability criteria at the time the permittee commence reconstruction.[2] **(40 CFR 63.7490(c))**

3. If the permittee has a new or reconstructed boiler or process heater, the permittee must comply with 40 CFR Part 63, Subpart DDDDD upon startup of each boiler or process heater.[2] **(40 CFR 63.7495(a))**

4. The permittee must be in compliance with the work practice standards of 40 CFR Part 63, Subpart DDDDD.[2] **(40 CFR 63.7505(a))**

5. For affected sources (as defined in 40 CFR 63.7490, stated in SC IX.1) that have not operated since the previous compliance demonstration and more than one year has passed since the previous compliance demonstration, the permittee must complete a subsequent tune-up by following the procedures described in 40 CFR 63.7540(a)(10)(i) through (vi), stated in SC IX.6.a, and the schedule described in 40 CFR 63.7540(a)(13), stated in SC IX.6.c, for units that are not operating at the time of their scheduled tune-up.[2] **(40 CFR 63.7515(g))**

6. The permittee must demonstrate continuous compliance with the work practice standards in Table 3 of 40 CFR Part 63, Subpart DDDDD that applies according to the methods specified in paragraphs (a)(10) through (13) of 40 CFR 63.7540, as listed below.[2] **(40 CFR 63.7540(a))**
   a. If the boiler or process heater has a heat input capacity of 10 million BTU per hour or greater, the permittee must conduct an annual tune-up of the boiler or process heater to demonstrate continuous compliance as specified in paragraphs (a)(10)(i) through (vi) of 40 CFR 63.7540, as listed below. This frequency does not apply to units with continuous oxygen trim systems that maintain an optimum air to fuel ratio. **(40 CFR 63.7540(a)(10))**
      i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (the permittee may perform the burner inspection any time prior to the tune-up or delay the burner inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection. At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment. **(40 CFR 63.7540(a)(10)(i))**
      ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available. **(40 CFR 63.7540(a)(10)(ii))**

iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly (the permittee may delay the inspection until the next scheduled unit shutdown). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection. **(40 CFR 63.7540(a)(10)(iii))**

iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, if available, and with any NO_x requirement to which the unit is subject. **(40 CFR 63.7540(a)(10)(iv))**

v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer. **(40 CFR 63.7540(a)(10)(v))**

vi. Maintain on-site and submit, if requested by the Administrator, a report containing the information in paragraphs (a)(10)(vi)(A) through (C) of 40 CFR 63.7540, as listed below. **(40 CFR 63.7540(a)(10)(vi))**

A. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater. **(40 CFR 63.7540(a)(10)(vi)(A))**

B. A description of any corrective actions taken as a part of the tune-up. **(40 CFR 63.7540(a)(10)(vi)(B))**

C. The type and amount of fuel used over the 12 months prior to the tune-up, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel used by each unit. **(40 CFR 63.7540(a)(10)(vi)(C))**

b. If the boiler or process heater has a heat input capacity of less than or equal to 5 million BTU per hour and the unit is in the units designed to burn gas 1 subcategory, the permittee must conduct a tune-up of the boiler or process heater every 5 years as specified in paragraphs (a)(10)(i) through (vi) of 40 CFR 63.7540 to demonstrate continuous compliance. The permittee may delay the burner inspection specified in paragraph (a)(10)(i) of 40 CFR 63.7540 until the next scheduled or unscheduled unit shutdown, but the permittee must inspect each burner at least once every 72 months. **(40 CFR 63.7540(a)(12))**

c. If the unit is not operating on the required date for a tune-up, the tune-up must be conducted within 30 calendar days of startup. **(40 CFR 63.7540(a)(13))**

7. Table 10 of 40 CFR Part 63, Subpart DDDDD shows which parts of the General Provisions in 40 CFR 63.1 through 63.15 applies to the permittee.[2] **(40 CFR 63.7565)**

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-COLD CLEANERS-1
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, 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 Unit: EU-COLD CLEANER1

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(2)(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(2)(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 8-1

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FG-EMERGENCYENGINES-1
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

40 CFR Part 63, Subpart ZZZZ - National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), located at a major source of HAP emissions, existing emergency, compression ignition RICE and spark ignition RICE less than 500 bhp.

Emission Units: EU-FIREPUMPENGINE#1, EU-FIREPUMPENGINE#2, EU-NATGASGENERATOR#1, EU-NATGASGENERATOR#2, EU-NATGASGENERATOR#3, EU-NATGASGENERATOR#4, EU-NATGASGENERATOR#5, EU-NATGASGENERATOR#6

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Each engine in FG-EMERGENCYENGINES-1 shall be installed, maintained, and operated in a satisfactory manner. A list of recommended work practice standards as specified in 40 CFR 63.6602 and Table 2c, Item 6 or the permittee may petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices. The following are the recommended work practices specified in 40 CFR Part 63 Subpart ZZZZ Table 2c:
   a. Change oil and filter every 500 hours of operation or annually, whichever comes first, except as allowed in SC III.2,
   b. For SI RICE, Inspect the spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; or
      For CI RICE, inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary, and
   c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

   If the emergency engine is being operated during an emergency and it is not possible to shut down the engine to perform the work practice standards on the schedule required the work practice standard can be delayed until the emergency is over. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State or local law has been abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law or which the risk was deemed unacceptable. **(40 CFR 63.6602, 40 CFR Part 63, Subpart ZZZZ, Table 2c, Items 1 & 6)**

2. The permittee may utilize an oil analysis program in order to extend the specified oil change requirement. The oil analysis must be performed at the same frequency as oil changes are required. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c of 40 CFR Part 63, Subpart ZZZZ. **(40 CFR 63.6625(i) & (j))**

3. The permittee shall install, maintain and operate each engine in FG-EMERGENCYENGINES-1 and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop

your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 63.6605, 40 CFR 63.6625(e))**

4. The permittee shall minimize the time spent at idle during startup and minimize the startup time of each engine in FG-EMERGENCYENGINES-1 to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup apply. **(40 CFR 63.6625(h))**

5. The permittee shall not allow each engine in FG-EMERGENCYENGINES-1 to exceed 100 hours per calendar year for maintenance checks and readiness testing and emergency demand response. 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. **(40 CFR 63.6640(f)(2)(i))**

6. The permittee may operate each engine in FG-EMERGENCYENGINES-1 up to 50 hours per calendar year for non-emergency situations, but those hours are to be counted towards the 100 hours per calendar year for maintenance and testing and emergency demand response, as allowed in 40 CFR 63.6640(f)(2). **(40 CFR 63.6640(f)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install a non-resettable hour meter on each engine in FG-EMERGENCYENGINES-1. **(40 CFR 63.6625(f))**

V. TESTING/SAMPLING

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

1. If using the oil analysis program for CI RICE in order to extend the specified oil change requirement in 40 CFR Part 63, Subpart ZZZZ, Table 2c, the permittee must at a minimum, analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. **(40 CFR 63.6625(i))**

2. If using the oil analysis program for SI RICE in order to extend the specified oil change requirement in 40 CFR Part 63, Subpart ZZZZ, Table 2c, the permittee must at a minimum, analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. **(40 CFR 63.6625(j))**

VI. MONITORING/RECORDKEEPING

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

1. For each engine in FG-EMERGENCYENGINES-1 the permittee shall keep in a satisfactory manner, records of the occurrence and duration of each malfunction of operation or the air pollution control monitoring equipment. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(a)(2), 40 CFR 63.6660)**

2. For each engine in FG-EMERGENCYENGINES-1 the permittee shall keep in a satisfactory manner, records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(a)(5), 40 CFR 63.6660)**

3. For each engine in FG-EMERGENCYENGINES-1 the permittee shall keep in a satisfactory manner, records to demonstrate continuous compliance with operating limitations in SC III.3. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(d), 40 CFR 63.6660)**

4. For each engine in FG-EMERGENCYENGINES-1 the permittee shall keep in a satisfactory manner, records of the maintenance conducted to demonstrate that the engine and after-treatment control device (if any) were operated and maintained according to the developed maintenance plan. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(e), 40 CFR 63.6660)**

5. For each engine in FG-EMERGENCYENGINES-1 the permittee shall keep in a satisfactory manner, records of hours of operation recorded through the non-resettable hour meter. The permittee shall document how many hours were spent during emergency operation and how many hours were spent during non-emergency operation. If the engines were used for demand response operation, the permittee shall keep records of the notification of the emergency situation and the time the engine was operated as part of demand response. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(f), 40 CFR 63.6660)**

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. If you own or operate an emergency stationary RICE with a site rating of more than 100 brake hp that operates or is 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) or that operates for the purpose specified in 40 CFR 63.6640(f)(4)(ii), you must submit an annual report according to the requirements below and as specified in 40 CFR 63.6650(h):
   a. The report must contain the following information:
      i. Company name and address where the engine is located.
      ii. Date of the report and beginning and ending dates of the reporting period.
      iii. Engine site rating and model year.
      iv. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
      v. Hours operated for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).
      vi. Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).

vii. Hours spent for operation for the purpose specified in 40 CFR 63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

viii. If there were no deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

ix. If there were deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

b. The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

c. The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to 40 CFR Part 63, Subpart ZZZZ is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR 63.13. **(40 CFR 63.6650(h), 40 CFR 63.6660)**

See Appendix 8-1

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart ZZZZ, for Stationary Reciprocating Internal Combustion Engines. **(40 CFR 63.6595, 40 CFR Part 63, Subparts A and ZZZZ)**

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

FG-EMERGENERATOR-1
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Standards of Performance for Stationary Spark Ignition Internal Combustion Engines as found at 40 CFR Part 60, Subpart JJJJ

Emission Units: EU-PSEMERGEN, EU-BDYGENERATOR, EU-GAGENERATOR, EU-LOCGENERATOR, EU-MTAGENERATOR, EU-BDYGENERATOR2, EU-OWSGENERATOR

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	2.0 g/hp-hr	Hourly	FG-EMERGENERATOR-1	SC VI.2	**40 CFR 60.4233(e)**
2. CO	4.0 g/hp-hr	Hourly	FG-EMERGENERATOR-1	SC VI.2	**40 CFR 60.4233(e)**
3. VOC	1.0 g/hp-hr	Hourly	FG-EMERGENERATOR-1	SC VI.2	**40 CFR 60.4233(e)**

II. MATERIAL LIMIT(S)

1. The permittee shall only burn pipeline quality natural gas in FG-EMERGENERATOR-1. **(40 CFR 60.4233, 40 CFR 63.6590)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee may operate each engine covered FG-EMERGENERATOR-1 for no more than 100 hours per 12-month rolling time period as determined at the end of each calendar month 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 year. Each engine covered by FG-EMERGENERATOR-1 may operate up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per 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. **(40 CFR 60.4243)**

2. The permittee shall operate and maintain each engine covered by FG-EMERGENERATOR-1 such that it meets the emission limits in SC I.1, I.2, and I.3 over the entire life of the engine. **(40 CFR 60.4234, 40 CFR 60.4243)**

3. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60, Subpart JJJJ, for the same model year, the permittee shall meet the following requirements for each engine covered by FG-EMERGENERATOR-1: **(R 336.1911, 40 CFR 60.4234, 40 CFR 60.4243)**
   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 1068 Subparts A through D.

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 each engine covered by FG-EMERGENERATOR-1 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 60.4243)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine covered by FG-EMERGENERATOR-1 with non-resettable hours meters to track the operating hours.[1] **(R 336.1225, 40 CFR 60.4237)**

2. It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.[2] **(40 CFR 60.4243(g))**

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 each engine covered by FG-EMERGENERATOR-1 within one year after startup of the engine to demonstrate compliance with the emission limits in 40 CFR 60.4233(e), unless the engines have been certified by the manufacturer as required by 40 CFR Part 60, Subpart JJJJ and the permittee maintains the engine as required by 40 CFR 60.4243(b)(1). If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4244. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission limits includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. After conducting the initial performance test, the permittee shall conduct subsequent performance testing, for non-certified engines, every 8,760 hours or 3 years, whichever comes first. **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 60.4243, 40 CFR 60.4244, 40 CFR Part 60, Subpart JJJJ)**

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, records of testing required in SC V.1 or manufacturer certification and maintenance records documenting that each engine covered by FG-EMERGENERATOR-1 meets the applicable emission limitations contained in the federal Standards of Performance for New Stationary Sources 40 CFR Part 60, Subpart JJJJ. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4243)**

2. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine covered by FG-EMERGENERATOR-1, on a monthly and 12-month rolling time period basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of FG-EMERGENERATOR-1, including what classified the operation as emergency and how many hours are spent for non-emergency operation. **(40 CFR 60.4245(b))**

3. The permittee shall keep records of the following information for each engine covered by FG-EMERGENERATOR-1: **(40 CFR 60.4245(a))**
   a. All notifications submitted to comply with 40 CFR Part 60, Subpart JJJJ and all documentation supporting any notification.
   b. Maintenance conducted on each engine covered by FG-EMERGENERATOR-1.

c. If an engine covered by FG-EMERGENERATOR-1 is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR Parts 90, 1048, 1054, and 1060, as applicable.
d. If an engine covered by FG-EMERGENERATOR-1 is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR 60.4243(a)(2), documentation that engine meets the emission standards.

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 8-1

VIII. STACK/VENT RESTRICTION(S)

NA

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, Subparts A and JJJJ, as they apply to each engine covered by FG-EMERGENERATOR-1. **(40 CFR Part 60, Subparts A and JJJJ, 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, Subparts A and ZZZZ, as they apply to each engine covered by FG-EMERGENERATOR-1. **(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).

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 1-1. 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 2-1. 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 3-1. Monitoring Requirements

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

Elements of an O & M Plan

General – Keep records of maintenance inspections which include the dates, results of the inspections and the dates and reasons for repairs if made. The following items shall be inspected for each respective add-on control device used to demonstrate compliance with applicable VOC emissions limits.

Regenerative Thermal Oxidizers

1. Validation of thermocouple accuracy or recalibration of each thermocouple a minimum of once every 12 months. The thermocouple can be replaced in lieu of validation.
2. Perform a heat exchange/heat transfer media inspection a minimum of once every 18 months.*
3. Perform an inspection of the valve seals condition and verify valve timing/synchronization a minimum of once every 18 months.*

* The requirement to address this issue is satisfied if a performance test (*i.e.,* stack test) has been performed on the control device within the prior 18 month period, or if the inspection is performed according to an alternative schedule, approved by the AQD District Office.

Appendix 4-1. 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 5-1. 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 6-1. 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-B1606-2014. 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-B1606-2014a is being reissued as Source-Wide PTI No. MI-PTI-B1606-20XX.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
36-15C	201700108/ December 20, 2017	Incorporated PTI 36-15C, which was to add space heating to an extension of their assembly building and space heating to an already permitted space heating flexible group (FG-NATGASEQUIP). Additionally, PTI 35-15C added a 100 kW Emergency generator powered by a natural gas spark ignition engine (EU-GAGENERATOR). These new emission units are covered in FG-NATGASEQUIP.	EU-NORTHHEATER, EU-SOUTHHEATER, EU-NATGASEQUIP, EU-GAGENERATOR, FG-NATGASEQUIP, FG-63-5D-WTRHEATERS
173-13D	201700046/ December 20, 2017	Incorporate PTI 173-13D, which is to modify certain conditions in four (4) emission units and two (2) flexible groups to more accurately reflect operations in the new paint shop. The new paint shop will include new equipment and existing process equipment at the Flint Plant Emission Units and Flexible Groups removed or modified by this modification were: EU-11ELPO, EU-12PRIMERSURF, EU-14TOPCOAT, EU-15SEALADHESIV, EU-16MISCSOLVENT, EU-GASTANK11N, EU-GASTANK12N, EU-MDFINALREPAIR, EU-ANTICHIP, EU-BOILER5, EU-BOILER6, EU-BOILER7, EU-BOILER8, EU-PURGE SOLVENT TANK, EU-PURGE RECLAIM TANK, FG-COATLINE, FG-MACT LIGHT DUTY, FG-TRANSITION FG-NETTING, FG-RULE290, FG-GASTANKS, FG-BOILER MACT, and FG-BOILERS The modification of PTI 173-13D did not increase or decrease emissions of any pollutants, and therefore, the previous netting analysis performed for PTI 173-13B was still valid. PTI 173-13D was a modification of PTI 173-13B, which was a PSD PTI that was dual noticed. Public comment was from May 21, 2015 until June 22, 2015, and a public hearing was not requested. Subsequently the company submitted an application for PTI 173-13C in October 2016, to modify PTI 173-13B, and then a month later AQD received another PTI application (PTI 173-13D) with small changes. Upon issuance of PTI 173-13D, PTI 173-13B as well as the application for PTI 173-13C were voided.	EU-PRETREATMENT, EU-ECOAT, EU-SEALERS & ADHESIVES, EU-SOUND DAMP, EU-THREE WET, EU-GLASS INSTALL, EU-FINAL REPAIR, EU-PURGE&CLEAN, EU-VEHICLE FLUID FILL, EU-NATURAL GAS, EU-GASOLINE TANK1, EU-GASOLINE TANK2, EU-DIESEL TANK1, EU-DIESEL TANK2, EU-AF TANK1, EU-AF TANK2, EU-TF TANK, EU-POWER STEERING TANK, EU-NPSPRGRECTNK, EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, EU-EMERGENERATOR, FG-TANKS, FG-PAINT & ASSEMBLY, FG-CONTROLS, FG-MACT, FG-BOILERS1
NA	201800017 / May 1, 2018	Clarify a Special Reporting Condition in Flexible Group FG-PAINT & ASSEMBLY back to the original intent of the permitted Condition established in PTI 173-13D. The PTI originally stated “For each emission unit (EU)	FG-PAINT & ASSEMBLY

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
		and flexible group (FG) included in this permit, the permittee shall submit to the AQD District Supervisor, in an acceptable format, within 30 days following the end of the quarter in which the data was collected, the actual VOC, PM10, PM2.5, and NOx emission rates for each limit included in the permit." Based on SC VI.2 which is how the company shows compliance with the emission limits established in FG-PAINT & ASSEMBLY, SC VII.1 in PTI 173-13D should have clarified that the quarterly reporting was for the Emission Units included in FG-PAINT & ASSEMBLY and not all emission units in the ROP. AQD clarified the Condition back to the original intent of "For each EU in this flexible group (FG-PAINT & ASSEMBLY), the permittee shall submit to the AQD District Supervisor, in an acceptable format, within 30 days following the end of the quarter in which the data was collected, the actual VOC, PM10, PM2.5, and NOx emission rates for each limit included in SC I.1 through SC I.6."	

Appendix 7-1. Emission Calculations

There are no specific emission calculations to be used for this ROP. Therefore, this appendix is not applicable.

Appendix 8-1. 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

SECTION 2 – FLINT METAL CENTER

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 SPECIAL CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

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

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-PAINTSHOP	Maintenance paint shop booth with dry fabric filters.	01-01-1997	FG-RULE287(2)(c)-2
EUINKMARKING	Ink marking operation.	09-01-2009	FG-RULE287(2)(c)-2
EU-COLDCLEANERS	Cold cleaners exempt from Rule 201 per Rule 281(2)(h) or Rule 285(2)(r)(iv).	01-01-2008	FG-COLDCLEANERS-2
EU-B-1 BOILER	A 2.2 MMBtu/hr natural gas-fired boiler that serves the Administrative Building.	05-01-2005	FG-BOILER-MACT
EU-B-2 BOILER	A 2.2 MMBtu/hr natural gas-fired boiler that serves the Administrative Building.	05-01-2005	FG-BOILER-MACT
EU-GENERATOR#1	A 115 HP natural gas-fired emergency spark ignition (SI) generator located on the roof of the Administration Building.	01-01-2005	FG-EXT-EMERGENCY
EU-GENERATOR#2	A 225 HP natural gas-fired emergency spark ignition (SI) generator located at the F-12 platform.	04-01-2008	FG-NEW-EMERGENCY
EU-GENERATOR#3	A 225 HP natural gas-fired emergency spark ignition (SI) generator located in the basement at L-19.	08-01-2008	FG-NEW-EMERGENCY
EU-FIREPUMP	A 420 HP diesel fuel-fired fire pump compression ignition (CI) engine located east of the main plant.	05-01-2000	FG-EXT-EMERGENCY

D. FLEXIBLE GROUP SPECIAL CONDITIONS

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

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

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-RULE287(2)(c)-2	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.	EU-PAINTSHOP EU-INKMARKING
FG-COLD-CLEANERS-2	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, 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.	EU-COLDCLEANERS
FG-BOILER-MACT	National Emission Standards for Hazardous Air Pollutants for industrial, commercial, and institutional boilers and process heaters located at major sources of HAP emissions as found in 40 CFR Part 63, Subpart DDDDD.	EU-B-1 BOILER EU-B-2 BOILER
FG-EXT-EMERGENCY	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) located at a major source of HAP emissions as found in 40 CFR Part 63, Subpart ZZZZ for existing emergency spark ignition (SI) RICE and compression ignition (CI) RICE less than 500 brake HP.	EU-GENERATOR#1 EU-FIREPUMP
FG-NEW-EMERGENCY	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) located at a major source of HAP emissions as found in 40 CFR Part 63, Subpart ZZZZ for new emergency spark ignition (SI) RICE less than 500 brake HP.	EU-GENERATOR#2 EU-GENERATOR#3

FG-RULE287(2)(c)-2
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-PAINTSHOP, EU-INKMARKING

POLLUTION CONTROL EQUIPMENT

NA

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[a] as applied)	Calendar month	Each emission unit in FG-RULE287(2)(c)-2	**R 336.1287(2)(c)(i)**

[a] The phrase "minus water" shall also include compounds which are used as organic solvents and which are excluded from the definition of volatile organic compound. **(R 336.1602(4))**

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))**

See Appendix 4-2

VII. REPORTING

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

2. 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 8-2

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FG-COLD CLEANERS-2
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, 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 Unit: EU-COLDCLEANERS

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(2)(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(2)(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 8-2

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FG-BOILER-MACT
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

National Emission Standards for Hazardous Air Pollutants for industrial, commercial, and institutional boilers and process heaters located at major sources of HAP emissions as found in 40 CFR Part 63, Subpart DDDDD.

Emission Units: EU-B-1 BOILER, EU-B-2 BOILER

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall conduct the initial tune-up of the affected boilers no later than January 31, 2016, and a tune-up every five years (no more than 61 months after the previous tune-up) thereafter of the boilers to demonstrate continuous compliance as specified in 40 CFR 63.7540(a)(12). **(40 CFR 63.7510(g), 40 CFR 63.7515(d), 40 CFR 63.7540(a)(12))**

2. For an existing boiler or process heater located at a major source facility, not including limited use units, the permittee must have a one-time energy assessment performed by a qualified energy assessor as required in Table 3 of 40 CFR Part 63, Subpart DDDDD. **(40 CFR Part 63, Subpart DDDDD, Table 3)**

3. The permittee, at all times, must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source. **(40 CFR 63.7500(a)(3))**

4. The permittee shall only burn natural gas in FG-BOILER-MACT boilers and process heaters with the exception of liquid fuel (No. 2 fuel oil) burned for periodic testing (maintenance, or operator training) not to exceed a combined total of 48 hours during any calendar year, or during periods of gas curtailment and gas supply emergencies. **(R 336.1213(3), 40 CFR 63.7575)**

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 records of the hours of operation while using liquid No. 2 fuel oil including the reason for using the fuel (maintenance, operator training, gas curtailment or supply interruption) and the boiler the fuel was used in. **(R 336.1213(3), 40 CFR 63.7575)**

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. As specified in 40 CFR 63.9(b)(4) and (5), if you startup your new or reconstructed affected source on or after January 31, 2013, you must submit an Initial Notification not later than 15 days after the actual date of startup of the affected source. **(40 CFR 63.7545(c))**

5. The permittee shall submit compliance reports as required by 40 CFR 63.7550. The first time period covered by these reports shall be shortened so as to end on either June 30 or December 31, whichever date is the first date that occurs at least 180 days (or 1, 2, or 5 years, as applicable, if submitting an annual, biennial, or 5 year compliance report) after the compliance date that is specified for you source in 40 CFR 63.7495. **(40 CFR 63.7550)**

6. The permittee shall submit all reports required by 40 CFR Subpart DDDDD, Table 9 to the EPA via the CEDRI. You must use the appropriate electronic report in CEDRI for this subpart. Instead of using the electronic report in CEDRI for this subpart, you may submit an alternate electronic file consistent with the XML schema listed on the CEDRI Web site (*http://www.epa.gov/ttn/chief/cedri/index.html*), once the XML schema is available. If the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, you must submit the report to the Administrator at the appropriate address listed in §63.13. You must begin submitting reports via CEDRI no later than 90 days after the form becomes available in CEDRI.

See Appendix 8-2

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subparts A and DDDDD, for Industrial, Commercial, and Institutional Boilers and Process Heaters. **(40 CFR Part 63, Subparts A and DDDDD)**

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-EXT–EMERGENCY
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) located at a major source of HAP emissions as found in 40 CFR Part 63, Subpart ZZZZ for existing emergency compression ignition (CI) RICE and spark ignition (SI) RICE less than 500 brake HP.

Emission Units: EU-GENERATOR#1, EU-FIREPUMP

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Each engine in FG-EXT-EMERGENCY shall be installed, maintained, and operated in a satisfactory manner. A list of recommended work practice standards is specified in 40 CFR Part 63, Subpart ZZZZ Table 2c, Items 1 and 6, or the permittee may petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices. The following are the recommended work practices specified in 40 CFR Part 63, Subpart ZZZZ, Table 2c:
   a. Change oil and filter every 500 hours of operation or annually, whichever comes first, except as allowed in SC III.2,
   b. For SI RICE, inspect the spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; or for CI RICE, inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary, and
   c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

   If the emergency engine is being operated during an emergency and it is not possible to shut down the engine to perform the work practice standards on the schedule required, the work practice standard can be delayed until the emergency is over. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state or local law has been abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law or which the risk was deemed unacceptable. **(40 CFR 63.6602, 40 CFR Part 63, Subpart ZZZZ, Table 2c, Items 1 and 6)**

2. The permittee may utilize an oil analysis program in order to extend the specified oil change requirement. The oil analysis must be performed at the same frequency as oil changes are required. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c of 40 CFR Part 63, Subpart ZZZZ. **(40 CFR 63.6625(i) and (j))**

3. The permittee shall install, maintain and operate each engine in FG-EXT-EMERGENCY and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 63.6605, 40 CFR 63.6625(e))**

4. The permittee shall minimize the time spent at idle during startup and minimize the startup time of each engine in FG-EXT-EMERGENCY to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup apply. **(40 CFR 63.6625(h))**

5. The permittee shall not allow each engine in FG-EXT-EMERGENCY to exceed 100 hours per calendar year for maintenance checks and readiness testing and emergency demand response. 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. **(40 CFR 63.6640(f)(2)(i))**

6. The permittee may operate each engine in FG-EXT-EMERGENCY up to 50 hours per calendar year for non-emergency situations, but those hours are to be counted towards the 100 hours per calendar year for maintenance and testing and emergency demand response, as allowed in 40 CFR 63.6640(f)(2). **(40 CFR 63.6640(f)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install a non-resettable hour meter on each engine in FG-EXT-EMERGENCY. **(40 CFR 63.6625(f))**

V. TESTING/SAMPLING

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

1. If using the oil analysis program for CI RICE in order to extend the specified oil change requirement in 40 CFR Part 63, Subpart ZZZZ, Table 2c, the permittee must at a minimum, analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis. If the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. **(40 CFR 63.6625(i))**

2. If using the oil analysis program for SI RICE in order to extend the specified oil change requirement in 40 CFR Part 63, Subpart ZZZZ ,Table 2c, the permittee must at a minimum, analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis. If the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. **(40 CFR 63.6625(j))**

VI. MONITORING/RECORDKEEPING

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

1. For each engine in FG-EXT-EMERGENCY, the permittee shall keep in a satisfactory manner, records of the occurrence and duration of each malfunction of operation or the air pollution control monitoring equipment. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(a)(2), 40 CFR 63.6660)**

2. For each engine in FG-EXT-EMERGENCY, the permittee shall keep in a satisfactory manner, records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(a)(5), 40 CFR 63.6660)**

3. For each engine in FG-EXT-EMERGENCY, the permittee shall keep in a satisfactory manner, records to demonstrate continuous compliance with operating limitations in SC III.3. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(d), 40 CFR 63.6660)**

4. For each engine in FG-EXT-EMERGENCY, the permittee shall keep in a satisfactory manner, records of the maintenance conducted to demonstrate that the engine and after-treatment control device (if any) were operated and maintained according to the developed maintenance plan. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(e), 40 CFR 63.6660)**

5. For each engine in FG-EXT-EMERGENCY, the permittee shall keep in a satisfactory manner, records of hours of operation recorded through the non-resettable hour meter. The permittee shall document how many hours were spent during emergency operation and how many hours were spent during non-emergency operation. If the engines were used for demand response operation, the permittee shall keep records of the notification of the emergency situation and the time the engine was operated as part of demand response. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(f), 40 CFR 63.6660)**

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. If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is 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) or that operates for the purpose specified in 40 CFR 63.6640(f)(4)(ii), you must submit an annual report according to the requirements below and as specified in 40 CFR 63.6650(h):
   a. The report must contain the following information:
      i. Company name and address where the engine is located.
      ii. Date of the report and beginning and ending dates of the reporting period.
      iii. Engine site rating and model year.
      iv. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
      v. Hours operated for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).
      vi. Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).

vii. Hours spent for operation for the purpose specified in 40 CFR 63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

viii. If there were no deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

ix. If there were deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

b. The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

c. The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR 63.13. **(40 CFR 63.6650(h), 40 CFR 63.6660)**

See Appendix 8-2

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subparts A and ZZZZ, for Stationary Reciprocating Internal Combustion Engines. **(40 CFR Part 63, Subparts A and ZZZZ)**

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

FG-NEW–EMERGENCY
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) located at a major source of HAP emissions as found in 40 CFR Part 63, Subpart ZZZZ for new emergency spark ignition (SI) RICE less than 500 brake HP.

Emission Units: EU-GENERATOR#2-, EU-GENERATOR#3

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not allow each engine in FG-NEW-EMERGENCY to exceed 100 hours per calendar year for maintenance checks and readiness testing and emergency demand response. 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. **(40 CFR 63.6640(f)(2)(i))**

2. The permittee may operate each engine in FG-NEW-EMERGENCY up to 50 hours per calendar year for non-emergency situations, but those hours are to be counted towards the 100 hours per calendar year for maintenance and testing and emergency demand response, as allowed in 40 CFR 63.6640(f)(2). **(40 CFR 63.6640(f)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install a non-resettable hour meter on each engine in FG-NEW-EMERGENCY. **(40 CFR 63.6640(f))**

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 engine in FG-NEW-EMERGENCY, the permittee shall keep in a satisfactory manner, records of hours of operation recorded through the non-resettable hour meter. The permittee shall document how many hours were spent during emergency operation and how many hours were spent during non-emergency operation. If the engines were used for demand response operation, the permittee shall keep records of the notification of the emergency situation and the time the engine was operated as part of demand response. The permittee shall

keep all records on file and make them available to the department upon request. **(40 CFR 63.6640(f), 40 CFR 63.6660)**

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. If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is 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) or that operates for the purpose specified in 40 CFR 63.6640(f)(4)(ii), you must submit an annual report according to the requirements below and as specified in 40 CFR 63.6650(h):
   a. The report must contain the following information:
      i. Company name and address where the engine is located.
      ii. Date of the report and beginning and ending dates of the reporting period.
      iii. Engine site rating and model year.
      iv. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
      v. Hours operated for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).
      vi. Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).
      vii. Hours spent for operation for the purpose specified in 40 CFR 63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.
      viii. If there were no deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.
      ix. If there were deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.
   b. The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.
   c. The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR 63.13. **(40 CFR 63.6650(h), 40 CFR 63.6660)**

See Appendix 8-2

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subparts A and ZZZZ, for Stationary Reciprocating Internal Combustion Engines. **(40 CFR Part 63, Subparts A and ZZZZ)**

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

E. NON-APPLICABLE REQUIREMENTS

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

APPENDICES

Appendix 1-2. Acronyms and Abbreviations

Common Acronyms		Pollutant / Measurement Abbreviations	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO_2e	Carbon Dioxide Equivalent
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 2-2. 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 3-2. 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 4-2. 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 5-2. Testing Procedures

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 6-2. 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-B1608-2017. 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-B1608-2017 is being reissued as Source-Wide PTI No. MI-PTI-B1606-20XX.

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

Appendix 7-2. Emission Calculations

There are no specific emission calculations to be used for this ROP. Therefore, this appendix is not applicable.

Appendix 8-2. Reporting

A. Annual, Semi-annual, 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.

SECTION 3 – FLINT ENGINE OPERATIONS

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 SPECIAL CONDITIONS

Part C outlines terms and conditions that are specific to individual emission units listed in the Emission Unit Summary Table. The permittee is subject to the special conditions for each emission unit in addition to the General Conditions in Part A and any other terms and conditions contained in this ROP.

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

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-COLDCLNRS	Plant wide cold cleaners.	01-01-2006	FG-COLD CLEANERS-3
EU-MARKING-PENS	Miscellaneous marking pen usage.	01-2010	FG-RULE287(2)(c)-3
~~EU-SGE-CLEANING~~	~~SGE miscellaneous cleaning operations~~	~~10-2015~~	~~FG-RULE290-3~~
~~EU-SGE-SEALERS~~	~~SGE other sealer application~~	~~03-2015~~	~~FG-RULE287(2)(c)-3~~
~~EU-SGE-RTV~~	~~SGE Room Temperature Vulcanizing (RTV) process~~	~~10-2015~~	~~NA~~
EU-CSS-CLEANING	CSS miscellaneous cleaning operations	04-2017	FG-RULE290-3
EU-CSS-SEALERS	CSS other sealer application process	04-2017	FG-RULE287(2)(c)-3
EU-CSS-RTV	CSS Room Temperature Vulcanizing (RTV) application process	04-2017	FG-RULE290-3
EU-DIESELGEN#1	A 380 HP-diesel emergency generator located north of F Dock, intended to support the Computer Room in the event of a power outage.	01-2006	FG-EMERGENCYENGINES-3
EU-DIESELGEN#2	A 80 HP-diesel emergency generator located north of F Dock, intended to support the emergency lights in the event of a power outage.	01-2002	FG-EMERGENCYENGINES-3
EU-FIREPUMPENG#1	A 265 HP-diesel fire pump engine located in the Fire Pump House.	01-1999	FG-EMERGENCYENGINES-3
EU-FIREPUMPENG#2	A 265 HP-diesel fire pump engine located in the Fire Pump House.	01-2004	FG-EMERGENCYENGINES-3
EU-SGE-EMERGEN	A 100 KW natural gas fired emergency generator supporting SGE operations	10-01-2018	FG-EMERGENERATOR-3

EU-SGE-RTV
EMISSION UNIT CONDITIONS

DESCRIPTION

SGE Room Temperature Vulcanizing (RTV) process.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. VOC	1.2 tpy [2]	12-month rolling time period as determined at the end of each calendar month	EU-SGE-RTV	SC VI. 2 SC VI. 3	**R 336.1702(a)**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall capture all waste materials and shall store them in closed containers. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations.[2] **(R 336.1224, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. The permittee shall determine the VOC content, water content and density of any sealer material, as applied and as received, using federal Reference Test Method 24. Upon prior written approval by the AQD District Supervisor, the permittee may determine the VOC content from manufacturer's formulation data. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance.[2] **(R 336.1702, R 336.2001, R 336.2003, R 336.2004, R 336.2040(5))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required 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 336.1225, R 336.1702)**

2. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each sealer material, including the weight percent of each component. The data may consist of Material Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by 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)**

3. The permittee shall keep the following information on a monthly basis for EU-SGE-RTV:
   a. Gallons (with water) of each sealer material used.
   b. VOC content of each sealer material, as applied.
   c. VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
   d. VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

   The permittee shall keep the records using mass balance, or an alternative 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. 1702)**

VII. REPORTING

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

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

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

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-RTVSTK1A	12[2]	44[2]	R 336.1225, 40 CFR 52.21(c) and (d)
2. SV-RTVSTK1B	24[2]	44[2]	R 336.1225, 40 CFR 52.21(c) and (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 SPECIAL CONDITIONS

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

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

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FG-RULE290-3	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rule 278, Rule 278a and Rule 290. Emission units installed/modified before December 20, 2016, may show compliance with Rule 290 in effect at the time of installation/modification.	~~EU-SGE-CLEANING~~ EU-CSS-CLEANING EU-CSS-RTV
FG-RULE287(2)(c)-3	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.	EU-MARKING-PENS ~~EU-SGE-SEALERS~~ EU-CSS-SEALERS EU-CSS-INKS
FG-COLD CLEANERS-3	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.	EU-COLDCLNRS
FG-EMERGENCYENGINES-3	National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), located at a major source of HAP emissions, existing emergency Compression Ignition RICE less than 500 hp.	EU-DIESELGEN#1 EU-DIESELGEN#2 EU-FIREPUMPENG#1 EU-FIREPUMPENG#2
FG-EMERGENERATOR-3	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines as found at 40 CFR Part 60, Subpart JJJJ	EU-SGE-EMERGEN

FG-RULE290-3
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 290. Emission units installed/modified before December 20, 2016, may show compliance with Rule 290 in effect at the time of installation/modification.

Emission Units installed on or after December 20, 2016: EU-CSS-CLEANING, EU-CSS-RTV

~~**Emission Units installed prior to December 20, 2016:** EU-SGE-CLEANING, ,~~

POLLUTION CONTROL EQUIPMENT

Any exhaust system associated with particulate emissions shall be equipped with a properly installed and operated particulate control system.

I. EMISSION LIMIT(S)

1. Each emission unit that emits only noncarcinogenic volatile organic compounds or noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, if the total uncontrolled or controlled emissions of air contaminants are not more than 1,000 or 500 pounds per month, respectively. **(R 336.1290(2)(a)(i))**

2. Any emission unit for which CO2 equivalent emissions are not more than 6,250 tons per month and for which the total uncontrolled or controlled emissions of all other air contaminants are not more than 1,000 or 500 pounds per month, respectively, and all the following criteria listed below are met: **(R 336.1290(2)(a)(ii))**
   a. For toxic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 0.04 micrograms per cubic meter and less than 2.0 micrograms per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively.
   (R 336.1290(2)(a)(ii)(A))
   b. For toxic air contaminants with initial risk screening levels greater than or equal to 0.04 microgram per cubic meter, the uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively. **(R 336.1290(2)(a)(ii)(B))**
   c. The emission unit shall not emit any toxic air contaminants, excluding non-carcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with an initial threshold screening level or initial risk screening level less than 0.04 microgram per cubic meter. **(R 336.1290(2)(a)(ii)(C))**
   d. For total mercury, the uncontrolled or controlled emissions shall not exceed 0.01 pounds per month from emission units installed on or after December 20, 2016. **(R 336.1290(2)(a)(ii)(D))**
   e. For lead, the uncontrolled or controlled emissions shall not exceed 16.7 pounds per month from emission units installed on or after December 20, 2016. **(R 336.1290(2)(a)(ii)(E))**

3. Any emission unit that emits only particulate air contaminants without initial risk screening levels and other air contaminants that are exempted under Rule 290(2)(a)(i) or Rule 290(2)(a)(ii), if all the following provisions are met: **(R 336.1290(2)(a)(iii))**
   a. The particulate emissions are controlled by an appropriately designed and operated fabric filter collector or an equivalent control system which is designed to control particulate matter to a concentration of less than or equal to 0.01 pound of particulate per 1,000 pounds of exhaust gases and which does not have exhaust gas flow rate more than 30,000 actual cubic feet per minute. **(R 336.1290(2)(a)(iii)(A))**

b. The visible emissions from the emission unit are not more than 5% opacity in accordance with the methods contained in Rule 303. **(R 336.1290(2)(a)(iii)(B))**
c. The initial threshold screening level for each particulate toxic air contaminant, excluding nuisance particulate, is more than 2.0 micrograms per cubic meter. **(R 336.1290(2)(a)(iii)(C))**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

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

2. The following requirements apply to emission units installed on or after December 20, 2016, utilizing control equipment:
   a. An air cleaning device for volatile organic compounds shall be installed, maintained, and operated in accordance with the manufacturer's specifications. Examples include the following: **(R 336.1290(2)(b)(i), R 336.1910)**
      i. Oxidizers and condensers equipped with a continuously displayed temperature indication device.
      ii. Wet scrubbers equipped with a liquid flow rate monitor.
      iii. Dual stage carbon absorption where the first canister is monitored for breakthrough and replaced if breakthrough is detected.
   b. An air cleaning device for particulate matter shall be installed, maintained, and operated in accordance with the manufacturer's specifications or the permittee shall develop a plan that provides to the extent practicable for the maintenance and operation of the equipment in the manner consistent with good air pollution control practices for minimizing emissions. It shall also be equipped to monitor appropriate indicators of performance, for example, static pressure drop, water pressure, and water flow rate. **(R 336.1290(2)(b)(ii), R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall maintain records of the following information for each emission unit for each calendar month using the methods outlined in the EGLE, AQD Rule 290; Permit to Install Exemption Record form (EQP 3558) or in a format that is acceptable to the AQD District Supervisor. **(R 336.1213(3))**
   a. Records identifying each air contaminant that is emitted. **(R 336.1213(3))**
   b. Records identifying if each air contaminant is controlled or uncontrolled. **(R 336.1213(3))**
   c. Records identifying if each air contaminant is either carcinogenic or non-carcinogenic. **(R 336.1213(3))**
   d. Records identifying the ITSL and IRSL, if established, of each air contaminant that is being emitted under the provisions of Rules 290(2)(a)(ii) and (iii). **(R 336.1213(3))**
   e. Records of material use and calculations identifying the quality, nature, and quantity of the air contaminant emissions in sufficient detail to demonstrate that the actual emissions of the emission unit meet the emission limits outlined in this table and Rule 290. Volatile organic compound emissions from units installed on or after December 20, 2016, shall be calculated using mass balance, generally accepted engineering calculations, or another method acceptable to the AQD District Supervisor. **(R 336.1213(3), R 336.1290(2)(d))**

d. Records are maintained on file for the most recent 2-year period and are made available to the department upon request. **(R 336.1213(3), R 336.1290(2)(e))**

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

3. For each emission unit that emits noncarcinogenic particulate air contaminants pursuant to Rule 290(2)(a)(iii), the permittee shall perform a monthly visible emission observation of each stack or vent during routine operating conditions. This observation need not be performed using Method 9. The permittee shall keep a written record of the results of each observation. **(R 336.1213(3))**

See Appendix 4-3

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 8-3

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FG-RULE 287(2)(c)-3
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: EU-CSS-SEALERS

Emission Units installed prior to December 20, 2016: EU-MARKING PENS~~, EU-SGE-SEALERS~~

POLLUTION CONTROL EQUIPMENT

All exhaust systems associated with only coating spray equipment shall be supplied with a properly installed and operating particulate control system.

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))**

See Appendix 4-3

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 8-3

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FG-COLD CLEANERS-3
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278, 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 Unit: EU-COLDCLNRS

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(2)(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(2)(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 8-3

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FG–EMERGENCYENGINES-3
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE) located at a major source of HAP emissions, existing emergency compression ignition RICE and spark ignition RICE less than 500 bhp.

Emission Units: EU-DIESELGEN#1, EU-DIESELGEN#2, EU-FIREPUMPENG#1, EU-FIREPUMPENG#2

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Each engine in FG-EMERGENCYENGINES-3 shall be installed, maintained, and operated in a satisfactory manner. A list of recommended work practice standards is specified in 40 CFR.63.6602 and Table 2c or the permittee may petition the Administrator pursuant to the requirements of 40 CFR 63 63.6(g) for alternative work practices. The following are the recommended work practices specified in 40 CFR Part 63, Subpart ZZZZ, Table 2c.
   a. Change oil and filter every 500 hours of operation or annually, whichever comes first, except as allowed in SC III.2.
   b. For SI RICE, inspect the spark plugs every 1,000 hours of hours of operation or annually, whichever comes first, and replace as necessary; or
      For CI RICE, inspect the air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary, and
   c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.

   If the emergency engine is being operated during an emergency and it is not possible to shut down the engine to perform the work practice standards on the schedule required the work practice standards can be delayed until the emergency is over. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State or local law has been abated. Sources must report any failure to perform the work practice on the schedule required and the Federal, State or local law or which the risk was deemed unacceptable. **(40 CFR 63.6602, 40 CFR Part 63, Subpart ZZZZ, Table 2c, Items 1 & 6)**

2. The permittee may utilize an oil analysis program in order to extend the specified oil change requirement. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c of 40 CFR Part 63, Subpart ZZZZ. **(40 CFR 63.6625(i) & (j))**

3. The permittee shall install, maintain and operate each engine in FG-EMERGENCYENGINES and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 63.6605, 40 CFR 63.6625(e))**

4. The permittee shall minimize the time spent at idle during startup and minimize the startup time of each engine in FG-EMERGENCYENGINES-3 to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup apply. **(40 CFR 63.6625(h))**

5. The permittee shall not allow each engine in FG-EMERGENCYENGINES-3 to exceed 100 hours per calendar year for maintenance checks and readiness testing and emergency demand response. 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. **(40 CFR 63.6640(f)(2)(i)**

6. The permittee may operate each engine in FG-EMERGENCYENGINES-3 up to 50 hours per calendar year for non-emergency situations, but those hours are to be counted towards the 100 hours per calendar year for maintenance and testing and emergency demand response, as allowed in 40 CFR 63.6640(f)(2). **(40 CFR 63.6640(f)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install a non-resettable hour meter on each engine in FG-EMERGENCYENGINES-3. **(40 CFR 63.6625(f))**

V. TESTING/SAMPLING

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

1. If using the oil analysis program for CI RICE in order to extend the specified oil change requirement in 40 CFR Part 63, Subpart ZZZZ ,Table 2c, the permittee must at a minimum, analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis. If the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. **(40 CFR 63.6625(i))**

2. If using the oil analysis program for SI RICE in order to extend the specified oil change requirement in 40 CFR Part 63, Subpart ZZZZ, Table 2c, the permittee must at a minimum, analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis. If the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine. **(40 CFR 63.6625(j))**

VI. MONITORING/RECORDKEEPING

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

1. For each engine in FG-EMERGENCYENGINES-3, the permittee shall keep in a satisfactory manner, records of the occurrence and duration of each malfunction of operation or the air pollution control monitoring equipment. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(a)(2), 40 CFR 63.6660)**

2. For each engine in FG-EMERGENCYENGINES-3, the permittee shall keep in a satisfactory manner, records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(a)(5), 40 CFR 63.6660)**

3. For each engine in FG-EMERGENCYENGINES-3, the permittee shall keep in a satisfactory manner, records to demonstrate continuous compliance with operating limitations in SC III.3. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(d), 40 CFR 63.6660)**

4. For each engine in FG-EMERGENCYENGINES-3, the permittee shall keep in a satisfactory manner, records of the maintenance conducted to demonstrate that the engine and after-treatment control device (if any) were operated and maintained according to the developed maintenance plan. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(e), 40 CFR 63.6660)**

5. For each engine in FG-EMERGENCYENGINES-3, the permittee shall keep in a satisfactory manner, records of hours of operation recorded through the non-resettable hour meter. The permittee shall document how many hours were spent during emergency operation and how many hours were spent during non-emergency operation. If the engines were used for demand response operation, the permittee shall keep records of the notification of the emergency situation and the time the engine was operated as part of demand response. The permittee shall keep all records on file and make them available to the department upon request. **(40 CFR 63.6655(f), 40 CFR 63.6660)**

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. If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is 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) or that operates for the purpose specified in 40 CFR 63.6640(f)(4)(ii), you must submit an annual report according to the requirements below and as specified in 40 CFR 63.6650(h):
   a. The report must contain the following information:
      i. Company name and address where the engine is located.
      ii. Date of the report and beginning and ending dates of the reporting period.
      iii. Engine site rating and model year.
      iv. Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.
      v. Hours operated for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).
      vi. Number of hours the engine is contractually obligated to be available for the purposes specified in 40 CFR 63.6640(f)(2)(ii) and (iii).

vii. Hours spent for operation for the purpose specified in 40 CFR 63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in 40 CFR 63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

viii. If there were no deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

ix. If there were deviations from the fuel requirements in 40 CFR 63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

b. The first annual report must cover the calendar year 2017 and must be submitted no later than March 31, 2018. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

c. The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (www.epa.gov/cdx). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in 40 CFR 63.13. **(40 CFR 63.6650(h), 40 CFR 63.6660)**

See Appendix 8-3

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subparts A and ZZZZ, for Stationary Reciprocating Internal Combustion Engines by the initial compliance date. **(40 CFR Part 63, Subparts A and ZZZZ)**

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

FG-EMERGENERATOR-3
EMISSION UNIT CONDITIONS

DESCRIPTION

Standards of Performance for Stationary Spark Ignition Internal Combustion Engines as found at 40 CFR Part 60, Subpart JJJJ

Emission Unit: EU-SGE-EMERGEN

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NOx	2.0 g/hp-hr	Hourly	FG-EMERGENERATOR-3	SC VI.2	**40 CFR 60.4233(e)**
2. CO	4.0 g/hp-hr	Hourly	FG-EMERGENERATOR-3	SC VI.2	**40 CFR 60.4233(e)**
3. VOC	1.0 g/hp-hr	Hourly	FG-EMERGENERATOR-3	SC VI.2	**40 CFR 60.4233(e)**

II. MATERIAL LIMIT(S)

1. The permittee shall only burn pipeline quality natural gas in FG-EMERGENERATOR-3. **(40 CFR 60.4233, 40 CFR 63.6590)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee may operate each engine covered FG-EMERGENERATOR-3 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. 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 covered by FG-EMERGENERATOR-3 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. **(40 CFR 60.4243)**

2. The permittee shall operate and maintain each engine covered by FG-EMERGENERATOR-3 such that it meets the emission limits in SC I.1, I.2, and I.3 over the entire life of the engine. **(40 CFR 60.4234, 40 CFR 60.4243)**

3. If the permittee purchased a certified engine, according to procedures specified in 40 CFR Part 60, Subpart JJJJ, for the same model year, the permittee shall meet the following requirements for each engine covered by FG-EMERGENERATOR-3: **(R 336.1911, 40 CFR 60.4234, 40 CFR 60.4243)**
   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 1068 Subparts A through D.

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 each engine covered by FG-EMERGENERATOR-3 and shall, to the extent practicable, maintain and operate each engine in a manner consistent with good air pollution control practice for minimizing emissions. **(40 CFR 60.4243)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain each engine covered by FG-EMERGENERATOR-3 with non-resettable hours meters to track the operating hours. **(R 336.1225, 40 CFR 60.4237)**

2. It is expected that air-to-fuel ratio controllers will be used with the operation of three-way catalysts/non-selective catalytic reduction. The AFR controller must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times. **(40 CFR 60.4243(g))**

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 each engine covered by FG-EMERGENERATOR-3 within one year after startup of the engine to demonstrate compliance with the emission limits in 40 CFR 60.4233(e), unless the engines have been certified by the manufacturer as required by 40 CFR Part 60, Subpart JJJJ and the permittee maintains the engine as required by 40 CFR 60.4243(b)(1). If a performance test is required, the performance tests shall be conducted according to 40 CFR 60.4244. No less than 30 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of emission limits includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. After conducting the initial performance test, the permittee shall conduct subsequent performance testing, for non-certified engines, every 8,760 hours or 3 years, whichever comes first. **(R 336.2001, R 336.2003, R 336.2004, 40 CFR 60.4243, 40 CFR 60.4244, 40 CFR Part 60, Subpart JJJJ)**

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, records of testing required in SC V.1 or manufacturer certification and maintenance records documenting that each engine covered by FG-EMERGENERATOR-3 meets the applicable emission limitations contained in the federal Standards of Performance for New Stationary Sources 40 CFR Part 60, Subpart JJJJ. The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.4243)**

2. The permittee shall monitor and record the total hours of operation and the hours of operation during non-emergencies for each engine covered by FG-EMERGENERATOR-3, on a monthly and 12-month rolling time period basis, in a manner acceptable to the AQD District Supervisor. The permittee shall document how many hours are spent for emergency operation of FG-EMERGENERATOR-3, including what classified the operation as emergency and how many hours are spent for non-emergency operation. **(40 CFR 60.4245(b))**

3. The permittee shall keep records of the following information for each engine covered by FG-EMERGENERATOR-3: **(40 CFR 60.4245(a))**
   a. All notifications submitted to comply with 40 CFR Part 60, Subpart JJJJ and all documentation supporting any notification.
   b. Maintenance conducted on each engine covered by FG-EMERGENERATOR-3.
   c. If an engine covered by FG-EMERGENERATOR-3 is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards and information as required in 40 CFR Parts 90, 1048, 1054, and 1060, as applicable.
   d. If an engine covered by FG-EMERGENERATOR-3 is not a certified engine or is a certified engine operating in a non-certified manner and subject to 40 CFR 60.4243(a)(2), documentation that engine meets the emission standards.

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 8-3

VIII. STACK/VENT RESTRICTION(S)

NA

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, Subparts A and JJJJ, as they apply to each engine covered by FG-EMERGENERATOR-3. **(40 CFR Part 60, Subparts A & JJJJ, 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, Subparts A and ZZZZ, as they apply to each engine covered by FG-EMERGENERATOR-3. **(40 CFR Part 63,Subparts A and ZZZZ, 40 CFR 63.6595)**

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 1-3. 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 2-3. 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 3-3. 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 4-3. 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 5-3. Testing Procedures

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

Appendix 6-3. 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-B1607-2017. 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-B1607-2017 is being reissued as Source-Wide PTI No. MI-PTI-B1606-20XX.

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

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

Appendix 7-3. Emission Calculations

There are no specific emission calculations to be used for this ROP. Therefore, this appendix is not applicable.

Appendix 8-3. Reporting

A. Annual, Semi-annual, 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.

FLINT ASSEMBLY
CAM PLAN DESCRIPTION - ELECTROCOAT PROCESS
Revision Date: November 21, 2022
Reviewed: November 25, 2024

I. BACKGROUND

A. Emissions Unit

Description: Prime coating operations are performed in an electrodeposition tank followed by a curing oven, oven canopy, cooler zone, and a dry filter scuff booth. Two Regenerative Thermal Oxidizers (RTO) control Volatile Organic Compound (VOC) emissions from the electrodeposition tank and curing oven.

Identification: EU-ECOAT

Facility: General Motors LLC - Flint Assembly
G-3100 Van Slyke Road
Flint, MI 48551

B. Applicable Regulation, Emissions Limit, and Monitoring Requirements

Permit No. MI-ROP-B1606-2020

Volatile Organic Compounds Emissions Limits, specified in FG-Paint & Assembly:

649.6 TPY, Rules 336.1205(1)(a) and (1)(b), 336.1702(a)
4.8 pounds per job, Rule 336.1702(a)

Monitoring Requirements: RTO combustion chamber temperature

Potential Pre-Control Emissions: 117.9 tons per year (TYP; EU-ECOAT only)

C. Control Technology

EU-ECOAT has two RTOs, each with minimum destruction efficiency of 95% or greater. Based on the April 2022, performance tests, the tested inlet flow rate was 11,109 and 12,423 scfm, for RTO 1 and 2, respectively.

II. MONITORING APPROACH

	Compliance Indicator: RTO Temperature
A. Indicator	RTO combustion temperature is measured with two thermocouples, one per combustion chamber. The average of the two readings is used for compliance with the minimum temperature required by the permit. The temperatures are monitored continuously and recorded at equally spaced intervals at least once every 15 minutes.
B. Indicator Range	The RTO temperature shall be at a minimum as determined by the most recent approved destruction efficiency test showing compliance with a minimum destruction efficiency of 95%. The minimum temperature determined during the May and July 2021 compliance test is 1515 degrees Fahrenheit (ºF) for ECOAT RTO 1 and 1511 ºF ECOAT RTO 2. These temperatures were reported in the test report submittal date June 8, 2022 (Doc. Number: MW023AS-014491-RT-1376).
C. Bypass System Detection	The permit flexible group, FG-Controls, condition no. VI. 5 requires bypass monitoring, during production, for each bypass valve such that the valve or closure method cannot be opened without creating an alarm condition for which a record shall be made.

III. PERFORMANCE CRITERIA

	Compliance Indicator: RTO Temperature
A. Data Representativeness	There is a thermocouple located in each combustion chamber.
B. Verification of Operational Status	NA - The system is not new and has not been modified.
C. QA/QC Practices & Criteria	Validation of thermocouple accuracy or recalibration of each thermocouple a minimum will occur once every 12 months. The thermocouple may be replaced in lieu of validation.
D. Monitoring Frequency	Continuous, and recorded at equally spaced intervals at least once every 15 minutes.
E. Data Collection Procedures and Averaging Period; and excursion determination	An electronic data file documents the average combustion temperature from the two thermocouples at least every 15 minutes during coating operations. Compliance with the minimum combustion temperature is based upon the average combustion temperature recorded every 15 minutes. Further, GM calculates three-hour averages of the combustion temperature when any one data point falls below the minimum required temperature, per EU-ECOAT, special condition no. IV.1. Excursion determinations will be performed based upon the EGLE CAM template requirements. The temperature monitoring excursion

	summary is shown below, based upon the April 30, 2019, template found on the ADQ EGLE website: a. A temperature excursion is defined as a confirmed three-hour period during which the average fails to meet the specified temperature requirements in special conditions. Note: the averaging time for a temperature excursion is 3 hours. b. A monitoring excursion is defined as a failure to properly monitor as required in special conditions. Upon confirming that an excursion has occurred, site personnel will document the excursion and initiate corrective action as soon as practical.

IV. JUSTIFICATION

A. Rational for Selection of Performance Indicators

The RTO combustion chamber temperature was selected because it is indicative of the VOC destruction occurring within the RTO and is a widely accepted method of monitoring. If the chamber temperature decreases significantly, then complete combustion may not occur, reducing the destruction efficiency. Therefore, the requirement to monitor temperature and maintain appropriate records is a justification for assuring VOC destruction efficiency. Temperature monitoring is specifically identified in the monitoring/recordkeeping requirements under the current ROP flexible group, FG-CONTROLS.

B. Rational for Selection of Indicator Ranges

The selected indicator is the minimum average combustion chamber temperature, as determined by the most recent approved destruction efficiency test showing compliance with a minimum destruction efficiency of 95%. This minimum temperature is specified in the current ROP under EU-ECOAT design/equipment parameters.

C. Performance Test

In April 2022, VOC Destruction Efficiency performance testing of both ELPO RTOs, was conducted. The destruction efficiency was 98.2% and 97.5% for RTO 1 and 2, respectively. This demonstrated compliance with the permit required minimum of 95 %. A copy of the performance tests (MW023AS-014491-RT-1376, prepared by Montrose Air Quality Services dated June 8, 2022, were sent to the District Supervisor and Technical Programs Unit on June 16, 2022.

FLINT ASSEMBLY
CAM PLAN DESCRIPTION – THREE WET PROCESS
Revision Date: November 25, 2024

I. BACKGROUND

A. Emissions Unit

Description: Two parallel coating processes each consisting of an automatic basecoat prime booth, an ambient flash-off area, an automatic basecoat booth, a heated flash-off area, an automatic clearcoat booth, a curing oven, a cooling zone, and a finesse booth. Three regenerative thermal oxidizers control VOC emissions from the two clearcoat booths, the two ambient and two heated flash-off areas, and the four curing ovens.

Identification: EU-THREE WET

Facility: General Motors LLC - Flint Assembly
G-3100 Van Slyke Road
Flint, MI 48551

B. Applicable Regulation, Emissions Limit, and Monitoring Requirements

Permit No. MI-ROP-B1606-2020

Volatile Organic Compounds Emissions Limits, specified in FG-Paint & Assembly:

649.6 TPY, Rules 336.1205(1)(a) and (1)(b), 336.1702(a)
4.8 pounds per job, Rule 336.1702(a)

Monitoring Requirements: RTO combustion chamber temperature

Potential Pre-Control Emissions: 1,284.9 tons per year (TYP; EU-THREE WET only)

C. Control Technology

EU-THREE WET has three RTOs, each with minimum destruction efficiency of 95%. Based on the May 2021 performance tests, the tested inlet flow rate is displayed in the below table. A description of the EU-THREE WET zones controlled by RTO is also provided.

EU-THREE WET zone	RTO	Tested inlet flow rate, scfm
Clearcoat paint spray booths and flash off areas	Spray Booth RTO	65,924
Topcoat 1 curing ovens (100 and 200)	Topcoat Line 1 RTO	10,341
Topcoat 2 curing ovens (300 and 400)	Topcoat Line 2 RTO	10,001

II. MONITORING APPROACH

	Compliance Indicator: RTO Temperature
A. Indicator	RTO combustion temperature is measured with two thermocouples, one per combustion chamber. The average of the two readings is used for compliance with the minimum temperature required by the permit. The temperatures are monitored continuously and recorded at equally spaced intervals at least once every 15 minutes.
B. Indicator Range	The RTO temperature shall be at a minimum as determined by the most recent approved destruction efficiency test showing compliance with a minimum destruction efficiency of 95%. The minimum temperatures determined during the May 2021 compliance tests are 1552, 1500, and 1500-degrees Fahrenheit for the Spray Booth, Topcoat Line 1, and Topcoat Line 2 RTOs, respectively. These temperatures were reported in the test report dated July 14, 2021.
C. ByPass System Detection	The permit flexible group, FG-Controls, condition no. VI. 5 requires bypass monitoring, during production, for each bypass valve such that the valve or closure method cannot be opened without creating an alarm condition for which a record shall be made.

III. PERFORMANCE CRITERIA

	Compliance Indicator: RTO Temperature
A. Data Representativeness	There is a thermocouple located in each combustion chamber.
B. Verification of Operational Status	NA - The system is not new and has not been modified.
C. QA/QC Practices & Criteria	Validation of thermocouple accuracy or recalibration of each thermocouple a minimum will occur once every 12 months. The thermocouple may be replaced in lieu of validation.
D. Monitoring Frequency	Continuous, and recorded at equally spaced intervals at least once every 15 minutes.
E. Data Collection Procedures and Averaging Period; and excursion determination	An electronic data file records average combustion temperature from the two thermocouples at least every 15 minutes during coating operations. Compliance with the minimum combustion temperature is based upon the average combustion temperature recorded every 15 minutes. Further, GM calculates three-hour averages of the combustion temperature when any one data point falls below the minimum required temperature, per EU-THREE WET, special condition no. IV.1. Excursion determinations will be performed based upon the EGLE CAM template requirements. The temperature monitoring excursion summary is shown below, based upon the April 30, 2019, template found on the ADQ EGLE website:

	a. A temperature excursion is defined as a confirmed three-hour period during which the average fails to meet the specified temperature requirements in special conditions. Note: the averaging time for a temperature excursion is 3 hours. b. A monitoring excursion is defined as a failure to properly monitor as required in special conditions. Upon confirming that an excursion has occurred, site personnel will document the excursion and initiate corrective action as soon as practical.

IV. JUSTIFICATION

A. Rational for Selection of Performance Indicators

The RTO combustion chamber temperature was selected because it is indicative of the VOC destruction occurring within the RTO and is a widely accepted method of monitoring. If the chamber temperature decreases significantly, then complete combustion may not occur, reducing the destruction efficiency. Therefore, the requirement to monitor temperature and maintain appropriate records is a justification for assuring VOC destruction efficiency. Temperature monitoring is specifically identified in the monitoring/recordkeeping requirements under the current ROP flexible group, FG-CONTROLS.

B. Rational for Selection of Indicator Ranges

The selected indicator is the minimum average combustion chamber temperature, as determined by the most recent approved destruction efficiency test showing compliance with a minimum destruction efficiency of 95%. This minimum temperature is specified in the current ROP under EU-THREE WET design/equipment parameters.

C. Performance Test

In May 2021, VOC Destruction Efficiency performance testing of each of these three RTOs, was conducted. The destruction efficiency by each RTO is displayed in the below table. These values demonstrate compliance with the permit required minimum of 95%. A copy of the performance test, “MW049AS-007582-RT-732” prepared by Montrose Air Quality services, dated July 14, 2021, sent to the District Supervisor and Technical Programs Unit on July 21, 2021, and August 25, 2021.

EU-THREE WET zone	RTO	Tested destruction efficiency, %
Clearcoat paint spray booths and flash off areas	Spray Booth RTO	95.4
Topcoat 1 curing ovens (100 and 200)	Topcoat Line 1 RTO	97.0
Topcoat 2 curing ovens (300 and 400)	Topcoat Line 2 RTO	97.3

Flint Communication and Shutdown Plan for Abatement Malfunction
ECOAT Tank & Oven Operations

ELPO Tank & Oven RTO Abatement

All zones of the ELPO tank and ELPO oven

↓

ROP MI-ROP-B1606-2020; EU-ECOAT and FG-CONTROLS

Process / Operational Restrictions

- All zones of the ELPO TANK AND ELPO OVEN operations are abated by the RTO and must be installed and operating properly

Regenerative Thermal Oxidizer (RTO)

Proper operation includes:

- Minimum operating set point (SP) temperature of 1520° F
- Minimum retention time of 0.5 seconds
- No visible emissions
- No bypass of emissions from permitted zones to atmosphere without a documented alarm
- Temperature data recording on a continuous basis at equally spaced intervals at least once every 15 minutes

↓

Initiate Steps to Reduce Emissions

Sequentially shut down the processes linked to the malfunctioning abatement equipment in a safe manner that will minimize emissions and any loss of product.

↓

Contact Flint Assembly Environmental

Environmental Engineer (Kimberly Gerlock @ 517-275-0717)
Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)

Flint Communication and Shutdown Plan for Abatement Malfunction
ECOAT Tank & Oven Operations

ROP MI-ROP-B1606-2020; EU-ECOAT & FG-CONTROLS

Determine if a reportable malfunction has occurred

The owner or operator of a source, process or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or a malfunction that results in emissions of a hazardous air pollutant or a toxic air contaminant which continue for more than 2 hour in excess of any applicable standard or emission limitations. **(Michigan AQD R 336.1912)**

Determination will include the following personnel:

- Environmental Engineer (Kimberly Gerlock @ 517-275-0717)
- Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)
- GM Legal Staff (Ken Gold @ 313-348-1908)

Yes ↓

Immediately Contact the Regulatory Agency

EGLE (previously MDEQ)
(Robert Byrnes), Inspector
517-275-0439

Make appropriate notification to the regulatory agency of the malfunction via telephone and follow-up letter.

Note: If a repair is necessary that will adversely delay production, determine if a request to the local agency to operate in malfunction mode is warranted. (See R 336.1915 Enforcement Discretion)

Decision to make request to agency will be made by the following panel:

- Plant Environmental Engineer
- Facility Environmental Services
- GM Legal Staff
- Plant Manager
- Manufacturing Engineering Manager
- Facility Area Manager

No ↓

Deviation

Determine if a deviation has occurred and document as necessary (ECM and State / EPA Deviation reports).

↓

Communication

Contact the following personnel to inform them of deviation:

- Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)
- Facility Area Manager (Brian Eubank @ 989-239-8001)
- ME Manager Flint Assembly (Charles Sageman @ 931-626-7958)
- Plant Director of Engineering (Steve Heuer @ 810-577-0861)
- Paint Area Director (Justen Bond @ 810-250-8776)

Flint Communication and Shutdown Plan for Abatement Malfunction
Sealer Oven Operations

SEALER Oven RTO Abatement

All zones of the SEALER oven

↓

ROP MI-ROP-B1606-2020; EU-SEALERS & ADHESIVES and FG-CONTROLS

Process / Operational Restrictions

- All zones of the SEALER oven operations are abated by the RTO and must be installed and operating properly

Regenerative Thermal Oxidizer (RTO)

Proper operation includes:

- Minimum operating set point (SP) temperature of 1555° F
- Minimum retention time of 0.5 seconds
- No visible emissions
- No bypass of emissions from permitted zones to atmosphere without a documented alarm
- Temperature data recording on a continuous basis at equally spaced intervals at least once every 15 minutes

↓

Initiate Steps to Reduce Emissions

Sequentially shut down the processes linked to the malfunctioning abatement equipment in a safe manner that will minimize emissions and any loss of product.

↓

Contact Flint Assembly Environmental

Environmental Engineer (Kimberly Gerlock @ 517-275-0717)
Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)

Flint Communication and Shutdown Plan for Abatement Malfunction
SEALER Oven Operations

ROP MI-ROP-B1606-2020; EU-SEALERS & ADHESIVES and FG-CONTROLS

Determine if a reportable malfunction has occurred

The owner or operator of a source, process or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or a malfunction that results in emissions of a hazardous air pollutant or a toxic air contaminant which continue for more than 2 hour in excess of any applicable standard or emission limitations. **(Michigan AQD R 336.1912)**

Determination will include the following personnel:

- Environmental Engineer (Kimberly Gerlock @ 517-275-0717)
- Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)
- GM Legal Staff (Ken Gold @ 313-348-1908)

Yes ↓

Immediately Contact the Regulatory Agency

EGLE (previously MDEQ)
(Robert Byrnes), Inspector
517-275-0439

Make appropriate notification to the regulatory agency of the malfunction via telephone and follow-up letter.

Note: If a repair is necessary that will adversely delay production, determine if a request to the local agency to operate in malfunction mode is warranted. (See R 336.1915 Enforcement Discretion)

Decision to make request to agency will be made by the following panel:

- Plant Environmental Engineer
- Facility Environmental Services
- GM Legal Staff
- Plant Manager
- Manufacturing Engineering Manager
- Facility Area Manager

No ↓

Deviation

Determine if a deviation has occurred and document as necessary (ECM and State / EPA Deviation reports).

↓

Communication

Contact the following personnel to inform them of deviation:

- Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)
- Facility Area Manager (Brian Eubank @ 989-239-8001)
- ME Manager Flint Assembly (Charles Sageman @ 931-626-7958)
- Plant Director of Engineering (Steve Heuer @ 810-577-0861)
- Paint Area Director (Justen Bond @ 810-250-8776)

Flint Communication and Shutdown Plan for Abatement Malfunction
THREE WET Booth Operations

RTO Booth Abatement (Booths 1 and 2)

Heated flash between prime/basecoat & between basecoat/clearcoat
The entire clearcoat sprsay booth

Water Wash System

↓

ROP MI-ROP-B1606-2020; EU-THREE WET and FG-CONTROLS

Process / Operational Restrictions

- The THREE WET booth operations abated by the RTO must be installed and operating properly
- The spray booth portions of the THREE WET cannot operate unless the water wash system is installed, maintained, and operated in a satisfactory manner.

Regenerative Thermal Oxidizer (RTO)

Proper operation includes:

- Minimum operating set point (SP) temperature of 1575° F
- Minimum retention time of 0.5 seconds
- No visible emissions
- No bypass of emissions from permitted zones to atmosphere without a documented alarm
- Temperature data recording on a continuous basis at equally spaced intervals at least once every 15 minutes

Water Wash System

Proper operation includes:

- Visible flow while operating the three wet spray booths 1 and 2
- Visual inspection must be documented weekly

↓

Initiate Steps to Reduce Emissions

Sequentially shut down the processes linked to the malfunctioning abatement equipment in a safe manner that will minimize emissions and any loss of product.

↓

Contact Flint Assembly Environmental

Environmental Engineer (Kimberly Gerlock @ 517-275-0717)
Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)

Flint Communication and Shutdown Plan for Abatement Malfunction
THREE WET Booth Operations

ROP MI-ROP-B1606-2020; EU-THREE WET & FG-CONTROLS

Determine if a reportable malfunction has occurred

The owner or operator of a source, process or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or a malfunction that results in emissions of a hazardous air pollutant or a toxic air contaminant which continue for more than 2 hour in excess of any applicable standard or emission limitations. **(Michigan AQD R 336.1912)**

Determination will include the following personnel:

- Environmental Engineer (Kimberly Gerlock @ 517-275-0717)
- Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)
- GM Legal Staff (Ken Gold @ 313-348-1908)

Yes ↓

Immediately Contact the Regulatory Agency

EGLE (previously MDEQ)
(Robert Byrnes), Inspector
517-275-0439

Make appropriate notification to the regulatory agency of the malfunction via telephone and follow-up letter.

Note: If a repair is necessary that will adversely delay production, determine if a request to the local agency to operate in malfunction mode is warranted. (See R 336.1915 Enforcement Discretion)

Decision to make request to agency will be made by the following panel:

- Plant Environmental Engineer
- Facility Environmental Services
- GM Legal Staff
- Plant Manager
- Manufacturing Engineering Manager
- Facility Area Manager

No ↓

Deviation

Determine if a deviation has occurred and document as necessary (ECM and State / EPA Deviation reports).

↓

Communication

Contact the following personnel to inform them of deviation:

- Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)
- Facility Area Manager (Brian Eubank @ 989-239-8001)
- ME Manager Flint Assembly (Charles Sageman @ 931-626-7958)
- Plant Director of Engineering (Steve Heuer @ 810-577-0861)
- Paint Area Director (Justen Bond @ 810-250-8776)

Flint Communication and Shutdown Plan for Abatement Malfunction
Topcoat Oven Operations

TOPCOAT Oven RTO Abatement

All zones of the TOPCOAT oven

↓

ROP MI-ROP-B1606-2020; EU-THREE WET and FG-CONTROLS

Process / Operational Restrictions

- All zones of the THREE WET (Topcoat) oven operations abated by the RTO must be installed and operating properly

Regenerative Thermal Oxidizer (RTO)

Proper operation includes:

- Minimum operating set point (SP) temperature of 1515° F
- Minimum retention time of 0.5 seconds
- No visible emissions
- No bypass of emissions from permitted zones to atmosphere without a documented alarm
- Temperature data recording on a continuous basis at equally spaced intervals at least once every 15 minutes

↓

Initiate Steps to Reduce Emissions

Sequentially shut down the processes linked to the malfunctioning abatement equipment in a safe manner that will minimize emissions and any loss of product.

↓

Contact Flint Assembly Environmental

Environmental Engineer (Kimberly Gerlock @ 517-275-0717)
Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)

Flint Communication and Shutdown Plan for Abatement Malfunction
THREE WET (TOPCOAT) Oven Operations

ROP MI-ROP-B1606-2020; EU-THREE WET & FG-CONTROLS

Determine if a reportable malfunction has occurred

The owner or operator of a source, process or process equipment shall provide notice of an abnormal condition, start-up, shutdown, or a malfunction that results in emissions of a hazardous air pollutant or a toxic air contaminant which continue for more than 2 hour in excess of any applicable standard or emission limitations. **(Michigan AQD R 336.1912)**

Determination will include the following personnel:

- Environmental Engineer (Kimberly Gerlock @ 517-275-0717)
- Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)
- GM Legal Staff (Ken Gold @ 313-348-1908)

Yes ↓

Immediately Contact the Regulatory Agency

EGLE (previously MDEQ)
(Robert Byrnes), Inspector
517-275-0439

Make appropriate notification to the regulatory agency of the malfunction via telephone and follow-up letter.

Note: If a repair is necessary that will adversely delay production, determine if a request to the local agency to operate in malfunction mode is warranted. (See R 336.1915 Enforcement Discretion)

Decision to make request to agency will be made by the following panel:

- Plant Environmental Engineer
- Facility Environmental Services
- GM Legal Staff
- Plant Manager
- Manufacturing Engineering Manager
- Facility Area Manager

No ↓

Deviation

Determine if a deviation has occurred and document as necessary (ECM and State / EPA Deviation reports).

↓

Communication

Contact the following personnel to inform them of deviation:

- Strategic Environmental Solutions (Jeff Hummel @ 517-719-9053)
- Facility Area Manager (Brian Eubank @ 989-239-8001)
- ME Manager Flint Assembly (Charles Sageman @ 931-626-7958)
- Plant Director of Engineering (Steve Heuer @ 810-577-0861)
- Paint Area Director (Justen Bond @ 810-250-8776)

Flint Assembly – New Paint Shop
OPERATION AND MAINTENANCE PLAN

Scope

The scope of this Operation and Maintenance (O&M) Plan applies to all six (6) regenerative thermal oxidizers (RTOs) in the new paint shop.

1. Alliance ELPO RTO #1 abates volatile organic compounds (VOCs) from the ELPO tank and the first portion (heat-up section) of the ELPO oven.
2. Alliance ELPO RTO #2 abates VOCs from the second portion (cure section) of the ELPO oven.
3. Alliance Sealer RTO abates VOCs from all zones of the Sealer oven.
4. Durr Booth RTO abates VOCs from prime ambient flash zones, basecoat heated flash zones, and clearcoat spray zones (including observation zone).
5. Alliance Topcoat Oven RTO1 abates VOCs from Topcoat oven 100 & 200.
6. Alliance Topcoat Oven RTO2 abates VOCs from Topcoat oven 300 & 400.

General Requirements

According to Renewable Operating Permit (ROP) MI-ROP-B1606-2020, Appendix 3-1, all regenerative thermal oxidizer (RTO) maintenance inspections including the dates, results of the inspections and the dates and reasons for the repairs if made shall remain on file in the paint shop and/or with the environmental engineer as required by ILM retention period ENV016.

Regenerative Thermal Oxidizers

1. Validation of thermocouple accuracy or recalibration of each thermocouple a minimum of once every 12 months. The thermocouple can be replaced in lieu of validation.
2. Perform a heat exchange/heat transfer media inspection a minimum of once every 18 months*.
3. Perform an inspection of the valve seals condition and verify valve timing/synchronization a minimum of once every 18 months*.

** The requirement to address this issue is satisfied if a performance test (i.e., stack test) has been performed on the control device within the prior 18-month period, or if the inspection is performed according to an alternative schedule, approved by the AQD District Office.*

MAXIMO Tasks

All maintenance tasks required for the RTO are in MAXIMO.

	PM Description	PM Number	Frequency
1	Visual Inspection Heat Transfer Media	PM42320 – Booth RTO PM43606 – TC 1 RTO (Ovens 100 & 200) PM43607 – TC 2 RTO (Ovens 300 & 400) PM43608 – ED Oven / Tank RTO 1 PM43609 – ED Oven RTO 2 PM43610 – Sealer Oven RTO	Cannot exceed 18-months
2	Inspect Valve Seals, Verify Valve Timing/Synchronization	PM43739 – Booth RTO PM43740 – TC 1 RTO (Ovens 100 & 200) PM43741 – TC 2 RTO (Ovens 300 & 400) PM43742 – ED Oven / Tank RTO 1 PM43743 – ED Oven RTO 2 PM43744 – Sealer Oven RTO	Cannot exceed 18-months
3	Thermocouple Validation or Replacement	PM42319 – Booth RTO PM43601 – TC 1 RTO (Ovens 100 & 200) PM43602 – TC2 RTO (Ovens 300 & 400) PM43603 – ED Oven / Tank RTO 1 PM43604 – ED Oven RTO 2 PM43605 – Sealer Oven RTO	Cannot exceed 12-months

GM *FLINT ASSEMBLY*
Work Practice Plan for the Minimization of Organic HAP Emissions

Pursuant to Paragraph 63.3094 of NESHAP Subpart IIII, General Motors' *FLINT ASSEMBLY* facility has developed a work practice plan to minimize organic Hazardous Air Pollutant (HAP) emissions from the following activities:

1. The storage, mixing, and conveying of coatings, thinners, and cleaning materials used in, and waste materials generated by, all coating operations for which emission limits are established under §63.3090(a) through (d) or §63.3091(a) through (d). These coating operations include ELPO, primer surfacer, topcoat, final repair, glass bonding adhesive operations, sealers and adhesives, and deadener.

2. The cleaning and the purging of equipment associated with all coating operations for which emission limits are established under §63.3090(a) through (d) or §63.3091(a) through (d).

The plan details are identified in the following paragraphs. Blue font indicates site-specific information.

I) Identify HAP containing materials subject to the work plan requirements.

In order to identify the HAP containing coatings, thinners, and cleaning materials, *FLINT ASSEMBLY* reviewed the formulation data contained on supplier Safety Data Sheets or requested HAP content from suppliers. Once the list of HAP containing materials is developed, *FLINT ASSEMBLY* will review plant operations to identify where the materials are stored, mixed, conveyed, and / or used as equipment cleaning or purging solvents.

The materials, location, and uses are summarized in the MACT Work Practice Plan Appendix.

II) Implement work practices to minimize HAP emissions from the storage, mixing, and conveying of coatings, thinners, cleaning materials, and waste materials as identified in Paragraph I.

A. Storage Work Practice (63.3094(b) (1))

All organic-HAP-containing coatings, thinners, cleaning materials, and waste materials will be received and stored in closed containers.

B. Spill Prevention Work Practice (63.3094(b) (2))

The risk of spills of organic-HAP-containing coatings, thinners, cleaning materials, and waste materials will be minimized.

The following practices will be utilized to minimize the risk of spills:

1. Materials will be stored indoors in designated areas to the extent practicable to minimize the risk of container puncture during storage or handling. Example areas are as follows:
    a. Low traffic areas
    b. Paint mix room
    c. Walled areas
    d. Flammable cabinets
    e. Storage tanks
2. Materials will, to the extent practicable, be stored indoors in areas with containment, curbing, and / or sloped floors.
3. Storage tanks will be equipped with high level alarms to prevent overfilling.
4. Load / unload activities will be monitored by a GM representative, or designate, and will be stopped immediately should material be leaked or spilled. The environmental response plan will be initiated to quickly clean up the leak or spill.
5. Material handling and transfer operations will be conducted according to specific work plans developed for the function or in accordance with good engineering practices.
6. Employees will be trained pursuant to the Resource Conservation and Recovery Act, as appropriate.

C. Material Conveyance (63.3094(b) (3))

Organic-HAP-containing coatings, thinners, and cleaning materials will be conveyed from one location to another in closed containers or pipes.

Materials are conveyed in pipes for the following activities:

1. Delivery of primer and clearcoat paint from the paint recirculation systems to the clearcoat paint booths.
2. Delivery of purge solvent from the paint mix room to the paint booths.
3. Recovery of the purge solvent to the reclaimed purge solvent tank.
4. Delivery of equipment cleaning solvents to the booths (LINE CLEANER).

Materials that are not conveyed in pipes will be transferred in closed containers.

D. Mixing vessels (63.3094(b) (4))

Mixing vessels, other than day tanks equipped with continuous agitation systems, which contain organic-HAP-containing coatings and other materials will be closed except when adding to, removing, or mixing the contents.

E. Cleaning of storage, mixing and conveying equipment (63.3094(b) (5))

The requirement for the plan to minimize organic HAP emissions during the cleaning of storage, mixing, and conveying equipment is satisfied by the

implementation of some or all of the activities listed below and *FLINT ASSEMBLY* will implement one or more of these as appropriate for *FLINT ASSEMBLY*, taking into consideration the particular operation and the particular activities involved.

Examples of practices which will be considered:

1. Use of cleanup materials that eliminate or minimize the amount of organic HAP in the material.
2. Use of closed loop, recirculating cleaning practices.
3. Minimizing to the extent possible the amount of organic HAP containing material.
4. Manage materials in closed containers.

III) Implement work practices to minimize organic HAP (OHAP) emissions from cleaning and from purging of equipment associated with all coating operations for which emission limits are established under §63.3090(a) through (d) or §63.3091(a) through (d).

A. Vehicle body wipe emissions (63.3094 (c)(1)(i))

FLINT ASSEMBLY will use one or more of the following techniques for minimizing organic HAP emissions for vehicle body wipe processes.

1. Use of solvent-moistened wipes.
2. Keeping solvent containers closed when not in use.
3. Keeping wipe disposal/recovery containers closed when not in use.
4. Use of tack-wipes.
5. Use of solvent wipes containing less than 1 % OHAP by weight.

The following table identifies the body wiping operations and the technique(s) in use.

Operation	Location	Technique
Sealer cleanup	Paint Shop Sealer Deck	#1, #3, and #5
Body Wiping	Paint Shop	#1, #3, and #5
Body Shop highlight wipes	Body Shop	#1, #3, and #5
Urethane cleanup	Windshield Install	#1, #3, and #5

B. Coating line purging emissions (63.3094 (c)(1)(ii))

FLINT ASSEMBLY will use one or more of the following for minimizing organic HAP emissions from coating line purging processes:

1. Air/solvent push-out.
2. Capture and reclaim or recovery of purge materials (excluding applicator nozzles/tips).
3. Block painting to the maximum extent feasible.

4. Use of low-HAP or no-HAP solvents for purge.

The following table identifies the purging operations and the technique(s) in use.

Operation	Location	Technique
Primer and Clearcoat booths	Paint Shop	#1 and #2

C. Flushing of coating systems (63.3094 (c)(1)(iii))

FLINT ASSEMBLY will use one or more of the following for minimizing organic HAP emissions from the flushing of coating systems:

1. Keeping solvent tanks closed.
2. Recovering and recycling solvents.
3. Keeping recovered/recycled solvent tanks closed.
4. Use of low-HAP or no-HAP solvents

Operation	Location	Technique
Primer and Clearcoat booths	Paint Shop	#1, #2, and #3

D. Cleaning of spray booth grates (63.3094 (c)(1)(iv))

FLINT ASSEMBLY will use one or more of the following for minimizing organic HAP emissions from the cleaning of spray booth grates:

1. Controlled burn-off.
2. Rinsing with high-pressure water (in place).
3. Rinsing with high-pressure water (off line).
4. Use of spray-on masking or other type of liquid masking.
5. Use of low-HAP or no-HAP content cleaners.

The following table identifies the spray booth and the technique(s) in use.

Operation	Location	Technique
Primer and Clearcoat booths	Paint Shop	#2, #4, and #5

E. Cleaning of spray booth walls (63.3094 (c)(1)(v))

FLINT ASSEMBLY will use one or more of the following for minimizing organic HAP emissions from the cleaning of spray booth walls:

1. Use of masking materials (contact paper, plastic sheet, or other similar type of material).

2. Use of spray-on masking.
3. Use of rags and manual wipes instead of spray application when cleaning walls.
4. Use of low-HAP or no-HAP content cleaners.
5. Controlled access to cleaning solvents.

The following table identifies the spray booth and the technique(s) in use:

Operation	Location	Technique
Primer and Clearcoat booths	Paint Shop	#1, #3, #4

F. Cleaning of spray booth equipment (63.3094 (c)(1)(vi))

FLINT ASSEMBLY will use one or more of the following for minimizing organic HAP emissions from the cleaning of spray booth equipment:

1. Use of covers on equipment (disposable or reusable).
2. Use of parts cleaners (off-line submersion cleaning).
3. Use of spray-on masking or other protective coatings.
4. Use of low-HAP or no-HAP content cleaners.
5. Controlled access to cleaning solvents.

The following table identifies the spray booth equipment and the technique(s) in use:

Operation	Location	Technique
Primer and Clearcoat booth robots and applicators	Paint Shop	#1 #2, and #3
Spot Repair booth applicators	Paint Shop	#2
Final Repair booth applicators	General Assembly	#2

G. Cleaning of external spray booth areas (63.3094 (c)(1)(vii)

FLINT ASSEMBLY will use one or more of the following for minimizing organic HAP emissions from the cleaning of spray booth areas:

1. Use of removable floor coverings (paper, foil, plastic, or similar type of material).
2. Use of manual and/or mechanical scrubbers, rags, or wipes instead of spray application.
3. Use of shoe cleaners to eliminate coating track-out from spray booths.

4. Use of booties or shoe wraps.
5. Use of low-HAP or no-HAP content cleaners.
6. Controlled access to cleaning solvents.

The following table identifies the area and the technique(s) in use:

Area	Location	Technique
External Spray Booth Areas	Paint Shop	#1, #2, #4
In Line repair paint mix room	Paint Shop	#1, #2
Final Repair	General Assembly	#2

H. Housekeeping measures not addressed elsewhere in the plan (63.3094 (c)(1)(viii)

FLINT ASSEMBLY will use one or more of the following for minimizing organic HAP emissions from housekeeping measures not addressed elsewhere in the plan:

1. Keeping solvent-laden articles (cloths, paper, plastic, rags, wipes, and similar items) in covered containers when not in use.
2. Storing new and used solvents in closed containers.
3. Transferring of solvents in a manner to minimize the risk of spills.

The following table identifies the area and the technique(s) in use.

Area	Location	Technique
Paint Mix Room – general cleaning	Paint Shop	#1, #2, and #3

IV. Plan Communication

The requirements of this work plan will be communicated to *FLINT ASSEMBLY* employees and contract employees as appropriate to ensure that the elements of the work plan are properly implemented.

Methods of communication include:

1. Task Instruction Sheets (or work instructions)
2. Hazardous materials communications
3. Team Meetings
4. Employee instruction
5. Work Plans

V. Inspection Requirements / Corrective Action

FLINT ASSEMBLY engineers, or their designees, will perform inspections once per Title V deviation reporting period to ensure that the elements of the work plan are properly implemented. The "Work Practice Plan Appendix" will be used to document the inspections and resulting corrective actions, if applicable.

VI. Plan Updates

This work practice plan will be reviewed once during each Title V deviation reporting period (i.e. semi-annually) and updated as appropriate by the *FLINT ASSEMBLY* environmental engineer. You must document every review regardless of updates to the plan. Document your review in section XII.

VIII. Title V Permit (63.3094 (e))

This work practice plan is not incorporated into *FLINT ASSEMBLY'S* Title V permit. Revisions to the plan do not constitute revisions to *FLINT ASSEMBLY* Title V permit. Nonconformances to this work practice plan do not constitute Title V permit deviations.

IX. Plan Retention (63.3094 (f))

Copies of the current work practice plans, as well as plans developed within the preceding 5 years must be available on-site for inspection and copying by the permitting authority.

X. Definitions

Closed: A container is "closed" if its top, lid, hatch, or other opening mechanism is in the closed position. Containers requiring pumps or other devices inserted into the container are considered "closed" if the pump or other device is securely installed.

Storage: A container used for the storage of a HAP containing material is one in which no mixing or conveyance takes place. Examples may include totes, drums, and buckets.

HAP materials: refers to organic HAP-containing coatings, thinners, cleaning materials, and waste materials, as applicable pursuant to 40 CFR Part 63 Subpart IIII.

XI. Document Responsibilities

Environmental Engineer or Designee: Controls work practice plan document and conducts inspections and plan review.

Site Personnel: Utilizes appropriate work practices identified in the work practice plan and supports inspections and review.

XII. Plan Review

Document plan review below per Section VI:

Review Date:	Document Reviewer:	Revisions/Review Comments:
3-31-2016	A. Thibeault	Updated Plan to new format; included NPS
1-31-2017	A. Thibeault	Annual review and update
7-20-2017	A. Thibeault	Semi-Annual review and update
5-22-2018	A. Thibeault	Semi-Annual review; no changes
9-26-2018	A. Thibeault	Semi-annual review; Consolidated WPP between Flint Metal Center and Flint Assembly
5-15-2019	A. Thibeault	Semi-Annual review; no changes
5-13-2020	S. Applegate	Semi-Annual review, no changes
5-24-2021	S. Applegate	Removed FMC and added primers
11-24-2021	S. Applegate	Semi-Annual review; no changes
4-4-2022	K. Gerlock	Primer/Clearcoat solvents HAPs below de minimis thresholds but solvents used for cleaning are not; kept booths in doc.
5-31-2022	K. Gerlock	Semi-Annual review; no changes
11-30-2022	K. Gerlock	Semi-Annual review; no changes
6-30-2023	K. Gerlock	Semi-Annual review; removed N52CG132 CC Comp B (Updated SDS HAPs < de minims)
11-28-2023	K. Gerlock	Semi-Annual review; no changes
6-7-2024	K. Gerlock	Semi-Annual review; no changes
11-26-2024	K. Gerlock	Semi-Annual review; no changes

Generator set data sheet

EPA Emissions

Model: GGHG
KW rating: 85 natural gas standby
85 propane standby
Frequency: 60
Fuel type: Natural gas/propane

Exhaust emission data sheet:	**EDS-326**
Exhaust emission compliance sheet:	
Sound performance data sheet:	**MSP-184**
Cooling performance data sheet:	
Prototype test summary data sheet:	**PTS-147**
Standard set-mounted radiator cooling outline:	**0500-3485**

Fuel consumption

	Natural gas								Propane							
	Standby				Prime				Standby				Prime			
	kW (kVA)				kW (kVA)				kW (kVA)				kW (kVA)			
Ratings	85 (106)								85 (106)							
Load	**1/4**	**1/2**	**3/4**	**Full**	**1/4**	**1/2**	**3/4**	**Full**	**1/4**	**1/2**	**3/4**	**Full**	**1/4**	**1/2**	**3/4**	**Full**
scfh	418.9	614.1	833.0	1090.1					162.3	241.6	326.5	415.0				
m^3/hr	11.9	17.4	23.6	30.9					4.6	6.8	9.2	11.7				

Engine

	Natural gas		Propane	
	Standby rating	**Prime rating**	**Standby rating**	**Prime rating**
Engine model	WSG-1068			
Configuration	Cast iron, V 10 cylinder			
Aspiration	Turbocharged			
Gross engine power output, kWm (bhp)	131.3 (176.0)		122.3 (164.0)	
BMEP at rated load, kPa (psi)	1012.2 (146.8)		1012.2 (146.8)	
Bore, mm (in)	90.2 (3.55)		90.2 (3.55)	
Stroke, mm (in)	105.9 (4.17)		105.9 (4.17)	
Rated speed, rpm	1800		1800	
Piston speed, m/s (ft/min)	6.4 (1250.0)		6.4 (1250.0)	
Compression ratio	9.0:1		9.0:1	
Lube oil capacity, L (qt)	6.1 (6.5)		6.1 (6.5)	
Overspeed limit, rpm	2400 ± 50		2400 ± 50	
Regenerative power, kW	16.00		16.00	

Fuel flow

Minimum operating pressure, kPa (in H2O)	1.7 (7.0)		1.7 (7.0)	
Maximum operating pressure, kPa (in H2O)	3.4 (13.6)		3.4 (13.6)	

GM Flint Assembly New Body Shop Expansion 2023

Unit	No. of Units	Rated Capacity of Engine, hp	Fuel Consumption (scfh)	Operating Hours for calculating PTE	Maximum Heat Input (Btu/hr)
Natural gas fired emergency generator	1	176	1090.1	500	1,111,902

Potential Emisisons	Emission Factor, Gr/hp-hr	Emission Factor Source	PTE, Tons per Year (TPY)
NOx	2	USEPA Stationary Emergency SI Emission Limits	0.2
CO	4	USEPA Stationary Emergency SI Emission Limits	0.4
HC (VOC)	1	USEPA Stationary Emergency SI Emission Limits	0.1

Pollutant	AP-42 Emission Factor (lb/hp-hr)	AP-42 Emission Factor (lb/MMBtu)	Emissions (lb/hr)	PTE, Tons per Year (TPY)
SO2		5.88E-04	0.00	0.00
PM10		3.84E-02	0.04	0.01

Natural Gas Heating Value 1020 Btu/scf

Michigan Permit Exemptions:

Rule 285. The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:

(g) Internal combustion engines that have less than 10,000,000 Btu/hour maximum heat input.

Flint Assembly - Permit Exemption Documentation for a 250 kW natural gas fired emergency generator for Oil Water Separator

Engine Model: 250 kW Kohler Model 250REZXB Engine

Brake HP (output HP)	402	
Gas usage (CFH)	2782	under full load
Yearly Operating hours	500	Operating Hours for PTE
Yearly Gas usage (Max) MMCF/yr	1.39	
Heat content (BTU/CF)	1020	
Gas usage (BTU/hr)	2,837,640	
Gas usage MMBTU/hr	2.8	< 10 MMBTU/hr: Exempt per R336.1285(2)(g)

Unit	No. of Units	Rated Power Output of Engine, hp	Operating Hours for calculating PTE
Natural gas fired emergency generator	1	402	500

Potential Emissions	Emission Factor, Gr/hp-hr	Emission Factor Source	PTE, Tons per Year (TPY)	Rule 278 Significance Levels (TPY)
NOx	2	USEPA Stationary Emergency SI Emission Limits	0.44	40
CO	4	USEPA Stationary Emergency SI Emission Limits	0.89	100
HC (VOC)	1	USEPA Stationary Emergency SI Emission Limits	0.22	40

Michigan Permit Exemptions:

Rule 285. The requirement of R 336.1201(1) to obtain a permit to install does not apply to any of the following:

(g) Internal combustion engines that have less than 10,000,000 Btu/hour maximum heat input.

Total Energy Systems, LLC

Date: 7/20/2021
Created by: Trevor D. Price
Lead Time: 18-21 Weeks

APPROVED AS SUBMITTED

BY:_____

DATE:_____

Submittal Package

Job Name: GM- Storm Water Management
SAP: 26758782
Proposal: 0521RP35

The following pages are a detailed set of documents and drawings that pertain to the system solution you are purchasing. This submittal requires an approval from the person or agency that has the authority to do so before the equipment can be placed into a production slot. Once the submittal is approved and equipment for your system solution is moved into production, a $200 change order fee may be assessed and any additional cost for requested changes.

Reviewed without comment	X
Reviewed exceptions noted	
Comments attached	
Reviewed for design concept only	
Rejected	

Reviewed in accordance with specification section 01300
Hubbell, Roth & Clark, Inc.
Date 07/26/2021
By mroskelley

RESUBMITTAL REQUIRED
☐ YES ☒ No

Included information:
- Bill of Material
- Component Specifications
- Dimensional Drawings
- Warranty Information
- Production Certificates
- Pre-Startup Checklist

Action Required:

- **Generator / Automatic Transfer Switch Purchaser:**
  - o Complete the Total Energy Systems credit application and return promptly, if applicable.

- **Engineer or person authorized to approve the Submittal:**
  - o Review the submittal information and provide approval notice by either signing this cover page or by attaching a written approval notice.

- **On Site Contractor:**
  - o Pre-Startup Checklist will need to be filled out after installation is completed. It will need to be submitted to the Total Energy Systems Service Department, as indicated on checklist, to be scheduled.

Thank you for the order, we appreciate your business.

Randall Piehler
Generator System Specialist
Total Energy Systems, LLC

Total Energy Systems, LLC

Date: 7/20/2021
Created by: Trevor D. Price
Lead Time: 18-21 Weeks

APPROVED AS SUBMITTED

BY:_____

DATE:_____

Submittal Package

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Hubbell, Roth & Clark, Inc.
Date 07/26/2021
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Included information:
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- Component Specifications
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Thank you for the order, we appreciate your business.

Randall Piehler
Generator System Specialist
Total Energy Systems, LLC

Total Energy Systems, LLC

Job Name: GM-Storm Water Management Building
Offer: 0521RP35
Quote Number: 0026758782
Version 1.0

Proven Provider of Critical Power Solutions
Bill of Materials

Generator

Kohler Model: 250REZXB

This gas generator set equipped with a 4UA10 alternator operating at 277/480 volts is rated for 260 kW/325 kVA. Output amperage: 391.

Qty	Description	
1	250REZXB Generator Set	
	Includes the following:	
	Approvals and Listings	UL2200 Listing/cUL Genset List
	Engine	250REZXB,24V,EPA, FUEL, NG
	Nameplate Rating	Standby 130C Rise
	Voltage	60Hz, 277/480V, Wye, 3Ph, 4W
	Alternator	4UA10
	Cooling System	Unit Mounted Radiator, 50C
	Controller	APM402
	Enclosure Type	Sound
	Enclosure Material	Steel
	Starting Aids, Installed	2500W,120V,1Ph,w/Valves
	Electrical Accy.,Installed	Battery Charger, 10A
	Electrical Accy.,Installed	Run Relay
	Electrical Accy.,Installed	2 Input/5 OutputModule
	Electrical Accy.,Installed	Generator Heater
	Electrical Accy.,Installed	Manual Speed Adjust
	Electrical Accy.,Installed	PreAlarms, NFPA-110
	Rating, LCB 1	100% Rated
	Amps, LCB 1	400
	Trip Type, LCB 1	Electronic, LSI
	Interrupt Rating LCB 1	35kA at 480V
	Aux Contact, LCB 1	Auxiliary Contact, Qty. 1
	Aux Trip, LCB 1	Shunt Trip
	LCB Accy. Installed	Shunt Trip Wiring
	Fuel System Acc.,Installed	Additional Gas Solenoid Valve
	Miscellaneous Accy,Installed	Rodent Guards
	Warranty	1-Yr Standard
	Testing, Additional	Power Factor Test,0.8,3Ph Only

SHIP LOOSE ITEMS

E Remote Stop Nema3R Break Glass

KOHLER.

1	Battery Charger Temp. Comp. Sensor
1	Flexible Fuel Lines
1	Lit Kit, Production, 250REZXB

Automatic Transfer Switch

Kohler Model: KCS-AMTA-1600S

3 Pole, 4 Wire, Solid Neutral, 1600 amp, Kohler Standard rated Standard automatic transfer switch, Model KCS-AMTA-1600S , rated 480V, 60 Hz complete with all standard equipment and housed in a NEMA Type 1 enclosure.

Qty	Description	
1	KCS-AMTA-1600S	
	Includes the following:	
	Mechanism	Standard
	Transition	Standard
	Logic	1200
	Voltage	480V / 60 Hz
	Poles & Wires	3 Pole/4 Wire, Solid Neutral
	Enclosure	Nema 1
	Amps	1600 Amps
	Connection	Standard
	Miscellaneous Acc.,Installed	Input/Output Module, Qty 1
	Warranty	1-YR STANDARD
1	Lit Kit, ATS Production, KCS/KCP/KCC	

DISTRIBUTOR START-UP

1. Start-up, must be scheduled a minimum of 10 - 14 days prior to requested start-up date. Contact the Service Department at 1.888.548.1400 ex 3301 or service@totalenergysystems.com for date and time.

SERVICE ITEMS INCLUDED WITH THIS PROPOSAL:

Lubricating Oil
Antifreeze - 50/50 Mix
Battery
Start Up Service
One (1) day reserved, during normal business hours, for inspection, engine prep work, initial engine start-up and training.
NFPA 110 Acceptance Test
Load Bank Test at Site
Eight Hours load bank Test
Training session to be completed same day as startup. If not, return trip and Purchase Order is required

2. Contractor shall coordinate and schedule start-up and shall be responsible for **ADDITIONAL field service costs**

if start-up cannot be completed in time allowed as a result of incomplete installation.

* Normal business hours are M-F 8:00AM to 4:30PM.
After hours Start ups are available for an additional charge. Standard published rates apply.

CLARIFICATIONS

1. Deviation – Provide 1600A transfer switch to meet 65kAIC ratings
2. Total Energy System's proposal is based on meeting the functional intent and system requirements of the job description.

3. Installation exhaust components not included for open unit installation, unless specifically listed in bill of material.

4. Unless specifically listed in our Bill of Material, equipment not indicated is assumed to be supplied by others. We reserve the right to correct any errors or omissions.

5. Included Start-Up is based on unit being in a readily accessible location. Site information is unknown. Additional charges may apply if additional time is required due to restricted access to unit.

6. System coordination studies and/or relay setting studies are by others. Protective relay calibration and settings, NETA testing by others.

7. Primary Line Regulator Not Supplied.

Estimated Current Lead Time: 18-21 weeks after approved submittals.

PLEASE NOTE:

A. Off-loading, installation, insulation, etc. of all associated equipment is not included, unless otherwise stated.
B. NETA Testing, if required, is not included and will be completed by others.
C. Fuel, fuel piping plans, installation and permitting of tanks or piping, if required, is not included.
D. Quotation meets functional intent of specifications, either verbal or written, unless otherwise noted.
E. State and/or local permits, where applicable, are not included and must be purchased by owner or installing contractor.
F. Videotaping of training is not provided due to liability reasons.

TERMS AND CONDITIONS:

TERMS: Payment is: 30% at submittal drawing approval, 60% when equipment is delivered/received to site and 10% at start-up acceptance of system. **Unless alternative terms are agreed upon prior to acceptance.**

CREDIT CARD PAYMENTS: Credit card payments are subject to a processing fee of up to 3%.

GENERAL: Stenographical and clerical errors are subject to correction. Orders resulting from quotations become contracts. Any agreement or other understanding, supplementing or modifying the conditions of the contract resulting from our acceptance
of an order will not be mutually binding unless made in writing.

LIABILITY: We accept orders under the condition that we are not to be liable for losses or delays caused by strikes, accidents, fires or any other cause beyond our control. Damage resulting from improper storage or handling prior to placing products in service will not be considered our liability. We will not assume any responsibility, expense or liability for repairs made without our written consent. We assume no contingent liability for losses sustained by any purchases through the use of any of the products described.

RETURNED MATERIAL: No material may be returned without first obtaining written approval, and no claim will be allowed nor credit given for material returned without such written approval. It is your duty to inspect goods within ten days after receipt.

SHIPMENT: Our responsibility ceases with the delivery of merchandise in good order to transportation companies. Claims for shortage or damage in transit must be made by the customer against the carrier. In the absence of definite shipping instructions, we reserve the right to ship all material, upon completion, by any public carrier, which in our opinion is satisfactory.

TAXES: State and local sales and use taxes and excise taxes, where applicable, are in addition to proposald prices and will be billed unless the purchaser promptly certifies that the goods are for resale or are otherwise exempt.

GUARANTEE: As outlined by appropriate manufacturer.

STORAGE: Storage can be provided after production completion at $200 per month; terms still apply.

CANCELLATION: All orders cancelled after submittal approval are subject to cancellation charges of 50% submitted by factory to Total Energy Systems.

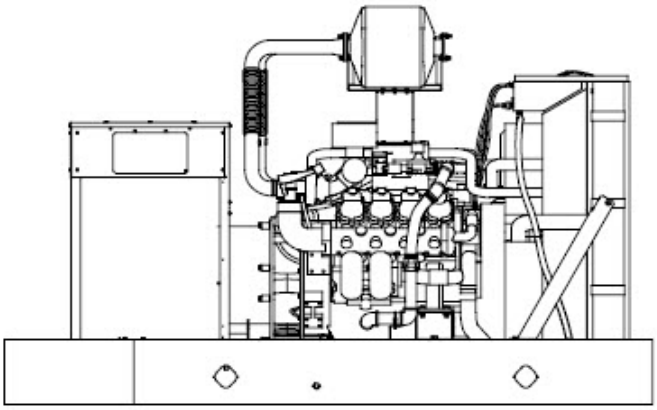
WARRANTY: All orders must have start up completed within 12 months of delivery or factory warranty could be VOID.

KOHLER®

Spec Sheets

KOHLER®

250REZXB
Natural Gas



Standard Features

- Kohler Co. provides one-source responsibility for the generating system and accessories.
- The generator set and its components are prototype-tested, factory-built, and production-tested.
- The 60 Hz generator set offers a UL 2200 listing.
- The generator set accepts rated load in one step.
- The 60 Hz generator set meets NFPA 110, Level 1, when equipped with the necessary accessories and installed per NFPA standards.
- A one-year limited warranty covers all systems and components. Two- and five-year extended warranties are also available.
- EPA-certified for Stationary and Mobile Emergency and Non-Emergency Applications
- Alternator Protection
- Battery Rack and Cables
- Closed Crankcase Ventilation (CCV) Filters
- Integral Vibration Isolation
- Local Emergency Stop Switch

Alternator Features

- Low Coolant Level Shutdown
- Oil Drain Extension
- Operation and Installation Literature
- Three-Way Exhaust Catalyst
- The unique Fast-Response II excitation system delivers excellent voltage response and short circuit capability using a permanent magnet (PM)-excited alternator.

Generator Set Ratings

Standby 130C Rise Ratings

Alternator	Voltage	Ph	Hz	kW/kVA	Amps
4UA10	277/480	3	60	260 / 325	391

RATINGS: All three-phase units are rated at 0.8 power factor. All single-phase units are rated at 1.0 power factor.
Standby Ratings: The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating.
Prime Power Ratings: At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve.
Ratings are in accordance with ISO-8528-1 and ISO-3046-1. For limited running time and continuous ratings, consult the factory.
Obtain technical information bulletin (TIB-101) for ratings guidelines, complete ratings definitions, and site condition derates.
The generator set manufacturer reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. For dual fuel engines, use the LP gas ratings for both the primary and secondary fuels.

Model: 250REZXB, continued

Alternator Specifications

Specifications	Alternator
Alternator manufacturer	Kohler
Type	4-Pole, Rotating-Field
Exciter type	Brushless, Permanent-Magnet
Leads, quantity	12, Reconnectable
Voltage regulator	Solid State, Volts/Hz
Insulation	NEMA MG1
Insulation: Material	Class H
Insulation: Temperature Rise	130°C, Standby
Bearing: quantity, type	1, Sealed
Coupling	Flexible disc
Amortisseur windings	Full
Voltage regulation, no-load to full-load RMS	Controller Dependent
One-Step Load Acceptance	100% of rating
Unbalanced load capability	100% of Rated Standby Current

- NEMA MG1, IEEE, and ANSI standards compliance for temperature rise and motor starting.
- Sustained short-circuit current of up to 300% of the rated current for up to 10 seconds.
- Sustained short-circuit current enabling down stream circuit breakers to trip without collapsing the alternator field.
- Self-ventilated and dripproof construction.
- Vacuum-impregnated windings with fungus-resistant epoxy varnish for dependability and long life.
- Superior voltage waveform from a two-thirds pitch stator and skewed rotor.
- Fast-Response II brushless alternator with brushless exciter for excellent load response.

Engine

Engine Specification

Engine Manufacturer	Doosan
Engine Model	D146L
Engine: type	14.6 L, 4-Cycle, Turbocharged, Aftercooled
Cylinder arrangement	V-8
Displacement, L (cu. in.)	14.6 (892)
Bore and stroke, mm (in.)	128 x 142 (5.04 x 5.59)
Compression ratio	10.5:1
Piston speed, m/min. (ft./min.)	511 (1677)
Main bearings: quantity, type	10, Precision Half-Shell
Rated rpm	1800
Max. power at rated rpm, kWm (BHP)	300 (402)
Cylinder head material	Cast Iron
Crankshaft material	Forged Steel
Governor: type, make/model	Electronic
Frequency regulation, no-load to-full load	Isochronous
Frequency regulation, steady state	±0.5%
Frequency	Fixed
Air cleaner type, all models	Dry

Model: 250REZXB, continued

Exhaust

Exhaust System

Exhaust Manifold Type	Wet
Exhaust flow at rated kW, kg/hr. (cfm)	1131 (1611)
Maximum allowable back pressure after catalyst, kPa (in. Hg)	5.1 (1.5)
Exhaust temperature at rated kW, dry exhaust, °C (°F)	600 (1112)
Maximum allowable back pressure, kPa (in. Hg)	10.2 (3)
Exh. outlet size at eng. hookup, mm (in.)	Flanged Outlet at Catalyst, see ADV drawing

Engine Electrical

Engine Electrical System

Battery charging alternator: Ground (negative/positive)	Negative
Battery charging alternator: Volts (DC)	24
Battery charging alternator: Ampere rating	45
Starter motor rated voltage (DC)	24
Battery, recommended cold cranking amps (CCA): Qty., CCA rating each	Two, 1000
Battery voltage (DC)	12

Fuel

Fuel System

Fuel type	Natural Gas
Natural gas/LPG fuel supply pressure, kPa (in. H20). Fuel supply pressure measured at the generator set fuel inlet downstream of any fuel system equipment accessories.	1.74-2.74 (7-11)

Fuel Composition

Fuel Composition

Natural Gas: Methane, % by volume	90 min.
Natural Gas: Ethane, % by volume	4.0 max.
Natural Gas: Propane, % by volume	1.0 max.
Natural Gas: Propene, % by volume	0.1 max.
Natural Gas: C4 and higher, % by volume	0.3 max.
Natural Gas: Sulfur, ppm mass	25 max.
Natural Gas: Lower heating value, kJ/m3 (Btu/ft3), min.	33.2 (890)

* Fuels with other compositions may be acceptable. If your fuel is outside the listed specifications, contact your local distributor for further analysis and advice.

Lubrication

Lubrication System

Type	Full Pressure
Oil pan capacity, L (qt.)	40 (42.3)
Oil pan capacity with filter, L (qt.)	47.1 (49.7)
Oil filter: quantity, type	2, Cartridge
Oil cooler	Water-Cooled

Model: 250REZXB, continued

Cooling

Radiator System

Ambient temperature, °C (°F)	50 (122)
Engine jacket water capacity, L (gal.)	43.2 (9.5)
Radiator system capacity, including engine, L (gal.)	227.3 (50)
Engine jacket water flow, Lpm (gpm)	680 (180)
Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/min.)	284 (16189)
Heat rejected to air charge cooler at rated kW, dry exhaust, kW (Btu/min.)	35 (2000)
Water pump type	Centrifugal
Fan diameter, including blades, mm (in.)	1143 (45)
Fan, kWm (HP)	16 (22)
Max. restriction of cooling air, intake and discharge side of radiator, kPA (in. H20)	0.125 (0.5)

* Weather and sound enclosures with internal silencer reduce ambient temperature capability by 5°C (9°F).

Operation Requirements

Air Requirements

Radiator-cooled cooling air, m3/min. (scfm) *	638 (22500)
Combustion air, kg/hr. (cfm)	1064 (532)
Heat rejected to ambient air: Engine, kW (Btu/min.)	66 (3765)
Heat rejected to ambient air: Alternator, kW (Btu/min.)	23 (1309)

*Air density = 1.20 kg/m3 (0.075 lbm/ft3)

Fuel Consumption

Natural Gas, m3/hr. (cfh) at % load	Rating
Standby Fuel Consumption at 100% load	78.8 m3/hr. (2782 cfh)
Standby Fuel Consumption at 75% load	61.4 m3/hr. (2168 cfh)
Standby Fuel Consumption at 50% load	43.1 m3/hr. (1521 cfh)
Standby Fuel Consumption at 25% load	26.3 m3/hr. (928 cfh)
Prime Fuel Consumption at 100% load	71.8 m3/hr. (2536 cfh)
Prime Fuel Consumption at 75% load	55.9 m3/hr. (1974 cfh)
Prime Fuel Consumption at 50% load	39.7 m3/hr. (1402 cfh)
Prime Fuel Consumption at 25% load	24.8 m3/hr. (876 cfh)

Dimensions and Weights

Dim Weight Spec	Dim Weight Value
Fuel	All
Engine Manufacturer	Doosan
Overall Size, L x W x H, mm (in.):	3500 x 1750 x 2148 (137.8 x 68.9 x 84.6)
Weight (radiator model), wet, kg (lb.):	3200 (7055)

APM402

Kohler® APM402 Controller

General Description and Function

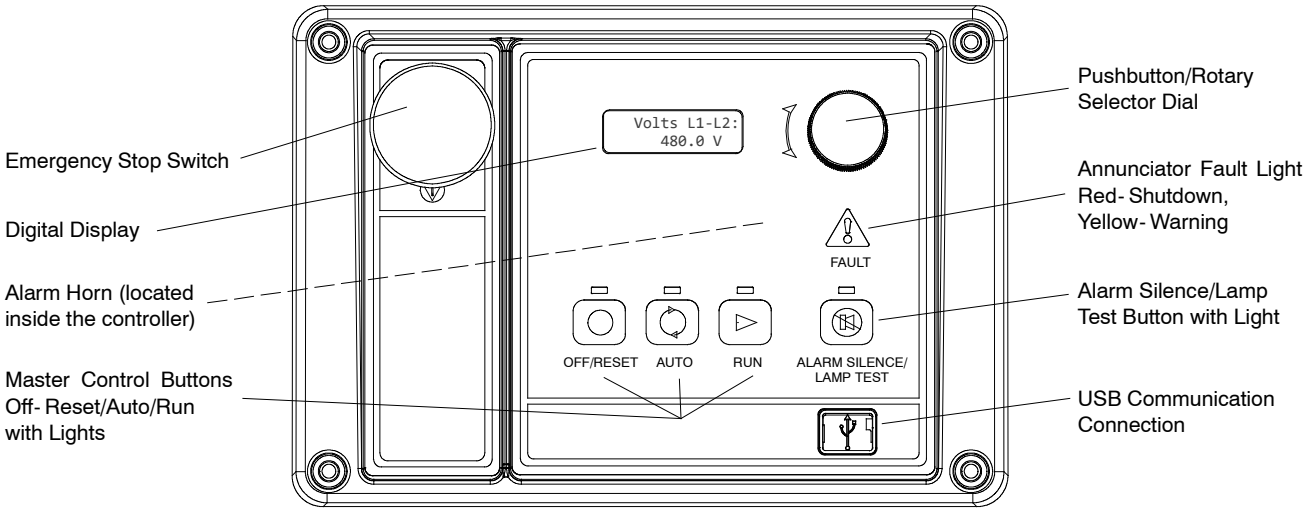
The APM402 generator set controller provides advanced control, system monitoring, and system diagnostics for optimum performance.

The APM402 controller meets NFPA 110, Level 1 when equipped with the necessary accessories and installed per NFPA standards.

The APM402 controller uses a patented hybrid voltage regulator and unique software logic to manage alternator thermal overload protection features normally requiring additional hardware. Additional features include:

- A digital display and pushbutton/rotary selector dial provide easy local access to data.
- Measurements selectable in metric or English units.
- The controller can communicate directly with a personal computer via a network or serial configuration using SiteTech™ or Monitor III software.
- The controller supports Modbus® protocol. Use with serial bus or Ethernet networks. (Ethernet requires an external Modbus®/Ethernet converter module.)
- Scrolling display shows critical data at a glance.
- Digital display of power metering (kW and kVA).
- Integrated hybrid voltage regulator providing ±0.5% regulation.
- Built-in alternator thermal overload protection.

Modbus® is a registered trademark of Schneider Electric.



User Interface Controls and Components

- Emergency stop switch
- Backlit LCD digital display with two lines of 12 characters *(see User Interface Displays for menus)*
- Alarm horn indicates generator set shutdown and warning faults
- Environmentally sealed membrane keypad with three master control buttons with lights
  - Off/Reset (red)
  - Auto (green)
  - Run (yellow)
- Pushbutton/rotary selector dial for menu navigation
  - Rotate dial to access main menus
  - Push dial and rotate to access sub menus
  - Press dial for 3 seconds to return to top of main menu
- Annunciator fault light
  - System shutdown (red)
  - System warning (yellow)
- Alarm silence/lamp test button
  - Alarm silence
  - Lamp test
- USB and RS-485 connections
  - Allows software upgrades
  - Provides access for diagnostics
  - PC communication using SiteTech™ or Monitor III software
- Dedicated user inputs
  - Remote emergency stop switch
  - Remote 2-wire start for transfer switch
  - Auxiliary shutdown
- Integrated hybrid voltage regulator
- Auto-resettable circuit protection mounted on circuit board.
- One relay output standard. Optional five relay output available.
- One analog and three digital inputs standard. Optional two inputs available.

NFPA 110 Requirements

In order to meet NFPA 110, Level 1 requirements, the generator set controller monitors the engine/generator functions/faults shown below.

- Engine functions:
  - Overcrank
  - Low coolant temperature warning
  - High coolant temperature warning
  - High coolant temperature shutdown
  - Low oil pressure shutdown
  - Low oil pressure warning
  - High engine speed
  - Low fuel (level or pressure) *
  - Low coolant level
  - EPS supplying load
  - High battery voltage
  - Low battery voltage
- General functions:
  - Master switch not in auto
  - Battery charger fault *
  - Lamp test
  - Contacts for local and remote common alarm
  - Audible alarm silence button
  - Remote emergency stop *

* Function requires optional input sensors or kits and is engine dependent, see Controller Displays as Provided by the Engine ECM.

User Interface Displays

The listing below has ● denoting main menus and ○ denoting sub-menus.

- Overview
  - Software version
  - Active shutdowns and warnings (if any are present)
  - Engine run time, total hours
  - Average voltage line-to-line
  - Frequency
  - Average current
  - Coolant temperature
  - Fuel level or pressure *
  - Oil pressure
  - Battery voltage
- Engine Metering
  - Engine speed
  - Oil pressure
  - Coolant temperature
  - Battery voltage
- Generator Metering
  - Total power, VA
  - Total power, W
  - Rated power, %
  - Voltage, L- L and L- N for all phases
  - Current, L1, L2, L3
  - Frequency
- GenSet Information
  - Generator set model number
  - Generator set serial number
  - Controller serial number
- GenSet Run Time
  - Engine run time, total hours
  - Engine loaded, hours
  - Number of engine starts
  - Total energy, kWh
- GenSet System
  - System voltage
  - System frequency, 50 or 60 Hz
  - System phase, single or three (wye or delta)
  - Power rating, kW
  - Amp rating
  - Power type, standby or prime
  - Measurement units, metric or English (user selectable)
  - Alarm silence, always or auto only (NFPA 110)
  - Manual speed adjust *
- GenSet Calibration
  - Voltage, L- L and L- N for all phases
  - Current, L1, L2, L3
  - Reset calibration
- Voltage Regulation
  - Adjust voltage, ±10%
- Digital Inputs
  - Input settings and status
- Digital Outputs
  - Output settings and status
- Analog Inputs
  - Input settings and status
- Event Log
  - Event history (stores up to 1000 system events)
- Selector Switch (requires initial activation by SiteTech™)

Controller Features

- **AC Output Voltage Regulator Adjustment**. The voltage adjustment provides a maximum of ±10% of the system voltage.
- **Alarm Silence.** The controller can be set up to silence the alarm horn only when in the AUTO mode for NFPA-110 application or Always for user convenience.
- **Alternator Protection**. The controller provides generator set overload and short circuit protection matched to each alternator for the particular voltage/phase configuration.
- **Automatic Restart**. The controller automatic restart feature initiates the start routine and recrank after a failed start attempt.
- **Common Failure Relay.** This relay is integrated on the controller circuit board. Contacts are rated 2 amps at 32 VDC or 0.5 amp at 120 VAC.
- **Communication.** Controller communication is available.
- **Cyclic Cranking.** The controller has programmable cyclic cranking.
- **ECM Diagnostics.** The controller displays engine ECM fault code descriptions to help in engine troubleshooting.
- **Engine Start Aid**. The starting aid feature provides control for an optional engine starting aid.
- **Event Logging**. The controller keeps a record (up to 1000 entries) for warning and shutdown faults. This fault information becomes a stored record of system events and can be reset.
- **Historical Data Logging**. Total number of generator set successful starts is recorded and displayed.
- **Integrated Hybrid Voltage Regulator**. The voltage regulator provides ±0.5% no-load to full-load regulation with three-phase sensing.
- **Lamp Test**. Press the alarm silence/lamp test button to verify functionality of the indicator lights.
- **LCD Display.** Adjustable contrast for improving visibility.
- **Measurement Units.** The controller provides selection of English or metric displays.
- **Power Metering**. Controller digital display provides kW and kVA.
- **Programming Access (USB)**. Provides software upgrades and diagnostics.
- **Remote Reset**. The remote reset function resets faults and allows restarting of the generator set without going to the master control switch off/reset position.
- **Remote Monitoring Panel.** The controller is compatible with the Kohler® Remote Serial Annunciator.
- **Run Time Hourmeter**. The generator set run time is displayed.
- **Time Delay Engine Cooldown (TDEC)**. The TDEC provides a time delay before the generator set shuts down.
- **Time Delay Engine Start (TDES)**. The TDES provides a time delay before the generator set starts.
- **Voltage Selection Menu.** This menu provides the capability of quickly switching controller voltage calibrations. Requires initial activation using SiteTech™ software. **NOTE:** Generator set output leads require voltage reconnection.

Controller Functions

The following chart shows which functions cause a warning or shutdown. All functions are available as relay outputs.

Warning causes the fault light to show yellow and sounds the alarm horn signaling an impending problem.

Shutdown causes the fault light to show red, sounds the alarm horn, and stops the generator set.

	Warning Function	Shutdown Function
Engine Functions		
Critically high fuel level *	○	
ECM communication loss		●
ECM diagnostics	●	●
Engine over speed		●†
Engine start aid active		
Engine under speed		●
Fuel tank leak *	○	○
High battery voltage	●	
High coolant temperature	●	●†
High fuel level *	○	
Low battery voltage	●	
Low coolant level		●
Low coolant temperature	●	
Low cranking voltage	●	
Low engine oil level *	○	○
Low fuel level (diesel models) *	○	○
Low fuel pressure (gas models) *	○	
Low oil pressure	●	●†
No coolant temperature signal		●
No oil pressure signal		●
Overcrank		●†
Speed sensor fault	●	
General Functions		
Alarm horn silenced		
Analog inputs	○	○
Battery charger fault *	●	
Chicago code active *		
Common fault **(includes †)**		●
Common warning	●	
Digital inputs	○	○
Emergency stop		●†
Engine cooldown (delay) active		
Engine start delay active		
Engine started		
Engine stopped		
EPS supplying load		
Generator running		
Input/output communication loss	●	
Internal failure		●
Master switch not in auto	●	
NFPA 110 alarm active		
Remote start		
System ready		
Generator Functions		
AC sensing loss	●	●
Alternator protection		●
Ground fault input *	●	
kW overload		●
Locked rotor		●
Overfrequency		●
Overvoltage (each phase)		●
Underfrequency		●
Undervoltage (each phase)		●

● Standard function
○ Available user function
* Function requires optional input sensors or kits and is engine dependent; see Controller Displays as Provided by the Engine ECM.
† Items included with common fault shutdown

KOHLER CO., Kohler, Wisconsin 53044 USA
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For the nearest sales and service outlet in the US and Canada, phone 1-800-544-2444
KOHLERPower.com

Controller Displays as Provided by the Engine ECM	Engine Manufacturer (and Model)						
	Kohler Diesel (KDI M, TM*)	Kohler Diesel (KDI TCR)	Kohler Gas (KG2204, KG2204T)	Kohler Gas (KG6208, KG6208T, KG10V08, KG10V08T)	GM and PSI/Doosan	John Deere	Volvo
Intake air pressure							D
Intake air Temperature		D		D	D	D	D
Coolant level			D	D	D	D	D
Coolant temperature		D	C/S/D	C/S/D	C/S/D	C/S/D	C/S/D
Crankcase pressure							D
ECM battery voltage	S		S/D	S	S		
Engine speed	C/S/D	C/S/D	C/S/D	C/S/D	C/S/D	C/S/D	C/S/D
Fuel pressure		D		C/S/D	C/S/D	C/S†	C/S/D
Fuel temperature		D				S/D	S
Oil level				S†	S†	S†	S†
Oil pressure		C/S/D	D	C/S/D	C/S/D	C/S/D	C/S/D
Oil temperature			S				SD

C = Value displayed on controller, S = Value displayed in Site Tech, D = ECU diagnostic is supported
* Electronic governor and ECM are optional on KDI M and TM engines.
† Controller uses local analog input to obtain this information.

Note: REOZMD/ROZMC (Mitsubishi engines) have an ECM but do not send signals to the generator set controller.

Note: See the generator set specification sheet for engine model identification.

Controller Specifications

- Power source with circuit protection: 12- or 24-volt DC
- Power drain: 200 milliamps at 12 VDC or 100 milliamps at 24 VDC
- Humidity range: 5% to 95% noncondensing
- Operating temperature range: -40°C to +70°C (-40°F to +158°F)
- Storage temperature range: -40°C to +85°C (-40°F to +185°F)
- Standards:
  - CE Directive
  - NFPA 99
  - NFPA 110, Level 1
  - CSA 282-09
  - UL 508
  - ASTM B117 (salt spray test)
- Panel dimensions—W x H, 229 x 160 mm (9.0 x 6.3 in.)

Communication and PC Software Available Options

Refer to G6-76 Monitor III Software and the communication literature for additional communication and PC software information including Modbus® communication.

❑ **Monitor III Software for Monitoring and Control (Windows®-based user interface)**

❑ **Converter, Modbus®/Ethernet.** Supports a power system using controllers accessed via the Ethernet. Converter is supplied with an IP address by the site administrator. Refer to G6-79 for converter details.

❑ **Converter, RS-232/RS-485.** Supports a power system using controllers accessed via a serial (RS-232) connection.

APM402 Available Options

❑ **Float/Equalize Battery Charger** available with 6 or 10 amp output for 12 or 24V DC voltage output. The 10 amp model provides NFPA 110 charging and alarming capability.

❑ **Manual Speed Adjust** available for applications using closed transition ATS. Adjustment range for 60 Hz: 1751-1849 rpm (58.2-61.8 Hz) and for 50 Hz: 1451-1549 rpm (48.2-51.8 Hz).

❑ **Prime Power Switch** prevents battery drain during generator set non-operation periods and when the generator set battery cannot be maintained by an AC battery charger.

❑ **Remote Emergency Stop Switch** available as a wall mounted panel to remotely shut down the generator set.

❑ **Remote Monitoring Panel.** The Kohler® Remote Serial Annunciator (RSA) enables the operator to monitor the status of the generator set from a remote location, which may be required for NFPA 99 and NFPA 110 installations, and up to four Automatic transfer switches.

❑ **Run Relay** provides a relay indicating that the generator set is running.

❑ **Shunt Trip Wiring** provides relay outputs to trip a shunt trip circuit breaker and to signal the common fault shutdowns. Contacts rated at 10 amps at 28 VDC or 120 VAC.

❑ **Two Input/Five Output Module** provides a generator set mounted panel with two inputs and five relay outputs.

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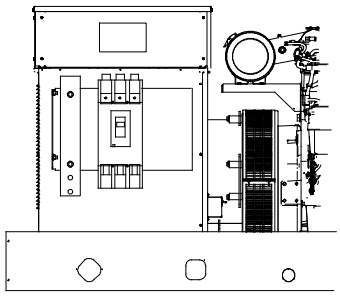
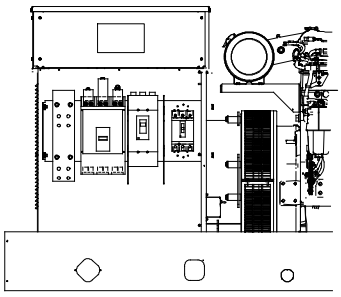
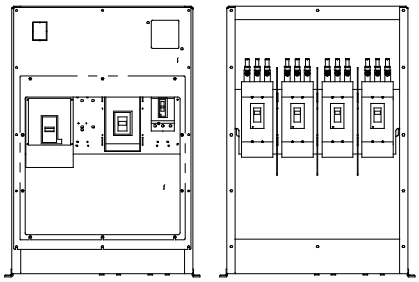
Line Circuit Breakers 15- 3250 kW



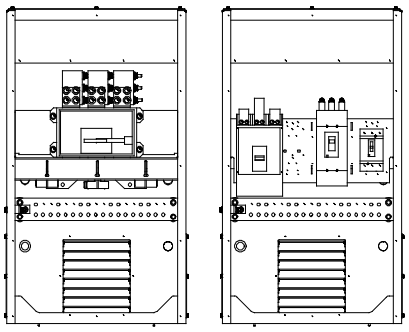
Single Circuit Breaker Kit with Neutral Bus Bar
15- 300 kW Model Shown



Multiple Circuit Breaker Kit with Neutral Bus Bar
180- 300 kW Model Shown



Multiple Circuit Breaker Kits with Neutral Bus Bar
350- 2250 kW Model Shown
(also applies to some 300 kW models)



Circuit Breaker Kits with Neutral Bus Bar
800- 2500 kW KD Model Shown

Standard Features

- The line circuit breaker interrupts the generator set output during a short circuit and protects the wiring when an overload occurs. Use the circuit breaker to manually disconnect the generator set from the load during generator set service.
- Circuit breaker kits are mounted to the generator set and are provided with load-side lugs and neutral bus bar.
- Kohler Co. offers a wide selection of molded-case line circuit breaker kits including single, dual, and multiple configurations for each generator set.
- Four types of line circuit breakers are available: (see page 2 for definitions and pages 3 and 4 for application details)
  - Magnetic trip
  - Thermal magnetic trip
  - Electronic trip
  - Electronic with ground fault (LSIG) trip
- In addition, line circuit breakers are offered with 80% and 100% ratings.
- Single line circuit breaker kits allow circuit protection of the entire electrical system load.
- Dual line circuit breaker kits allow circuit protection of selected priority loads from the remaining electrical system load.
- Multiple line circuit breaker kits with field connection barrier allow circuit protection for special applications (350- 2500 kW models and selected 80- 300 kW models).
- Up to four line circuit breakers can be used on 350- 2500 kW models.
- Line circuit breakers comply with the following codes and standards unless otherwise stated.
  - UL 489 Molded Case Circuit Breakers
  - UL 1077 Supplementary Protectors
  - UL 2200 Stationary Engine Generator Assemblies

Line Circuit Breaker Types

Magnetic Trip

The magnetic trip features an electromagnet in series with the load contacts and a moveable armature to activate the trip mechanism. When a sudden and excessive current such as a short circuit occurs, the electromagnet attracts the armature resulting in an instantaneous trip.

Thermal Magnetic Trip

Thermal magnetic trip contains a thermal portion with a bimetallic strip that reacts to the heat produced from the load current. Excessive current causes it to bend sufficiently to trip the mechanism. The trip delay is dependent on the duration and excess of the overload current. Elements are factory- calibrated. A combination of both thermal and magnetic features allows a delayed trip on an overload and an instantaneous trip on a short circuit condition.

Electronic Trip

These line circuit breakers use electronic controls and miniature current transformers to monitor electrical currents and trip when preset limits are exceeded.

LI breakers are a combination of adjustable trip functions including long-time ampere rating, long-time delay, and instantaneous pickup. LSI breakers have all of the LI breaker features plus short-time pickup, short-time delay, and defeatable instantaneous pickup. LSIG breakers have all of the LSI breaker features plus ground-fault pickup and delay.

Electronic with Ground Fault Trip

The ground fault trip feature is referred to as LSIG in this document. Models with LSIG compare current flow in phase and neutral lines, and trip when current unbalance exists.

Ground fault trip units are an integral part of the circuit breaker and are not available as field-installable kits. The ground fault pickup switch sets the current level at which the circuit breaker will trip after the ground fault delay. Ground fault pickup values are based on circuit breaker sensor plug only and not on the rating plug multiplier. Changing the rating plug multiplier has no effect on the ground fault pickup values.

80% Rated Circuit Breaker

Most molded-case circuit breakers are 80% rated devices. An 80% rated circuit breaker can only be applied at 80% of its rating for continuous loads as defined by NFPA 70. Circuit conductors used with 80% rated circuit breakers are required to be rated for 100% of the circuit breaker's rating.

The 80% rated circuit breakers are typically at a lower cost than the 100% rated circuit breaker but load growth is limited.

100% Rated Circuit Breaker

Applications where all UL and NEC restrictions are met can use 100% rated circuit breakers where 100% rated circuits can carry 100% of the circuit breaker and conductor current rating.

The 100% rated circuit breakers are typically at a higher cost than the 80% rated circuit breaker but have load growth possibilities.

When applying 100% rated circuit breakers, comply with the various restrictions including UL Standard 489 and NEC Section 210. If any of the 100% rated circuit breaker restrictions are not met, the circuit breaker becomes an 80% rated circuit breaker.

Line Circuit Breaker Options

❑ Alarm Switch

The alarm switch indicates that the circuit breaker is in a tripped position caused by an overload, short circuit, ground fault, the operation of the shunt trip, an undervoltage trip, or the push-to-trip pushbutton. The alarm resets when the circuit breaker is reset.

❑ Auxiliary Contacts

These switches send a signal indicating whether the main circuit breaker contacts are in the open or closed position.

❑ Breaker Separators (350- 2500 kW)

Provides adequate clearance between breaker circuits.

❑ Bus Bars

Bus bar kits offer a convenient way to connect load leads to the generator set when a circuit breaker is not present.
15- 300 kW. Bus bar kits are available on alternators with leads for connection to the generator set when circuit breakers are not ordered.
350- 2500 kW. A bus bar kit is provided when no circuit breaker is ordered. Bus bars are also available in combination with circuit breakers or other bus bars on the opposite side of the junction box. On medium voltage (3.3 kV and above) units, a bus bar kit is standard (not applicable to KD models).

❑ Field Connection Barrier

Provides installer wiring isolation from factory connections.

❑ Ground Fault Annunciation

A relay contact for customer connection indicates a ground fault condition and is part of a ground fault alarm.

❑ Lockout Device (padlock attachment)

This field-installable handle padlock attachment is available for manually operated circuit breakers. The attachment can accommodate three padlocks and will lock the circuit breaker in the OFF position only.

❑ Lugs

Various lug sizes are available to accommodate multiple cable sizes for connection to the neutral or bus bar.

❑ Overcurrent Trip Switch

The overcurrent trip switch indicates that the circuit breaker has tripped due to overload, ground fault, or short circuit and returns to the deenergized state when the circuit breaker is reset.

❑ Shunt Trip, 12 VDC or 24 VDC

A shunt trip option provides a solenoid within the circuit breaker case that, when momentarily energized from a remote source, activates the trip mechanism. This feature allows the circuit breaker to be tripped by customer-selected faults such as alternator overload or overspeed. The circuit breaker must be reset locally after being tripped. Tripping has priority over manual or motor operator closing.

❑ Shunt Trip Wiring

Connects the shunt trip to the generator set controller. (standard on KD models with the APM802 controller)

❑ Undervoltage Trip, 12 VDC or 24 VDC

The undervoltage trips the circuit breaker when the control voltage drops below the preset threshold of 35%- 70% of the rated voltage.

15-300* kW Line Circuit Breaker Specifications

* Includes models 300REOZJ and 300REZXC. For other 300 kW models, see the 300-2250 kW section.

100% Rating Circuit Breaker

Alt. Model	Ampere Range	Trip Type	C. B. Frame Size
4D/4E	15-150	Thermal magnetic	HD
	60-150	Electronic LI	
		Electronic LSI	
		Electronic LSIG	
	60-150	Electronic LI	HG
		Electronic LSI	
		Electronic LSIG	
4P/4PX 4Q/4QX	15-150	Thermal magnetic	HD
	60-150	Electronic LI	
		Electronic LSI	
		Electronic LSIG	
	60-150	Electronic LI	HG
		Electronic LSI	
		Electronic LSIG	
	175-250	Thermal magnetic	JD
	250	Electronic LI	JD
		Electronic LSI	
		Electronic LSIG	
	250	Electronic LI	JG
		Electronic LSI	
		Electronic LSIG	
	400	Electronic LI	LG
		Electronic LSI	
		Electronic LSIG	
4RX 4S/4SX 4TX 4V 4UA 4M6226	15-150	Thermal magnetic	HD
	60-150	Electronic LI	
		Electronic LSI	
		Electronic LSIG	
	60-150	Electronic LI	HG
		Electronic LSI	
		Electronic LSIG	
	175-250	Thermal magnetic	JD
	250	Electronic LI	JD
		Electronic LSI	
		Electronic LSIG	
	250	Electronic LI	JG
		Electronic LSI	
		Electronic LSIG	
	400	Electronic LI	LG
		Electronic LSI	
		Electronic LSIG	
	600-800	Electronic LSI	PG
		Electronic LSIG	
4UA 4M6226	1000-1200	Electronic LSI	PG
		Electronic LSIG	
	1200	Electronic LSI	PJ
		Electronic LSIG	

100% Rating Electrically Operated Breakers

For use as paralleling breakers with the Decision-Maker® 6000 Controller/DPS System or APM603 controller.

Generator-Mounted P-Frame, 24VDC Electrically Operated			
Alt. Model	**Amps**	**Trip Unit**	**Frame**
4RX 4S/4SX 4TX 4V	250 400 600 800	3.0 LI	PJ
		5.0 LSI	PJ
		3.0 LI	PL
		5.0 LSI	PL
4UA 4M6226	250 400 600 800 1000 1200	3.0 LI	PJ
		5.0 LSI	PJ
		3.0 LI	PL
		5.0 LSI	PL

All circuit breakers listed in this table include line side bus and load side lugs, 24VDC motor operators, 2 type C auxiliary contacts, and 1 type C SDE overcurrent switch contact. No second breakers are allowed in combination with these breakers.

Interrupting Ratings

Circuit Breaker Frame Size	240 Volt, kA	480 Volt, kA	600 Volt, kA
HD	25	18	14
HG	65	35	18
HJ	100	65	25
JD	25	18	14
JG	65	35	18
JJ	100	65	25
LA	42	30	22
LG	65	35	18
MG			
PG	65	35	18
PJ	100	65	25
PL	125	100	25

Circuit Breaker Lugs Per Phase (Al/Cu)

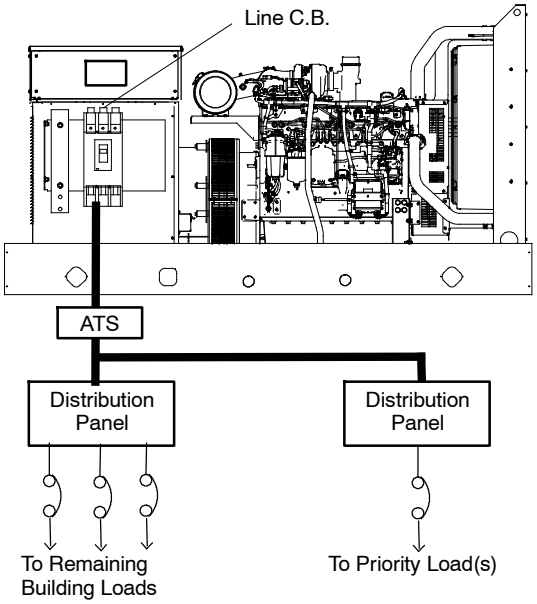
Frame Size	Ampere Range	Wire Range
E (480 V max.)	30-100	Up to two wire terminals fitting 10-32 or 1/4-20 stud
H	15-150	One #14 to 3/0
J	175	One 1/0 to 4/0
	200-250	One 3/0 to 350 kcmil
LA	300-400	One #1 to 600 kcmil or Two #1 to 250 kcmil
LG	400-600	Two 2/0 to 500 kcmil AL/CU
M	700-800	Three 3/0 to 500 kcmil
P	600-800	Three 3/0 to 500 kcmil
	1000-1200	Four 3/0 to 500 kcmil
Mechanical Load Lugs Included with H, J, and LG LSIG Neutrals		
H	60-150	One #14 to 3/0 AL/CU
J	250	One 3/0 to 350 kcmil AL/CU
LG	400-600	Two 4/0 to 500 kcmil AL/CU

15- 300* kW Line Circuit Breaker Applications

* Includes models 300REOZJ and 300REZXC. For other 300 kW models, see the 300- 2250 kW section.

Single Circuit Breaker Installations

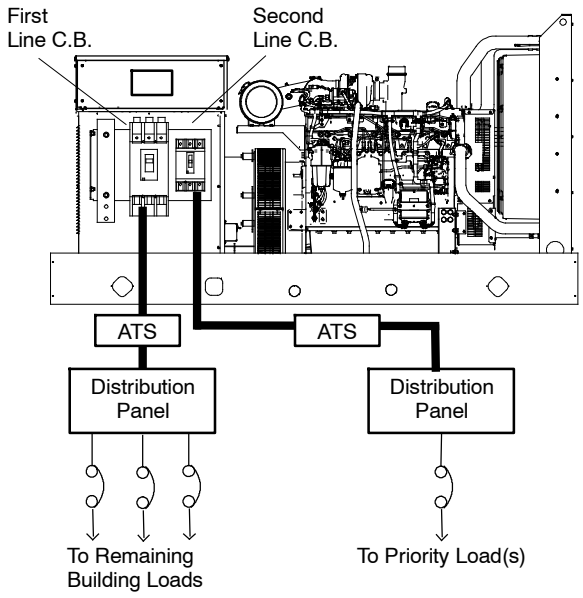
A generator set with a single circuit breaker installed typically feeds a single transfer switch and then a distribution panel. This allows protection of the entire system.



Single line circuit breaker configuration where circuit breaker can trip causing all power to building loads including priority load to be disrupted.

Multiple Circuit Breaker Installations

A generator set with dual circuit breakers installed is used to separate critical loads. Typically, one circuit breaker will feed a main transfer switch with noncritical loads and the other circuit breaker will feed a second transfer switch that feeds critical or priority loads. Multiple circuit breakers allow circuit protection for special applications.

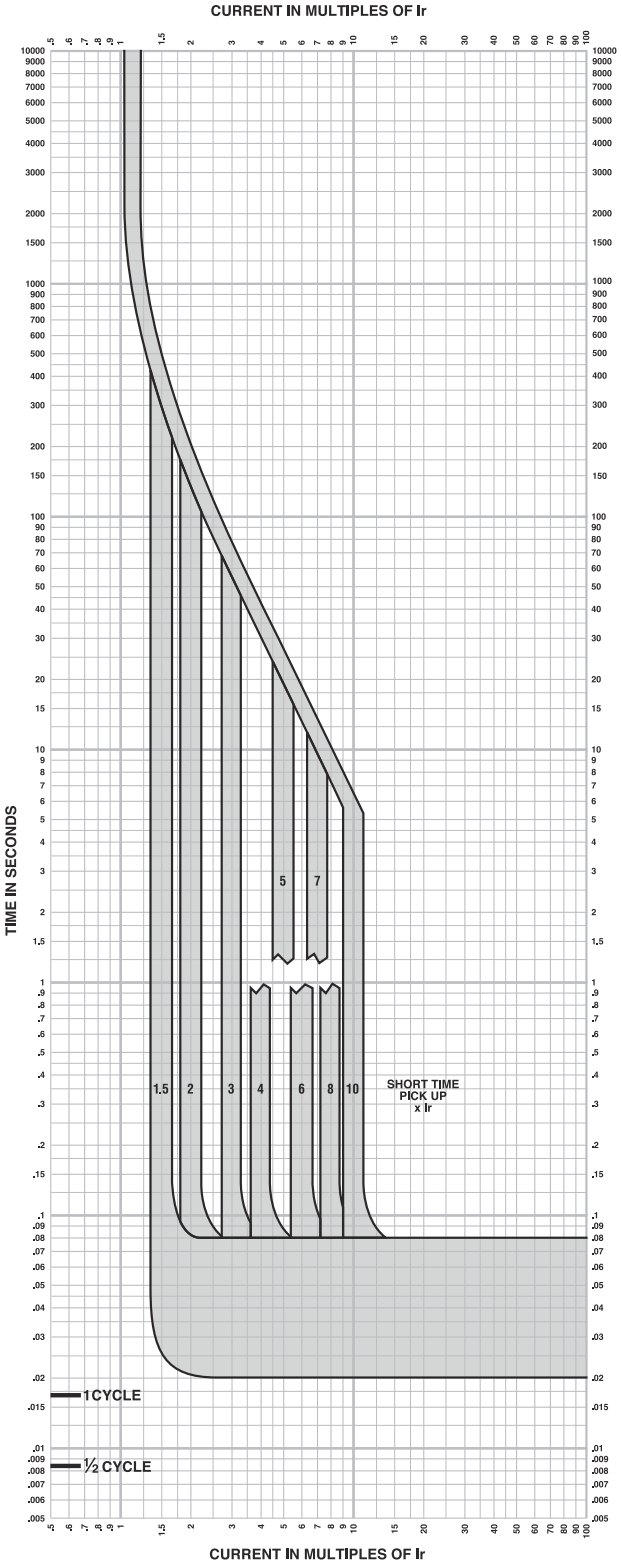


Dual line circuit breaker configuration where first circuit breaker can trip allowing second circuit breaker to continue supplying power to priority load(s).

Circuit Breaker Combinations

Alternator Model	First C. B. Frame	Second C. B. Frame	Third C. B. Frame	Trip Type
ALL except 4D/4E	H	—	—	All
	J	—	—	
	LA	—	—	
	LG	—	—	
4D/4E	H	—	—	Standard or LSIG
	H	H	—	No LSIG
4P/4PX 4Q/4QX	H	H or J	—	No LSIG
	J		—	
	LA		—	
	LG	H, J or LG	—	
4RX 4S/4SX 4TX 4V	M	—	—	All
	P	—	—	All
	H or J	H or J	—	No LSIG
	LA	H, J, or LA	—	
	LG	H, J, LA, or LG	—	
	M			
	P			
	H or J	H or J	H or J	
4UA 4M6226	M or P	—	—	All
	H or J	H or J	—	All
	LA	H, J, or LA	—	
	LG	H, J, LA, or LG	—	
	M or P	H, J, LA, or LG	—	
	P	P	—	No LSIG
	H or J	H or J	H or J	
	LA	H or J	H or J	
		LA	H, J, or LA	
	LG	H or J	H or J	
		LA	H, J, or LA	
		LG	H, J, LA, or LG	
	M or P	H or J	H or J	
		LA	H, J, or LA	
		LG	H, J, or LG	

Figure 96: Micrologic 3.3S and 3.3S-W Electronic Trip Unit Long Time/Short Time Trip Curve



MICROLOGIC™ ELECTRONIC TRIP UNITS
Micrologic™ 3.3S and 3.3S-W
Long Time/Short Time Trip Curve
250A, 400A L-Frame

The time-current curve information is to be used for application and coordination purposes only.

Notes:

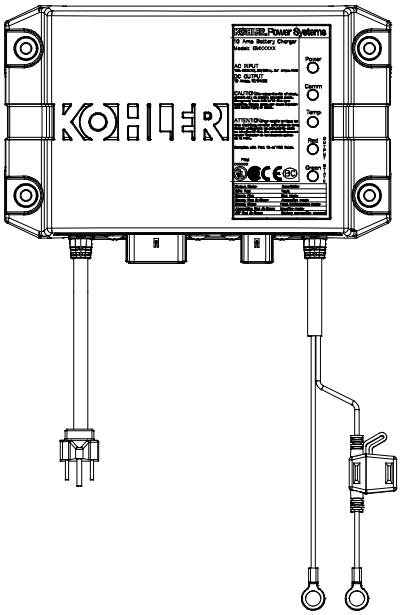
1. There is a thermal-imaging effect that can act to shorten the long-time delay. The thermal imaging effect comes into play if a current above the long-time delay pickup value exists for a time and then is cleared by the tripping of a downstream device or the circuit breaker itself. A subsequent overload will cause the circuit breaker to trip in a shorter time than normal. The amount of time delay reduction is inverse to the amount of time that has elapsed since the previous overload. Approximately 20 minutes is required between overloads to completely reset thermal-imaging.
2. Total clearing times shown include the response times of the trip unit, the circuit breaker opening, and the extinction of the current.

Curves apply from -35ºC to +70ºC (-31ºF to +158ºF) ambient temperature.

KOHLER

Industrial Generator Set Accessories

12/24 Volt, 10 Amp
Automatic Multi-Stage Battery Charger



The battery charger is a fully-automatic, high efficiency battery charger that charges batteries rapidly and safely. The battery charger is designed for an industrial environment.

The battery charger is designed for operation with an engine cranking battery.

The battery charger is universal voltage input capable, comes with a standard 120 V/60 Hz AC plug, and charges 12 VDC or 24 VDC battery systems.

Five LED lights indicate power, communication status, temperature compensation status, charge curve, and charger status.

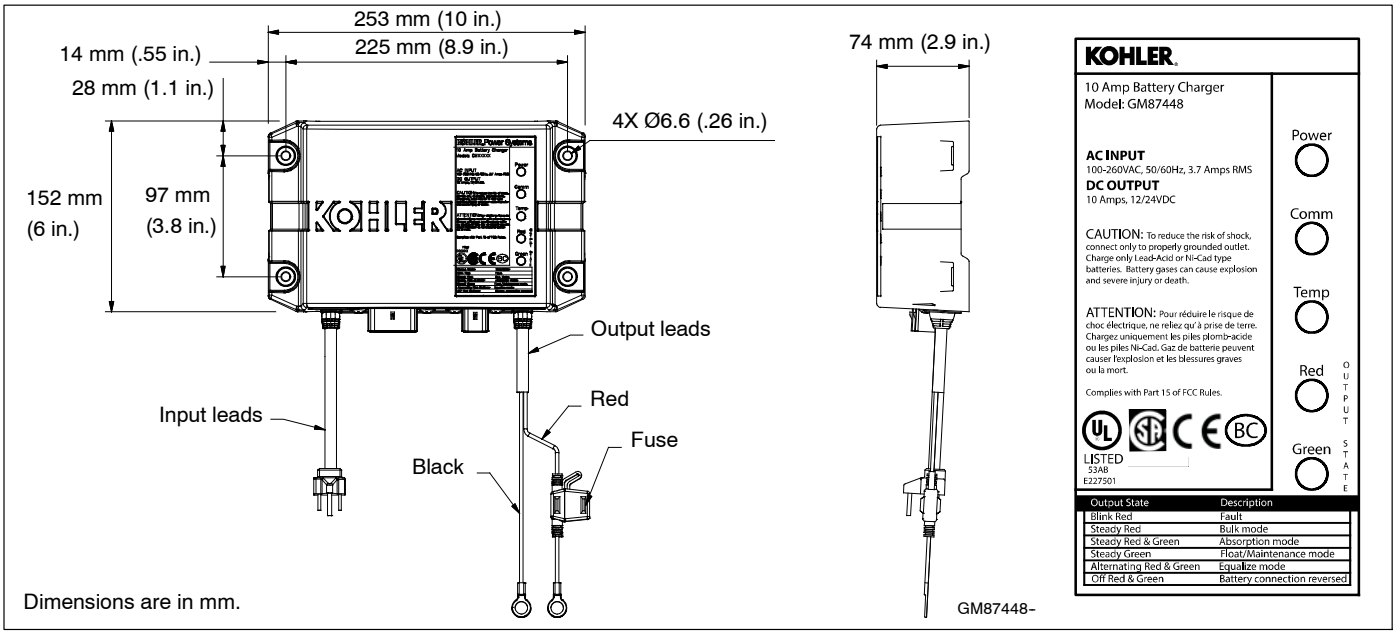
With the optional battery temperature sensor connected, the battery charger can adjust output voltages for optimal charging.

Standard Features

- 12 or 24 VDC output
  - Automatic voltage detection
- Automatic multi-stage charging modes
  - Recovery charge
  - Bulk charge
  - Absorption charge
  - Float charge
  - Equalize charge
- Charges the following type batteries:
  - Flooded lead acid (FLA)
  - AGM
  - Gel cell
  - High performance AGM
  - Nickel-cadmium (NiCad)
- 5 LED status indicators
- Durable potted assembly for waterproofing and vibration resistance
- Reverse-polarity protection
- Short-circuit protection
- Electronically limited output current
- Optional temperature compensation (FLA only)
- User adjustable parameters to support optimal manufacturer recommended charge curve.
- Code compliance:
  - UL 1236 Listed
  - NFPA 110, Level 1 compatible (when used with Kohler controller and connected to engine harness)
  - CSA - C22.2 No. 107.2-01
  - FCC - Title 47, Part 15 Class A
  - CE
  - IBC 2015
  - OSHPD

DC Output		AC Input		Overall Dimensions W x D x H	Shipping Weight	
Volts (Nominal)	Amps	Volts (Nominal)	Amps		kgs	lbs
12/24	10	100-260	3.7	253 mm x 152 mm x 74 mm (10.0 in x 6.0 in x 2.9 in)	3.6	7.9

KOHLER CO., Kohler, Wisconsin 53044 USA
Phone 920-457-4441, Fax 920-459-1646
For the nearest sales and service outlet in the US and Canada, phone 1-800-544-2444
KOHLERPower.com



Specifications

AC Input	100–260 VAC
Frequency Input	50/60 Hz
DC Output	10 Amps @ 12 VDC or 10 Amps @ 24 VDC (On battery voltage regulation ±1%; current is electronically limited
Fuse Protection	15 amps ATC
Battery Types	Flooded Lead Acid (FLA) AGM Gel Cell High Performance AGM Nickel–Cadmium (NiCad)
Monitoring	
LED Indications	Power Communication Temperature compensation Output charger curve and charger status: ○ Red ○ Green
Environmental	
Operating	-20° to 70°C (-4° to 158° F)
Storage	-40° to 85°C (-40° to 185° F)
Relative Humidity	5 to 95% (non-condensing)
Salt Spray Testing	ASTM B117
Corrosion Resistant	From battery gases

Enclosure	
Environmental Resistant	From rain, snow, dust, and dripping water
Battery Connections	
Lead Length	1.8 m (6 ft.) red and black leads
Battery Connections	9.5 mm (3/8 in.) ring terminals
AC Power Connections	
Lead Length	1.8 m (6 ft.)
Storage	Standard US style 3-prong AC plug
Available Options	
Temperature compensation	

DISTRIBUTED BY:

Availability is subject to change without notice. Kohler Co. reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler® generator distributor for availability.

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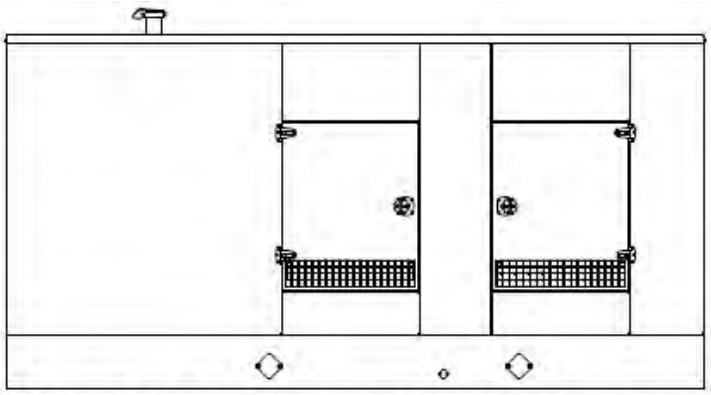
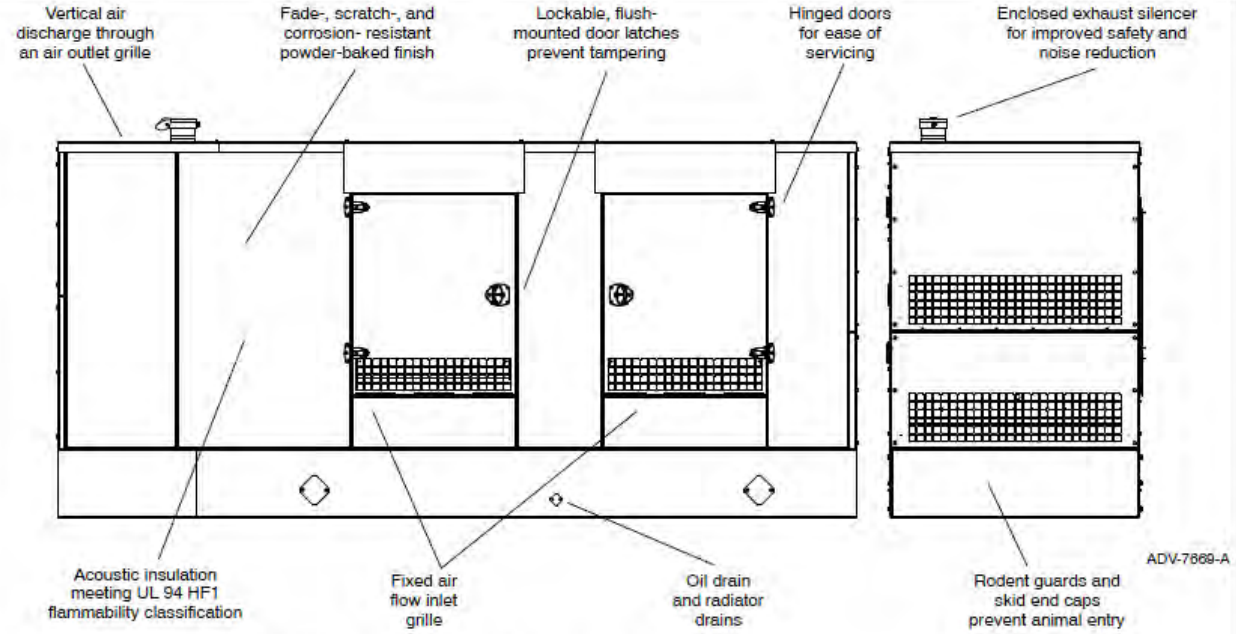
ISO 9001 KOHLER POWER SYSTEMS NATIONALLY REGISTERED



250REZXB/RZXB and 300REZXC Enclosure

Sound Enclosure Standard Features

- Internal-mounted critical silencer and flexible exhaust connector.
- Skid-mounted, steel construction with hinged doors.
- Fade-, scratch-, and corrosion-resistant Kohler® Power Armor automotive-grade textured finish.
- Enclosure has four (180-250 kW) or six (300-400 kW) large access doors which allow for easy maintenance.
- Lockable, flush-mounted door latches.
- Vertical air inlet and outlet hoods with 90 degree angles to redirect air and reduce noise.
- Automatic door holders keep doors open during maintenance.
- Steel sound enclosure has a 241 kph (150 mph) wind loading
- Acoustic insulation that meets UL 94 HF1 flammability classification and repels moisture adsorption.



Enclosure ships assembled on generator set skid when ordered installed.
Note: 180/200REZXB/RZXB shown, other models are similar.

Sound Enclosure Features

- Available in steel formed panel, solid construction. Preassembled package offering corrosion resistant, dent resilient structure mounting directly to skid.
- Power Armor automotive-grade finish resulting in advanced corrosion and abrasion protection as well as enhanced edge coverage and color retention.
- Internal critical exhaust silencer offering maximum component life and operator safety.
- Note: Installing an additional length of exhaust tail pipe may increase backpressure levels. Please refer to the generator set spec sheet for the maximum backpressure value.
- Interchangeable modular panel construction. Allows complete serviceability or replacement without compromising enclosure design.
- Cooling/combustion air intake with a horizontal air inlet. Sized for maximum cooling airflow.
- Service access. Multi-personnel doors for easy access to generator set control and servicing of the oil fill and battery.
- Cooling air discharge. Weather protective design featuring a vertical air discharge outlet grille. Redirects cooling air up and above enclosures to reduce noise ambient.
- Attenuated design. Acoustic insulation UL 94 HF1 listed for flame resistance offering up to 25 mm (1 in.) mechanically restrained acoustic insulation.
- Cooling air discharge. The sound enclosures include acoustic insulation with urethane film.

Fuel Tank Capacity, L (gal.)	Est. Fuel Supply Hours at 60 Hz with Full Load	Max. Length, mm (in.)	Sound Pressure Level, dB(A)	Max. Height, mm (in.)	Weight, kg (lb.)
Lift base	0	4526 (178.2)	69.9	2460 (96.9)	3969 (8750)

Note: Refer to the respective ADV drawings for details.
Weight includes the generator set (wet), enclosure, and silencer. The generator set weight represetns using the largest alternator option.

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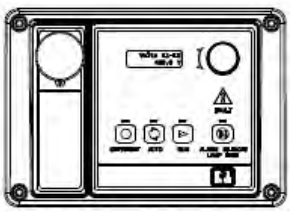
Integral Voltage Regulator with Kohler® APM402/ Decision-Maker® 3000 and Menu-Driven Selections (15-1000 kW Generator Set Models)



APM402 and Decision-Maker® 3000 Controller with Integral Voltage Regulator

The voltage regulator is integral to the controller and uses patented hybrid voltae regulator design providing ±0.5% no-load to full-load regulation using root-mean-square (RMS) voltage sensing. The voltage regulator features three-phase sensing and is available for 12- or 24-volt engine electrical systems.

Voltage Regulators

The following information provides general features, specifications, and functions of available voltage regulators.

This information generally applies to a single generator set and multiple generator sets with paralleling applications. Refer to the respective generator set specification sheet and see your authorized distributor for information regarding specific voltage regulator applications and availability.

Integral Voltage Regulators with APM402/Decision-Maker® 3000 Controllers

Calibration	Digital Display	Range Settings	Default Selection
Voltage Adjustment	Volt Adj	±10% of System Voltage	System Voltage
Underfrequency Unload or Frequency Setpoint	Frequency Setpoint	42 to 62 Hz	2.5 Hz Below Nominal Frequency
Underfrequency Unload Scope	Slope	0-10% of System Voltage (Volts per Cycle)	5% of System Voltage

KOHLER®

Specification/Feature	Integral with APM402/Decision-Maker® 3000
Generator Set Availability	15-1000 kW
Type	Patented Hybrid Design
Status and Shutdown Indicators	LEDs and Text LCD Display
Operating Temperature	-40°C to 70°C (-40°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5-95% Non-Condensing
Circuit Protection	Solid-State, Redundant Software and Fuses
Sensing, Nominal	100-240 Volts (L-L), 50-60 Hz
Sensing Mode	RMS, Single- or 3-Phase
Input Requirements	8-36 VDC
Continuous Output	5 VDC @ 100mA max. 5.0 ADC with GM88453 Activator Board
Maximum Output	5 VDC @ 100mA max. 7.8 ADC with GM88453 Activator Board
Transition Frequency	42.0-62.0Hz
Exciter Field Resistance	4-30 Ohms with GM88453 Activator Board
No-Load to Full-Load Voltage Regulation	±0.5%
Thermal Drift	<0.5% (-40°C to 70°C) [-40°F to 158°F] Range
Response Time	Less than 5µS
System Voltage Adjust.	±10%
Voltage Adjustment	Controller Menu Knob
Remote Voltage Adjustment	not available
Paralleling Capability	not available
VAR/PF Control Input	not available

Integral Voltage Regulator with APM402/Decision-Maker® 3000 Controller

- The APM402/Decision-Maker® 3000 digital display and pushbutton/rotary dial provide access to data. A two-line LCD display provides complete and concise information. A two-line vacuum fluorescent display provides complete and concise information.
- The Decision-Maker® 3000 graphical display and pushbutton/rotary dial provide access to data. A five-line, 35-characters per line LCD display provides complete and concise information include gain, ramp rate, reactive droop, VAR control (P, I, D gains) and PF control (P, I, D gains).
- The controllers provide ISO 8528-5, Class G3, compliance for transient response on some 20-300 kW generator set models. Both controllers support Modbus®.
- These controllers can control Fast Response™ II, Fast Response™ X, and wound field alternators using the GM88453 activator board.

Voltage Regulator Menu

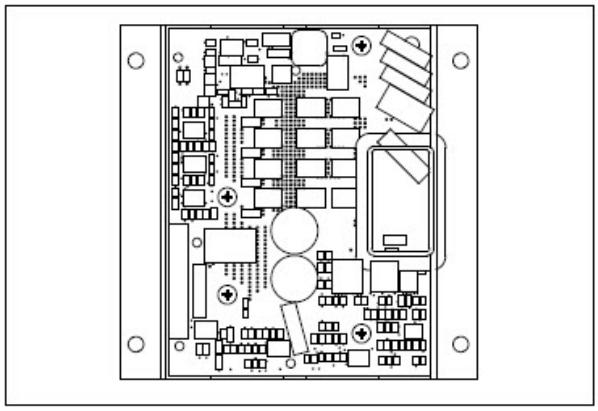
- Voltage adjustment, ±10% of system voltage
- V/Hz cut-in, 42-62 Hz
- Underfrequency unload slope, 0-10% of system voltage

Generator Set Calibration Menu (APM402/DEC 3000)

- L1-L2 volts
- L2-L3 volts (3-phase)
- L3-L1 volts (3-phase)
- L1-N volts
- L2-N volts
- L3-N volts (3-phase)

KOHLER®

Activator Board GM88453



- Interfaces between the controller and alternator assembly using rotor field leads, auxiliary power windings, and optic board leads.
- Allows the Decision-Maker® controllers the ability to control a wound-field alternator using the same control signal as Fast Response™ alternator.
- Permits the generator set controller to control the current to the exciter field of a wound-field excited alternator.
- Contains two isolated relay driver outputs (RDO) rated at 250 mA. Provides RDO outputs indicating a field over-excitation condition and that the alternator is supplying voltage to the activator.

Model KCS-AMTA-1600S

KOHLER®

ISO 9001 KOHLER POWER SYSTEMS NATIONALLY REGISTERED

Transfer Switch Standard Features

- UL 1008 listed file #E58962 (automatic), #E86894 (non automatic)
- CSA certification available
- IBC and OSHPD seismic certification available
- Available in 2, 3, or 4 pole configurations
- Electrically operated, mechanically held mechanism
- High withstand and close-on ratings
- Design suitable for emergency and standby applications on all classes of load, 100% tungsten rated through 400 amps
- Silver alloy main contacts
- Gold-flashed engine start contacts rated 2 amps @ 30 VDC/250 VAC
- Front-accessible contacts for easy inspection
- Front-replaceable main and arcing contacts (800-4000 amps)
- Reliable, field-proven solenoid mechanism
- Switching mechanisms lubricated for the expected life of the transfer switch
- Internal manual operating handle
- Main shaft auxiliary position-indicating contacts rated 10 amps @ 32 VDC/250 VAC
- NEMA type 1, 12, 3R, 4, and 4X enclosures available
- Standard one-year limited warranty. Extended limited warranties are available

Standard-Transition Models (KCS)

- Standard-transition operation with either automatic or non-automatic control
- Standard-transition transfer time less than 100 milliseconds (6 cycles @ 60 Hz)
- Double-throw, mechanically interlocked design (break-before-make power contacts)
- Solid, switched, or overlapping (make-before-break) neutral

Decision-Maker® MPAC 1200 Controller

- LCD display, 4 lines x 20 characters, backlit
- Complete programming and viewing capability at the door using the keypad and LCD display
- LED indicators: Source available, transfer switch position, service required (fault), and "not in auto"
- Programmable voltage and frequency pickup and dropout settings
- Programmable time delays
- Programmable generator exerciser
- Time-based load control
- Two programmable inputs and two programmable outputs
- Up to four I/O extension modules available
- Modbus communication standard
- RS-485 communication standard
- Ethernet communication optional: For more information about Decision-Maker® MPAC 1200 features and functions, see specification sheet G11-127.

Environmental Specifications	
Operating Temperature	-20°C to 70°C (-4°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% noncondensing

Input and Output Connection Specifications	
Component	Wire Size Range
Main board I/O terminals	#12-24 AWG
I/O module terminals	#14-24 AWG

Auxiliary Position Indication Contacts (rated 10 Amps @ 32 VDC/250 VAC)	
Switch Rating, amps	Number of Contacts Indicating Normal, Emergency
1600	8, 8

Cable Sizes

Note: Cable size data is subject to change. Refer to the transfer switch dimension drawings and wiring diagrams for planning and installation.

UL-Listed Solderless Screw-Type Terminals for External Power Connections			
Range of Wire Sizes, Copper or Aluminum*			
Switch Rating, Amps	Normal, Emergency, and Load (per phase)	Neutral (3-pole)	Ground
1600 F	(6) 1/0 AWG to 750 KCMIL	(24) 1/0 AWG to 750 KCMIL	(3) #4 AWG to 600 KCMIL or (6) 1/0 - to 250 KCMIL
1600	(6) 1/0 AWG to 750 KCMIL	(24) 1/0 AWG to 750 KCMIL	(3) #4 to 500 KCMIL

Front Connected
* Use 75 degrees C minimum Cu/Al wire for power connections.
* Use 75 degrees C minimum Cu/Al wire for power connections.

Withstand and Close-On Ratings (WCR)

Maximum current in RMS symmetrical amperes when coordinated with customer-supplied fuses or circuit breakers. All values are available symmetrical RMS amperes and tested in accordance with the withstand and close-on requirements of UL 1008. Application requirements may permit higher withstand ratings for certain size switches. Contact the factory for assistance.

	Withstand Current Ratings in RMS Symmetrical Amperes							Short Time Ratings (sec.)**							
	Current Limiting Fuses				Time-Based Rating*			480 V Max.				600 V Max.			
Switch Rating, Amps	Amps @ 480 V	Amps @ 600 V	Amps, Max.	Fuse Class	Amps @ 240 V	Amps @ 480 V	Amps @ 600 V	0.13	0.2	0.3	0.5	0.1	0.13	0.3	0.5
1600 F	200000	200000	2500	L	85000	85000	85000	42000	42000	42000	36000	-	-	-	-
1600 S	200000	200000	3000	L	100000	100000	100000	42000	42000	42000	36000	42000	42000	42000	-

*Applicable to breakers with instantaneous trip elements.
** Short time ratings are provided for applications involving breakers that utilize trip delay settings for system selective coordination.

Weights and Dimensions

See ADV drawings for weights and dimensions. Allow 15% additional weight for packing materials.

Ratings with Specific Manufacturer's Circuit Breaker

The following charts list power switching device withstand and close-on ratings (WCR) in RMS symmetrical amperes for specific manufacturers' circuit breakers. Circuit breakers are supplied by the customer.

Molded-Case Circuit Breakers					
Switch Rating, Amps	WCR, Amps, RMS	Voltage, Max.	Manufacturer	Type	Max. Size, Amps
1600	125000	480	SquareD	Masterpact NW-L	3000

Codes and Standards

The ATS meets or exceeds the requirements of the following specifications:

- CSA C22.2 No. 178 certification 208-600 VAC available, file LR58301
- EN61000-4-4 Fast Transient Immunity Severity Level 4
- EN61000-4-5 Surge Immunity Class 4 (voltage sensing and programmable inputs only)
- EIC Spedifications for EMI/EMC Immunity:
    - CISPR 11, Radiated Emissions
    - IEC 1000–4–2, Electrostatic Discharge
    - IEC 1000–4–3, Radiated Electromagnetic Fields
    - IEC 1000–4–4, Electrical Fast Transients (Bursts)
    - IEC 1000–4–5, Surge Voltage
    - IEC 1000–4–6, Conducted RF Disturbances
    - IEC 1000–4–8, Magnetic Fields
    - IEC 1000–4–11, Voltage Dips and Interruptions
- IEC 609047-6-1, Low Voltage Switchgear and Control Gear; Multifunction Equipment; Automatic Transfer Switching Equipment
- IEEE Standard 446, IEEE Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications
- IEEE 472 (ANSI C37.90A) Ring Wave Test
- NEMA Standards ICS 10-2005, Electromechanical AC Transfer Switch Equipment
- NFPA 70, National Electrical Code
- NFPA 99, Essential Electrical Systems for Health Care Facilities
- NFPA 110, Emergency and Standby Power Systems
- Seismic certification in accordance with the International Building Code is available. (Accessory kit is required for seismic certification)
    - IBC 2000, referencing ASCE 7-98 and ICC AC-156
    - IBC 2003, referencing ASCE 7-02 and ICC AC-156
    - IBC 2006, referencing ASCE 7-05 and ICC AC-156
    - IBC 2009, referencing ASCE 7-05 and ICC AC-156
    - IBC 2012, referencing ASCE 7-10 and ICC AC-156
- California OSHPD approval is available. (Accessory kit required.)
- Underwriters Laboratories UL 1008, Standard for Automatic Transfer Switches for Use in Emergency Standby Systems for #E58962 (automatic), #E86894 (nonautomatic)

Accessories

Accessories are available either factory-installed or as loose kits, unless otherwise noted.

Standard Input/Output Module

Inputs	
Available Inputs	2
Input Definition	Contact closure
Current	5 mA Max
Connection Type	Terminal Strip
Wire Size	#14-24 AWG
Max Distance	700 feet
Outputs	
Outputs Available	6
Contact Type	Form C (SPDT)
Contact Voltage Rating	2 A @ 30 VDC 500 mA @ 125 VAC
Connection Type	Terminal Strip
Wire Size	#14-24 AWG

Warranty

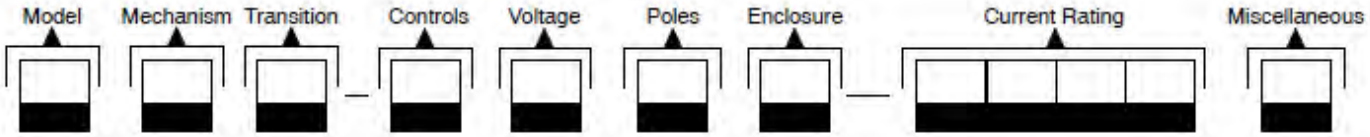
Warranty-1-year standard

Accessory Modules

The mounting kit holds up to five optional modules. The maximum total current draw is 300 mA. If an External Battery Module is installed, there is no current restriction.

- Alarm Module
- External Battery Supply Module
- Standard I/O Module
- High Power I/O Module

Model Designation



Record the transfer switch model designation in the boxes. The transfer switch model designation defines characteristics and ratings as explained below.

Sample Model Designation: KCS-DNTA-0400B

Model

K: Kohler

Mechanism

C: Standard (Any Breaker)

Transition

S: Standard
P: Programmed
C: Closed

Controller

A: Decision-Maker® MPAC 1200, Automatic
B: Decision-Maker® MPAC 1200, Non-Automatic
D: Decision-Maker® MPAC 1500, Automatic
F: Decision-Maker® MPAC 1500, Non-Automatic

Voltage/Frequency

C: 208 Volts/60 Hz
D: 220 Volts/50 Hz
F: 240 Volts/60 Hz
G: 380 Volts/50 Hz
H: 400 Volts/50 Hz
J: 416 Volts/50 Hz
K: 440 Volts/60 Hz
M: 480 Volts/60 Hz
N: 600 Volts/60 Hz
P: 380 Volts/60 Hz
R: 220 Volts/60 Hz

Number of Poles/Wires

N: 2 Poles/3 Wires, Solid Neutral
T: 3 Poles/4 Wires, Solid Neutral
V: 4 Poles/4 Wires, Switched Neutral
W: 4 Poles/4 Wires, Overlapping Neutral

Enclosure

A: NEMA 1
B: NEMA 12
C: NEMA 3R
D: NEMA 4
F: NEMA 4X
G: Open Unit

Current, Amps

0030	0230	1200
0070	0260	1600
0104	0400	2000
0150	0600	2600
0200	0800	3000
0225	1000	4000

Connections

S: Standard
F: Front (1600 and 2000 amp only)

Note: Some selections are not available for every model. Contact your Kohler distributor for availability.

KOHLER®

Automatic Transfer Switch Controller

Decision-Maker® MPAC 1200

Model KCS with Decision-Maker® MPAC 1200 Controller

Applicable Models

Model	Description
KCS	Standard-Transition Any Breaker ATS ‡
KCP	Programmed-Transition Any Breaker ATS ‡
KCC	Closed-Transition Any Breaker ATS §
KSS	Standard-Transition Specific Breaker ATS ‡

‡ Available with automatic or non-automatic controller
§ Available with automatic controller only

Decision-Maker® MPAC 1200 Controller Standard Features

- Microprocessor-based controller
- Environmentally sealed user interface
- LCD display, 4 lines x 20 characters, backlit
- Dynamic function keypad with tactile feedback pushbuttons allows complete programming and viewing capability at the door
- LED indicators: Source available, transfer switch position, service required (fault), and not in auto
- Broadrange voltage sensing (208- 600 VAC) on all phases
- Phase-to-phase sensing and monitoring with 0.5% accuracy on both sources
- Line-to-neutral monitoring
- Frequency sensing with 0.5% accuracy on both sources
- Anti-single phasing protection
- Phase rotation sensing for three-phase systems
- Real-time clock with automatic adjust for daylight saving time and leap year
- Run time clock and operation counter
- Time-stamped event log
- Fail-safe transfer for loaded test and exercise functions
- DIP switches: password disable and maintenance
- Isolated RS-485 ports for Modbus connections (9.6, 19.2, and 57.6 kbps)
- Modbus® RTU protocol (Modbus register map available)
- USB port. Connect a personal computer and use Kohler® SiteTech™ software to view events and adjust settings. *
- Available in automatic and non-automatic versions; see supervised transfer control switch on page 5

Programmable Features

- Programming and monitoring methods:
  - Monitoring and password-protected programming at the door using the keypad and display
  - Program using a PC with Kohler® SiteTech™ software (available to Kohler-authorized distributors and dealers)
- Over/undervoltage for all phases of the normal and emergency sources
- Over/underfrequency for the emergency source
- Adjustable time delays
- Load/no load/auto-load test and load/no-load exercise functions
- Programmable inputs and outputs
- Load bank control for exercise or test
- Time-based load control, nine individual time delays for selected loads
- In-phase monitor (3-phase only)
- Password protection, three security levels
- See pages 2 and 3 for additional programmable features

* SiteTech software is available to Kohler-authorized distributors and dealers.

Modbus is a registered trademark of Schneider Electric.

Decision-Maker® MPAC 1200 Controller Features

User Interface LED Indicators

- Contactor position: source N and source E
- Source available: source N and source E
- Service required (fault indication)
- Not in automatic mode

LCD Display

- System status
- Line-to-line voltage
- Line-to-neutral voltage
- Active time delays
- Source frequency
- Preferred source selection
- System settings
- Common alarms
- Load current, each phase (current sensing kit required)
- Inputs and outputs
- Faults
- Time/date
- Address
- Event history
- Maintenance records
- Exerciser schedule
- Exerciser mode
- Time remaining on active exercise

Dynamic Function Tactile Keypad Operations

- Scroll up/down/forward/back
- Increase/decrease/save settings
- End time delay
- Start/end test or exercise
- Reset fault
- Lamp test

DIP Switches

- Maintenance mode
- Password disable

Event History

- View time and date-stamped events on the display or on a personal computer equipped with Kohler® SiteTech™ software. *****
- Download complete event history files using Kohler SiteTech software and a PC connected to the USB port. *****

Main Logic Board Inputs and Outputs

- Two (2) programmable inputs
- Two (2) programmable outputs

Communications

- Optional Ethernet communications with RJ45 connector for 10/100 Ethernet connection
- Isolated RS-485 ports for Modbus communications
- Modbus® RTU and Modbus® TCP/IP protocols (Modbus® register map available)
- USB Port. Use SiteTech software to upload or download files and adjust transfer switch settings *****
  - Application software
  - Event history files
  - Language files
  - Parameter settings
  - Usage reports
  - Feature configuration

Programmable Features

- System voltage, 208- 600 VAC †
- System frequency, 50/60 Hz †
- Single/three-phase operation †
- Standard/programmed/closed-transition operation †
- Preferred source selection allows the normal or emergency source to be used when both sources are available (alarm module required)
- Phase rotation: ABC/BAC/none selection with error detection
- Overvoltage and undervoltage pickup and dropout settings, both sources
- Overfrequency and underfrequency pickup and dropout settings, Emergency source
- Voltage unbalance, enable/disable
- In-phase monitor: enable/disable and phase angle
- Transfer commit/no commit
- Passwords, system and test
- Time, date, automatic daylight saving time enable/disable
- Time delays (see table)
- Exerciser: calendar mode, loaded/unloaded up to 21 events
- Test: loaded/unloaded/auto load (1- 60 minutes)
- Remote test: loaded/unloaded
- Automatic override on generator failure (loaded test and exercise)
- Peak shave delay enable/disable
- Current monitoring (current sensing kit required)
- Load control pre/post-transfer delays, 9 individual time delays for selected loads
- Resettable historical data

***** SiteTech software is available to Kohler-authorized distributors and dealers.

† System parameters are factory-set per order.

Modbus is a registered trademark of Schneider Electric.

Decision-Maker® MPAC 1200 Controller Features, Continued

Programmable Inputs

- Forced transfer to OFF (programmed-transition models only; requires load shed accessory)
- Inhibit transfer
- Low battery voltage (external battery supply module required)
- Peak shave/area protection input
- Remote common fault
- Remote test
- Remote end time delay
- Remotely monitored inputs, four (4) available

Programmable Outputs

- Alarm silenced
- Audible alarm
- Chicago alarm control
- Common alarm events
- Contactor position
- Exercise active
- Failure to acquire standby source
- Failure to transfer
- Generator engine start, source E
- I/O module faults
- In-phase monitor synch
- Load bank control
- Load control active (pre/post transfer delay, up to 9 outputs)
- Loss of phase fault, source N and E
- Low battery fault (external battery supply module required)
- Maintenance mode
- Non-emergency transfer
- Not in automatic mode
- Over/undervoltage faults, source N and E
- Peak shave/area protection active
- Phase rotation error, source N and E
- Preferred source supplying load
- Software-controlled relay outputs (four maximum)
- Source available, preferred and standby
- Standby source supplying load
- Test active
- Transfer switch auxiliary contact fault
- Transfer switch auxiliary contact open
- Voltage unbalance, source N and E

Voltage and Frequency Sensing

Parameter	Default	Adjustment Range
Undervoltage dropout	90% of pickup	75%-98%
Undervoltage pickup	90% of nominal	85%-100%
Overvoltage dropout *	115% of nominal*	106%-135%
Overvoltage pickup	95% of dropout	95%-100%
Unbalance enable	Disable	Enable/Disable
Unbalance dropout	20%	5%-20%
Unbalance pickup	10%	3%-18%
Voltage dropout time	0.5 sec.	0.1-9.9 sec.
Underfrequency dropout †	99% of pickup	95%-99%
Underfrequency pickup †	90% of nominal	80%-95%
Overfrequency dropout †	101% of pickup	101%-115%
Overfrequency pickup †	110% of nominal	105%-120%
Frequency dropout time †	3 sec.	0.1-15 sec.

* 690 volts, maximum. Default = 110% for 600 volt applications.

† Emergency source only

Adjustable Time Delays

Time Delay	Default	Adjustment Range
Engine start	3 sec.	0-6 sec. †
Engine cooldown	5 min.	0-60 min.
Fail to acquire standby source	1 min.	
Transfer, preferred to standby	3 sec.	
Transfer, standby to preferred	15 min.	
Transfer, off to standby	1 sec.	1 sec. - 60 min.
Transfer, off to preferred	1 sec.	
Fail to synchronize	60 sec.	10 sec - 15 min.
Auto load test termination after transfer	1 sec.	1 sec.-60 min.
Load Control Time Delays:		
Pretransfer to preferred	0 sec.	0-60 min.
Post-transfer to preferred	0 sec.	
Pretransfer to standby	0 sec.	
Post-transfer to standby	0 sec.	

Note: Time delays are adjustable in 1 second increments, except as noted.

† Engine start time delay can be extended to 60 minutes with an External Battery Supply Module Kit.

Accessory Modules

The mounting kit holds up to five optional modules.

Module Current Draw Specifications, mA	
Alarm Module	75
Standard I/O Module	75
High Power I/O Module	100
Maximum Total Current *	300

* If an External Battery Module is installed, there is no current restriction.

❑ Standard Input/Output Module

Inputs	
Available Inputs	2
Input Definition	Contact closure
Current	5 mA Max
Connection Type	Terminal Strip
Wire Size	#14- 24 AWG
Max Distance	700 feet
Outputs	
Outputs Available	6
Contact Type	Form C (SPDT)
Contact Voltage Rating	2 A @ 30 VDC 500 mA @ 125 VAC
Connection Type	Terminal Strip
Wire Size	#14- 24 AWG

❑ High-Power Input/Output Module

Inputs	
Available Inputs	2
Input Definition	Contact closure
Current	5 mA Max
Connection Type	Terminal Strip
Wire Size	#14- 24 AWG
Max Distance	700 feet
Outputs	
Outputs Available	3
Contact Type	Form C (SPDT)
Contact Voltage Rating	12 A @ 24 VDC 12 A @ 250 VAC 10 A @ 277 VAC 2 A @ 480 VAC
Connection Type	Terminal Strip
Wire Size	#14- 24 AWG
Environmental Specifications	
Temperature	- 40°C to 85°C (- 40°F to 185°F)
Humidity	35% to 85% noncondensing

❑ Alarm Module

- 90 dB Audible alarm
- Any alarm function can be programmed to trigger the audible alarm
- Chicago alarm function
- Preferred source selection
- Supervised transfer control (supervised transfer control switch required)
- Connection for external alarm

External Alarm Connection Specifications	
Wire Size	#12- 22 AWG Cu
Contact Voltage Rating	500 mA @ 120 VAC
	250 mA @ 240 VAC

❑ External Battery Supply Module

- Energizes the ATS controls using an external battery when no source power is available
- Allows extended engine start time delays
- Allows the use of any combination of accessory modules (no current draw restriction, maximum of five modules total)
- Connects to one or two batteries, 12 VDC or 24 VDC system
- Current draw, 140 mA @ 12 VDC, 86 mA @ 24 VDC
- Provides low external battery voltage indication to the transfer switch controller
- Reverse-polarity protected

Other Controller Accessories

Accessories are available either factory-installed or as loose kits, unless otherwise noted.

❑ Controller Disconnect Switch

- Disconnects power to the controller without disconnecting the load
- Mounts inside the enclosure

❑ Current Sensing Kit

- Monitor current on all phases with 1% accuracy

❑ Digital Meter

- Measure and display voltage, current, frequency, and power
- 35 programmable alarms
- LCD display, 67 x 62.5 mm (2.65 x 2.5 in.)
- Pushbutton operation
- Password- protected programming menus
- Two digital inputs
- Two digital outputs
- Two Form A relay outputs
- Serial port for optional network connections
- Data logging
- Factory- installed

❑ Ethernet Communications

- RJ-45 connector
- Supports Internet Protocol version 4 (IPv4)
- Supports Modbus TCP/IP protocol

❑ Load Shed Kit

- Forced transfer from Emergency to OFF for programmed-transition and closed-transition models
- Customer-supplied signal (contact closure) is required for the forced transfer to OFF function
- Factory-installed and loose kits available for models KCC and KCP
- Factory-installed only for other programmed-transition and closed-transition models

❑ Padlockable User Interface Cover

- Provides additional protection against unauthorized access
- Cover standard on NEMA 3R enclosures

❑ RSA III Remote Serial Annunciator

- Monitors the generator set
- Monitors ATS common alarm, Normal source, and Emergency source status and connection
- Allows remote testing of the ATS
- For more information about RSA III features and functions, see specification sheet G6- 139

❑ Supervised Transfer Control Switch

- Standard on models with non-automatic controls
- Optional for models with automatic controls
- Auto, manual, and transfer positions
- Automatic and non-automatic modes
- Alarm module required

Supervised Transfer Control Switch Operation for Automatic and Non-Automatic Transfer Switches		
Switch Position	**Automatic Switches**	**Non-Automatic Switches**
AUTO	• Automatically transfers to the standby source, when available, if the preferred source is lost. • Transfers back to the preferred source when it becomes available.	
MANUAL	• Automatically transfers to an available source if the connected source is lost. • Test, peak shave, and loaded exercise commands will transfer to the standby source. • Does not automatically transfer back to preferred when both sources are available.	• Does not automatically transfer to an available source when the connected source is lost. • Test, peak shave, and loaded exercise commands are ignored. • Does not automatically transfer back to preferred when both sources are available. • Transfers only when the switch is manually moved to the TRANSFER position as described below.
TRANSFER (momentary switch position)	• Does not initiate an engine start sequence. Generator set engine must be signalled to start by an event such as a loss of utility, loaded test, loaded exercise, etc. • Allows transfer to the other source, if available. An event such as a loss of utility, loaded exercise, or loaded test must first initiate the transfer sequence. • Time delays will operate. Wait for time delays to expire, or press the End Time Delay button. • Operates pre- and post-transfer load control time delays if both sources are available. • MANUAL TRANSFER is displayed when the ATS is ready to transfer.	

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KOHLERPower.com

Environmental Specifications	
Operating Temperature	-20°C to 70°C (-4°F to 158°F)
Storage Temperature	-40°C to 85°C (-40°F to 185°F)
Humidity	5% to 95% noncondensing

Main Board I/O Specifications	
Output contact type	Isolated form C (SPDT)
Output contact rating	1 amp @ 30 VDC, 500 mA @120 VAC
I/O terminals wire size	#12-24 AWG

DISTRIBUTED BY:

Availability is subject to change without notice. Kohler Co. reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever. Contact your local Kohler® Power Systems distributor for availability.

KOHLER®

Alternator Data

TECHNICAL INFORMATION BULLETIN

Alternator Data Sheet

Alternator Model: 4UA10
Frequency: 60 Hz
Speed: 1800 RPM
Leads: 12 (6 Lead, 600 Volt)

Voltage L-N/L-L	Phase	Power Factor	Connection	kW* (kVA)						
				Class B	Class F				Class H	
				80°C Continuous	90°C Lloyds	95°C ABS	105°C Continuous	130°C Standby	125°C Continuous	150°C Standby
139/240 277/480	3	0.8	Wye	225.0 (281.3)	237.0 (296.3)	243.0 (303.8)	255.0 (318.8)	275.0 (343.8)	271.0 (338.8)	275.0 (343.8)
127/220 254/440	3	0.8	Wye	220.0 (275.0)	232.0 (290.0)	238.0 (297.5)	250.0 (312.5)	270.0 (337.5)	266.0 (332.5)	270.0 (337.5)
120/208 240/416	3	0.8	Wye	215.0 (268.8)	227.0 (283.8)	233.0 (291.3)	245.0 (306.3)	265.0 (331.3)	261.0 (326.3)	265.0 (331.3)
110/190 220/380	3	0.8	Wye	205.0 (256.3)	217.0 (271.3)	223.0 (278.8)	235.0 (293.8)	250.0 (312.5)	247.0 (308.8)	250.0 (312.5)
120/240	3	0.8	Delta	215.0 (268.8)	227.0 (283.8)	233.0 (291.3)	245.0 (306.3)	265.0 (331.3)	261.0 (326.3)	265.0 (331.3)
347/600	3	0.8	Wye	205.0 (256.3)	217.0 (271.3)	223.0 (278.8)	235.0 (293.8)	260.0 (325.0)	255.0 (318.8)	260.0 (325.0)

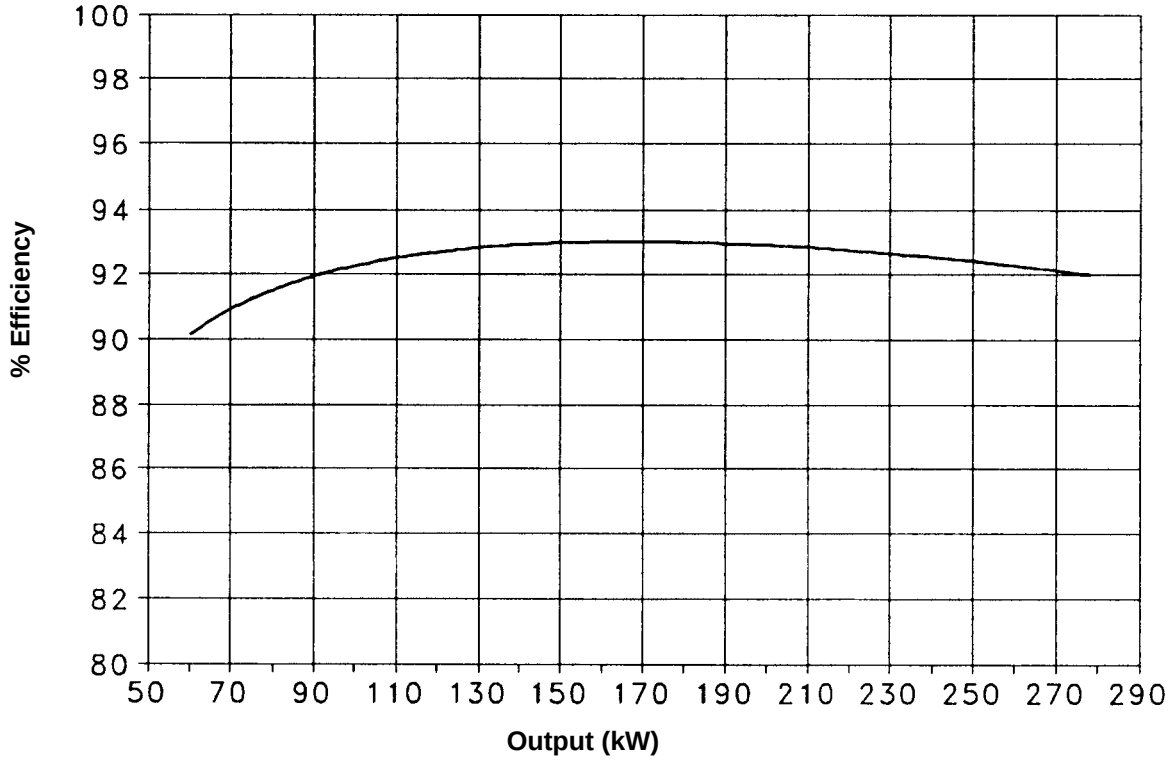
* All data tested in accordance with IEEE Standard 115. Kohler Co. reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

Submittal Data: 139/240 Volts, 0.8 PF, 1800 RPM, 60 Hz, 3-Phase, 130°C Rise

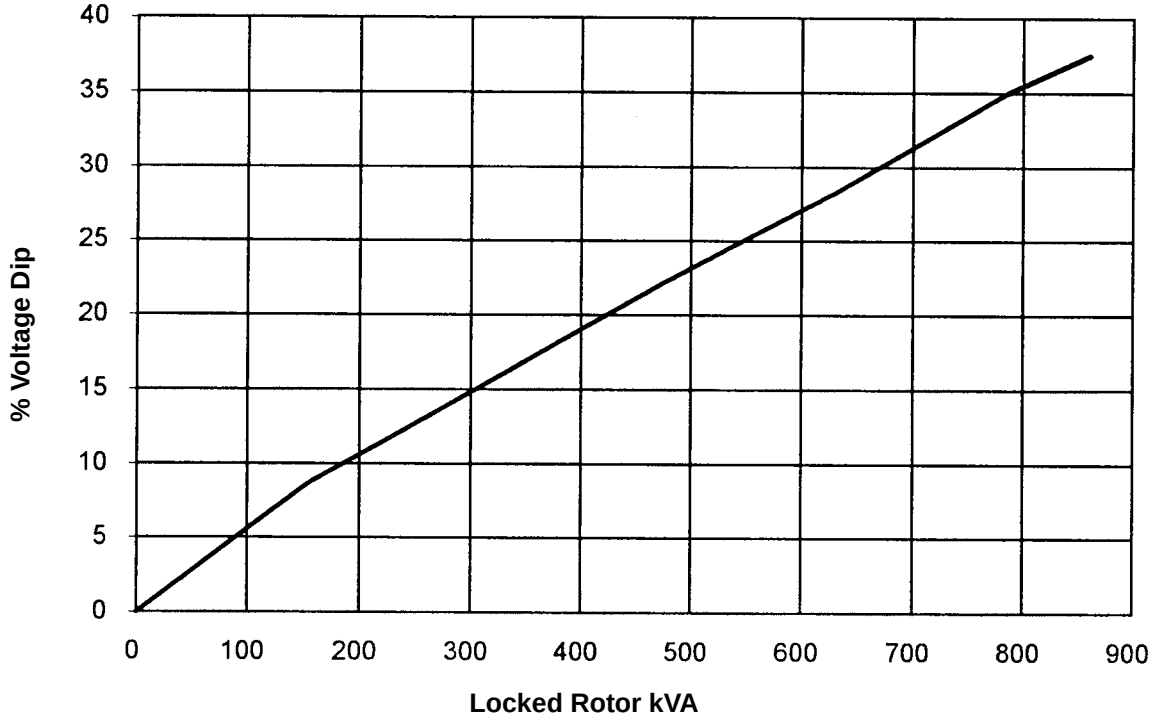
	Symbol	Per Unit	Ohms
Typical Resistances			
Phase Resistance		0.030	0.005
Rotor Resistance		11.202	1.877
Typical Reactances			
Synchronous			
Direct	X_d	4.097	0.686
Quadrature	X_q	2.131	0.357
Transient			
Unsaturated	X'_{du}	0.401	0.067
Saturated	X'_d	0.352	0.059
Subtransient			
Direct	X''_d	0.160	0.027
Quadrature	X''_q	0.155	0.026
Negative Sequence	X_2	0.158	0.026
Zero Sequence	X_0	0.015	0.002

	Symbol	Value
Typical Time Constants		
Armature Short Circuit	T_a	0.016 sec.
Transient Short Circuit	T'_d	0.171 sec.
Transient Open Circuit	T'_{do}	1.988 sec.
Typical Field Current		
Full Load	If_{FL}	35.76 amps
No Load	If_{NL}	8.45 amps
Typical Short Circuit Ratio		0.326
Harmonic Distortion		
RMS Total Harmonic Distortion		2.7%
Max. Single Harmonic		7^{th}
Deviation Factor (No Load, L-L)		4.3%
Telephone Influence Factor		<50
Insulation Material Class per NEMA MG1-1.66		H
Phase Rotation		ABC

4UA10, 60 Hz, 139/240, 277/480 Volts, Wye
TYPICAL ALTERNATOR EFFICIENCY*

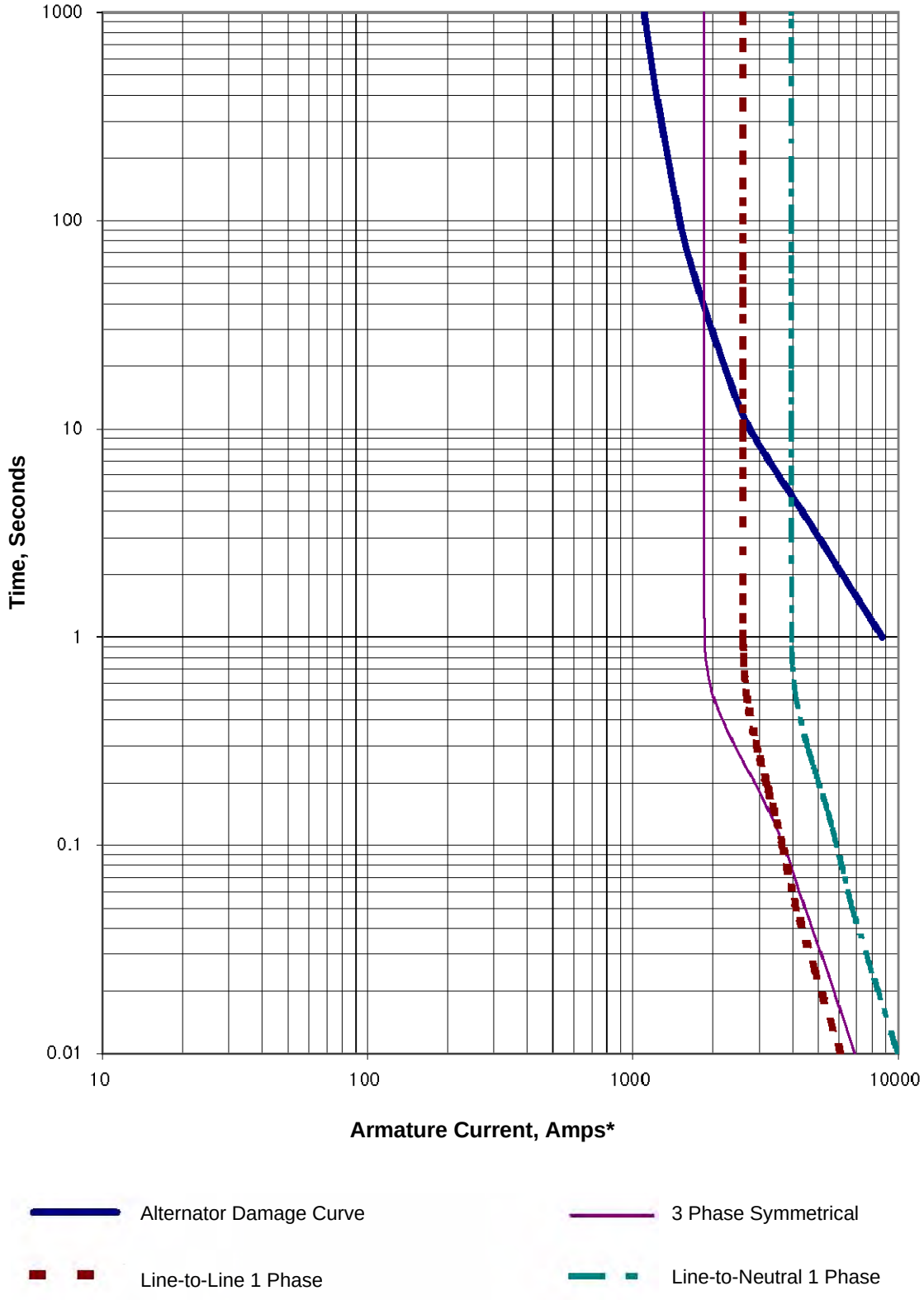


TYPICAL MOTOR STARTING CHARACTERISTICS*
4UA10, 60 Hz, 139/240, 277/480 Volts, Wye



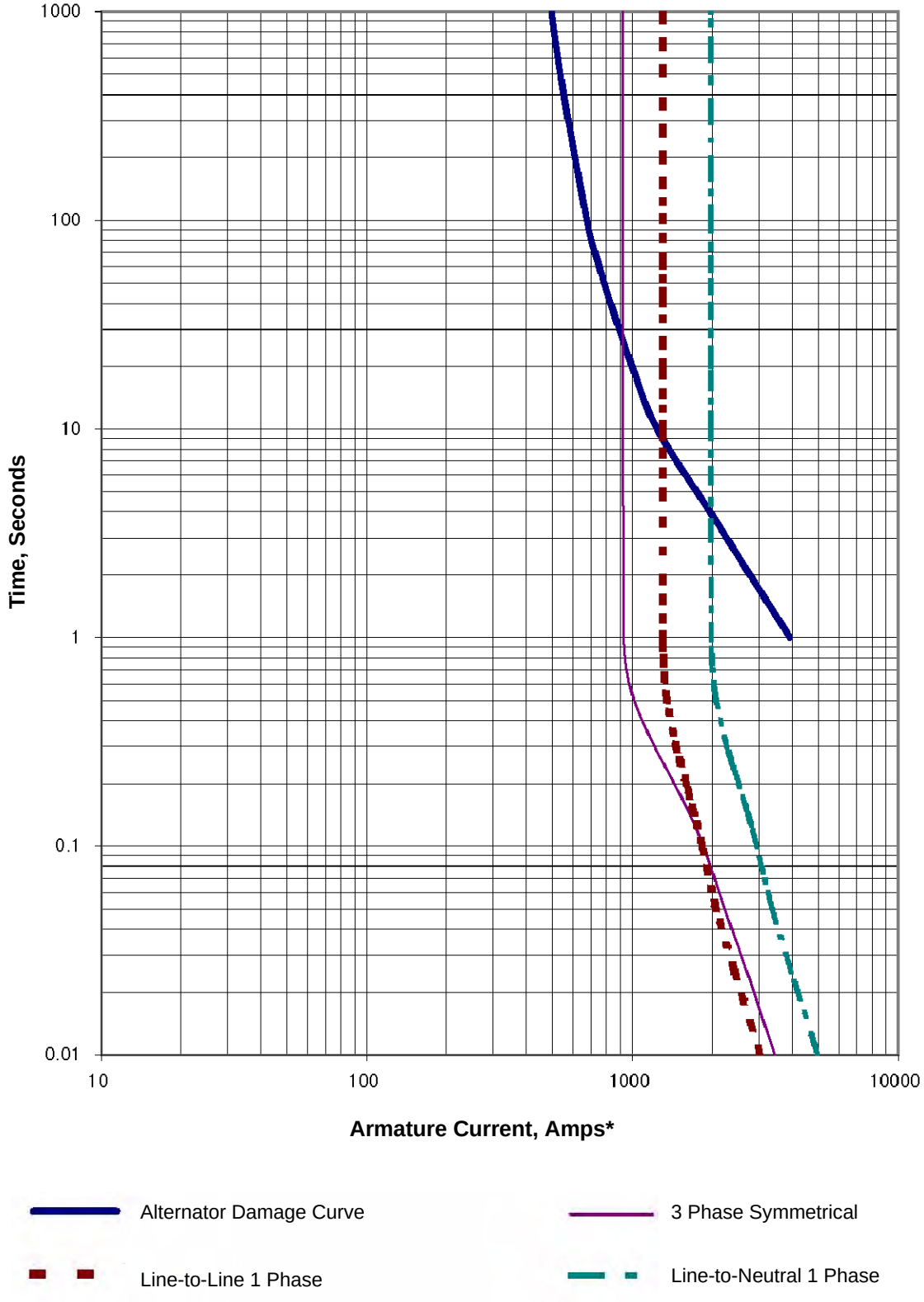
* All data tested in accordance with IEEE Standard 115. Kohler Co. reserves the right to change the design or specifications without notice and without any obligation or liability whatsoever.

4UA10, 60 Hz, Low Wye or Delta Connection
SHORT CIRCUIT DECREMENT CURVE



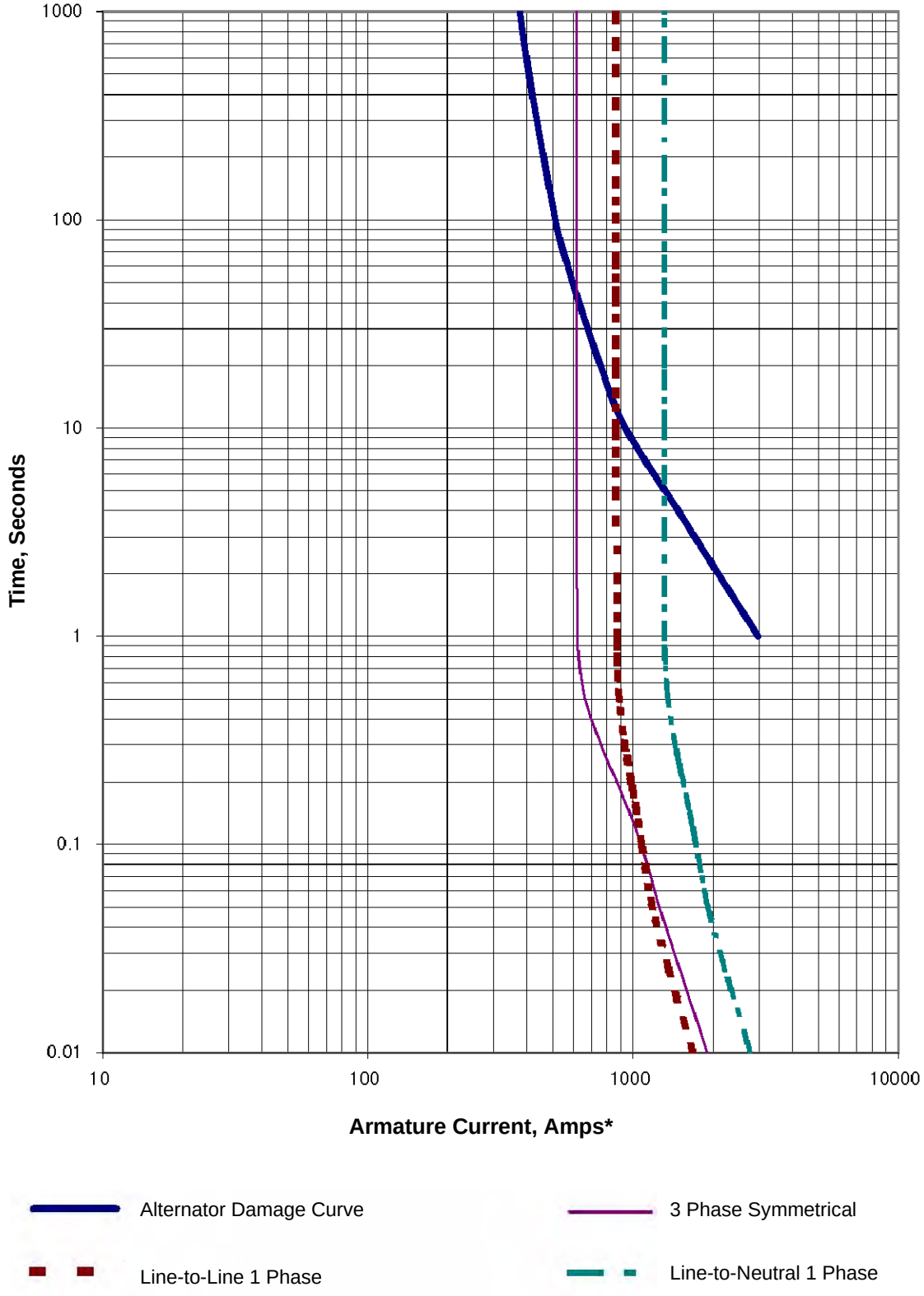
* Instantaneous current (t=0) is asymmetric. Divide by 1.732 for symmetric.

4UA10, 60 Hz, High Wye Connection
SHORT CIRCUIT DECREMENT CURVE



* Instantaneous current (t=0) is asymmetric. Divide by 1.732 for symmetric.

4UA10, 60 Hz, 600 V Connection
SHORT CIRCUIT DECREMENT CURVE



* Instantaneous current (t=0) is asymmetric. Divide by 1.732 for symmetric.

KOHLER®

Sound Data

TECHNICAL INFORMATION BULLETIN

Generator Set Sound Data Sheet

			Sound Pressure Data in dB(A)			
Generator Set Model	**Hz**	**Load**	**Raw Exhaust**	**Open Unit, Isolated Exhaust**	**Weather Enclosure**	**Sound Enclosure**
250REZXB	60	100% Load	98.1	86.5	84.6	69.9
		No Load	98.0	86.5	84.6	68.3

Note: Sound pressure data is the logarithmic average of eight perimeter measurement points at a distance of 7 m (23 ft.), except Raw Exhaust data which is a single measurement point at 1 m (3.3 ft.) from the mouth of a straight pipe exhaust.

250REZXB **60 Hz**

				Sound Pressure Levels dB(A)								
				Octave Band Center Frequency (Hz)								Overall Level
Load	Distance, m (ft.)	Enclosure	Measurement Position	63	125	250	500	1000	2000	4000	8000	
100% Load	7 (23)	Sound	Right	49.2	60.7	66.0	62.5	59.3	57.9	50.1	44.0	69.3
			Front-Right	50.0	59.9	64.4	65.0	60.1	58.2	50.8	43.8	69.5
			Front	49.4	58.3	60.7	64.1	60.9	58.9	53.2	43.9	68.3
			Front-Left	48.4	57.0	62.1	65.2	61.0	61.4	54.9	49.0	69.3
			Left	51.4	62.2	63.1	63.6	60.2	64.1	59.1	51.2	70.3
			Back-Left	48.1	59.2	64.7	64.8	62.5	62.0	54.9	51.7	70.3
			Back	49.4	62.6	67.0	65.7	64.5	60.8	52.0	50.4	71.7
			Back-Right	46.6	59.5	65.3	64.7	61.6	59.0	51.0	46.1	69.9
			8-pos. log avg.	49.3	60.3	64.6	64.6	61.6	60.8	54.3	48.6	69.9

				Sound Pressure Levels dB(A)								
Load	Distance, m (ft.)	Enclosure	Measurement Position	Right	Front-Right	Front	Front-Left	Left	Back-Left	Back	Back-Right	8-pos. log avg.
100% Load	7 (23)	Weather	Overall Levels	84.1	85.8	85.5	85.5	84.5	84.5	79.8	84.9	84.6

				Sound Pressure Levels dB(A)								
				Octave Band Center Frequency (Hz)								Overall Level
Load	Distance, m (ft.)		Measurement Position	63	125	250	500	1000	2000	4000	8000	
100% Load	7 (23)	Open Unit, Isolated Exhaust	Right	52.5	65.1	72.4	76.7	80.8	81.9	76.0	71.3	86.0
			Front-Right	54.6	67.0	74.9	78.6	82.7	83.4	77.5	72.7	87.7
			Front	53.5	65.7	71.5	80.7	80.5	83.3	78.3	70.1	87.4
			Front-Left	53.5	65.7	71.5	80.7	80.5	83.3	78.3	70.1	87.4
			Left	50.6	66.2	72.1	76.2	81.0	82.3	78.0	72.3	86.4
			Back-Left	50.6	66.2	72.1	76.2	81.0	82.3	78.0	72.3	86.4
			Back	50.7	64.7	72.3	74.3	76.5	76.1	70.3	67.9	81.7
			Back-Right	51.7	67.3	72.6	78.8	81.0	82.9	76.1	71.6	86.8
			8-pos. log avg.	52.4	66.0	72.6	78.3	80.8	82.4	77.1	71.3	86.5

			Sound Pressure Levels dB(A)								
			Octave Band Center Frequency (Hz)								Overall Level
Load	Distance, m (ft.)	Exhaust	63	125	250	500	1000	2000	4000	8000	
100% Load	1 (3.3)	Raw Exhaust (No Silencer)	59.3	86.6	82.4	89.9	93.3	93.2	87.3	79.1	98.1

250REZXB	60 Hz

Load	Distance, m (ft.)	Enclosure	Measurement Position	Sound Pressure Levels dB(A)								
				Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
No Load	7 (23)	Sound	Right	47.7	57.1	64.4	60.5	58.5	56.7	49.7	42.0	67.6
			Front-Right	47.5	55.9	61.6	64.5	59.9	57.5	50.5	41.7	68.1
			Front	48.5	55.7	57.5	63.4	60.6	58.4	53.1	42.8	67.2
			Front-Left	48.0	55.5	61.9	63.9	60.7	61.0	54.8	45.5	68.6
			Left	51.8	57.5	62.6	61.8	60.2	63.4	58.9	48.3	69.1
			Back-Left	49.1	57.1	62.9	62.4	61.5	60.6	53.9	46.3	68.5
			Back	49.5	61.3	64.2	63.4	63.0	58.7	51.3	42.4	69.6
			Back-Right	47.9	55.9	60.7	62.6	61.4	57.9	50.6	43.0	67.4
			8-pos. log avg.	49.0	57.5	62.4	63.0	60.9	59.8	53.9	44.6	68.3

Load	Distance, m (ft.)	Enclosure	Measurement Position	Sound Pressure Levels dB(A)								
				Right	Front-Right	Front	Front-Left	Left	Back-Left	Back	Back-Right	8-pos. log avg.
No Load	7 (23)	Weather	Overall Levels	84.4	85.9	85.8	85.8	84.5	84.5	79.0	84.0	84.6

Load	Distance, m (ft.)		Measurement Position	Sound Pressure Levels dB(A)								
				Octave Band Center Frequency (Hz)								Overall Level
				63	125	250	500	1000	2000	4000	8000	
No Load	7 (23)	Open Unit, Isolated Exhaust	Right	52.3	63.3	71.7	77.5	81.7	81.9	76.4	68.5	86.3
			Front-Right	50.9	65.4	75.3	79.5	82.8	83.4	77.7	69.9	87.8
			Front	50.9	63.3	71.8	81.5	80.6	83.8	78.0	68.4	87.7
			Front-Left	50.9	63.3	71.8	81.5	80.6	83.8	78.0	68.4	87.7
			Left	50.8	63.1	70.0	77.6	81.1	82.0	78.3	69.6	86.4
			Back-Left	50.8	63.1	70.0	77.6	81.1	82.0	78.3	69.6	86.4
			Back	49.9	64.0	72.1	72.5	76.1	75.2	69.8	62.2	80.9
			Back-Right	50.3	62.9	70.8	79.6	80.3	81.1	76.0	68.0	85.9
			8-pos. log avg.	50.9	63.6	72.0	79.1	80.9	82.2	77.1	68.5	86.5

Load	Distance, m (ft.)	Exhaust	Sound Pressure Levels dB(A)								
			Octave Band Center Frequency (Hz)								Overall Level
			63	125	250	500	1000	2000	4000	8000	
No Load	1 (3.3)	Raw Exhaust (No Silencer)	56.9	74.5	83.4	90.4	93.6	93.2	87.1	78.7	98.0

KOHLER®

Emissions Data

KOHLER®

PSI 2020 Stationary & Mobile 60 Hz Certified Power Generation Rating Data																
Generator Model	**Engine**	**Speed**	**Freq**	**Fuel**	**Duty Cycle**	**BHP**	**KWm**	**Flywheel power [2,3]**		**Engine Family**	**C02[6]**	**NOx[6]**	**CO[6]**	**VOC[6,7]**	**bsfc[5]**	**Catalyst**
		RPM	**Hz**					**HP**	**kW**		**(g/KW-hr)**	**(g/KW-hr)**	**(g/kW-hr)**	**(g/kW-hr)**	**(g/kW-hr)**	
250REZXB	D146L, 14.6L	1800	60	NG	Emergency/Non-Emergency	402	300	449	334.8	LPSIB14.6NGP	952.04	0.10	0.08	0.06	0.24	Yes
	D146L, 14.6L	1800	60	LP	Emergency	402	300	319	237.9	LPSIB14.6NGP	647.93	0.04	0.15	0.06	0.32	Yes

[1] Standby and overload ratings based on ISO3046. Continuous ratings based on ISO 8528.

[2] All ratings are gross flywheel horsepower corrected to 77ºF at an altitude of 328 feet with no cooling fan or alternator losses using heating value for NG of 1015 BTU/SCF.

[3] Production tolerances in engines and installed components can account for power variations of +/- 5%. Altitude, temperature and excessive exhaust and intake restrictions should be applied to power calculations.

[4] Electrical ratings are an estimated based on assumed fan and generator losses and may vary depending on actual equipment losses.

[5] Bsfc is based on 100% gross flywheel power rating and does not include fan or generator losses.

[6] Emissions shown are certified third-party Zero-hour data points suitable for site permitting calculations

[7] For NG, NMHC is reported in place of VOC for this report

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2021 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Power Solutions International, Inc.**
(U.S. Manufacturer or Importer)

Certificate Number: MPSIB14.6NGP-019

Effective Date: 07/15/2020

Expiration Date: 12/31/2021

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 07/15/2020

Revision Date: N/A

Manufacturer: Power Solutions International, Inc.
Engine Family: MPSIB14.6NGP
Mobile/Stationary Certification Type: Mobile and Stationary
Fuel : LPG/Propane
Natural Gas (CNG/LNG)
Emission Standards :
Part 60 Subpart JJJ Table 1
CO (g/Hp-hr) : 2.0
VOC (g/Hp-hr) : 0.7
NOx (g/Hp-hr) : 1.0
Mobile Part 1048
HC + NOx (g/kW-hr) : 2.7
CO (g/kW-hr) : 4.4
NMHC + NOx (g/kW-hr) : 2.7
Stationary Part 1048
CO (g/kW-hr) : 4.4
HC + NOx (g/kW-hr) : 2.7
NMHC + NOx (g/kW-hr) : 2.7
Emergency Use Only : N

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 1048, 40 CFR Part 60, 1065, 1068, and 60 (stationary only and combined stationary and mobile) and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following nonroad engines, by engine family, more fully described in the documentation required by 40 CFR Part 1048, 40 CFR Part 60 and produced in the stated model year.

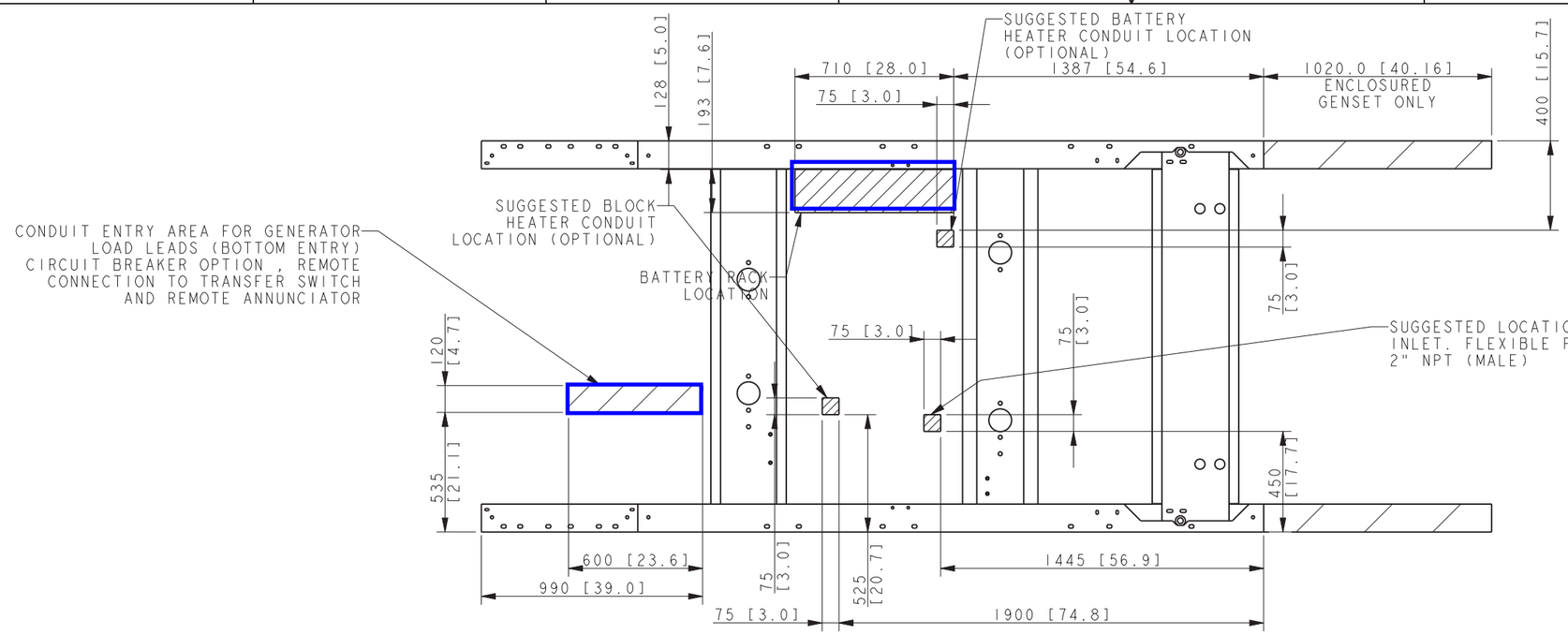
This certificate of conformity covers only those new nonroad spark-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 1048, 40 CFR Part 60 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 1048, 40 CFR Part 60. This certificate of conformity does not cover nonroad engines imported prior to the effective date of the certificate.

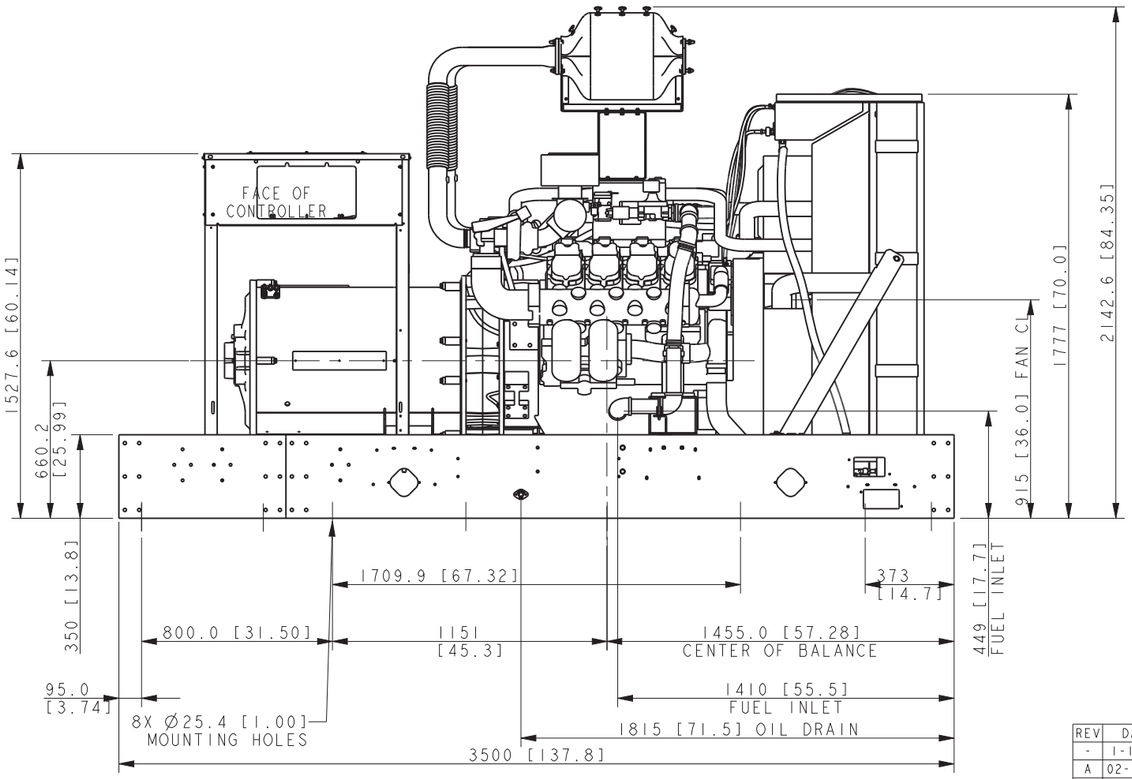
It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 1068.20 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 1048, 40 CFR Part 60. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 1048, 40 CFR Part 60.

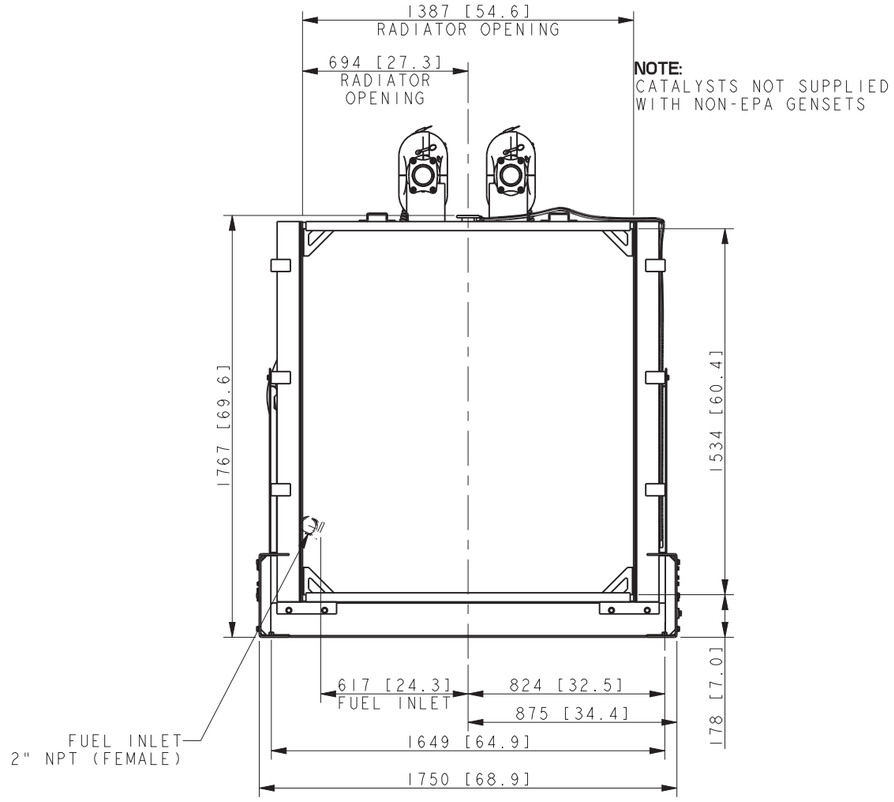
This certificate does not cover large nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

KOHLER®

Dimensional Drawings







NOTE: CATALYSTS NOT SUPPLIED WITH NON-EPA GENSETS

NOTE: DIMENSIONS IN [] ARE ENGLISH STANDARD EQUIVALENTS

GENSET WEIGHT:
MAX WEIGHT (WET): 3200 KG [7040 LBS]
(LESS ACCESSORIES)

300/250 MODEL, 4UAI0/4UAI3
RECONNECTABLE,
IMPROVED MOTOR STARTING (IMS) RECONNECTABLE
& 600 VOLT ALTERNATORS
14.6 LITER DOOSAN, EPA/NON-EPA

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
-	1-14-11	NEW DRAWING [90373-3]	AWK
A	02-19-14	(C-4) 1445 WAS 1575; (A-4) 1410 WAS 1540 [CT72118]	SSH
B	8-18-14	(A-5) DIM 1151 ADDED & DIM 522.5 REMOVED; (A-7)	
		DIM 95.0 ADDED [CT89357]	SAK
C	03-07-18	(A-4) 300/250 WAS 250 [CT184844]	SRB
D	2-20-19	(A-1) "DIMENSION PRINT, 250/300 REZX" WAS	
		"DIMENSION PRINT, 250 REZX"; (B-4,3) 2142.6	
		[84.35] WAS 2153.5 [84.78]; SEE SHEET 2	
		[CT191938]	DS

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN MILLIMETERS
2) TOLERANCES ARE:

SURFACE FINISH MAX.

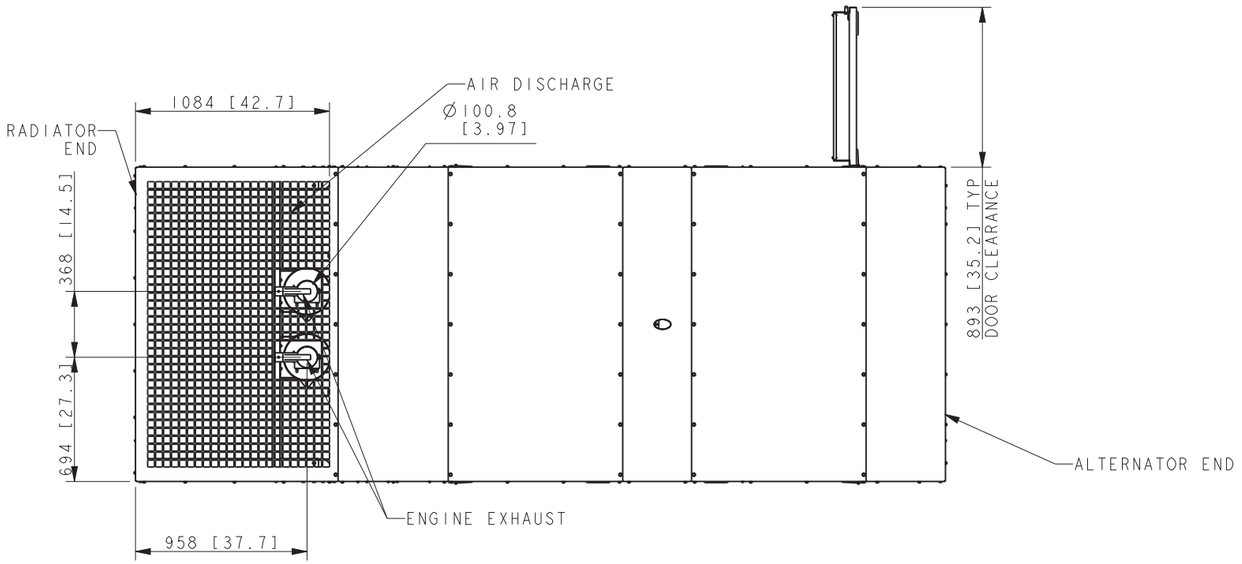
THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	AWK	1-14-11
CHECKED	CWF	1-14-11
APPROVED	WRD	1-14-11

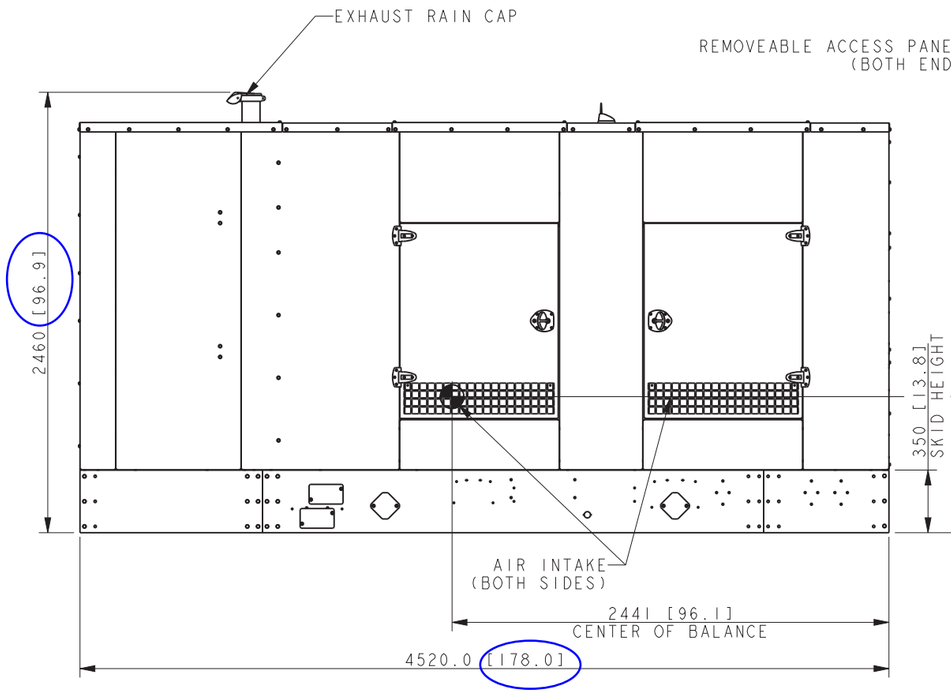
KOHLER CO. METRIC | PRO-E
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

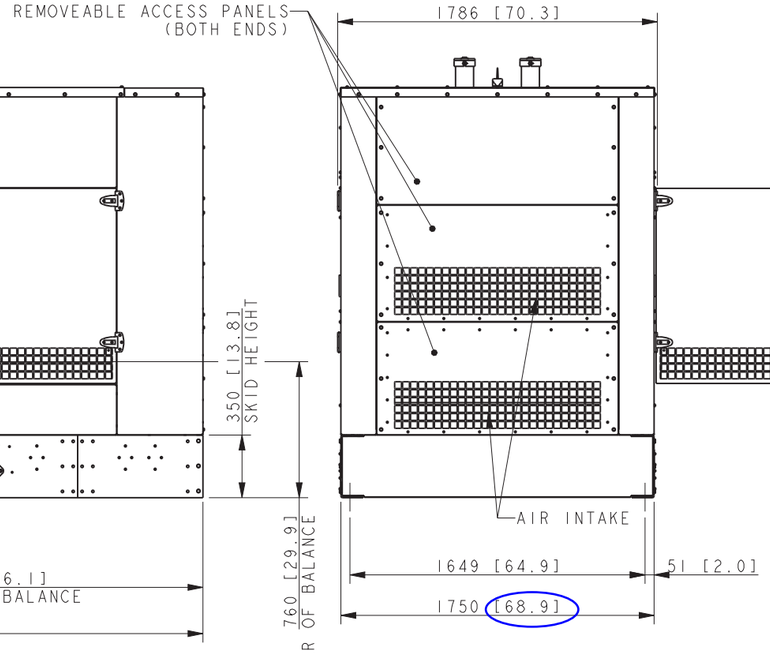
TITLE
DIMENSION PRINT, 250/300 REZX

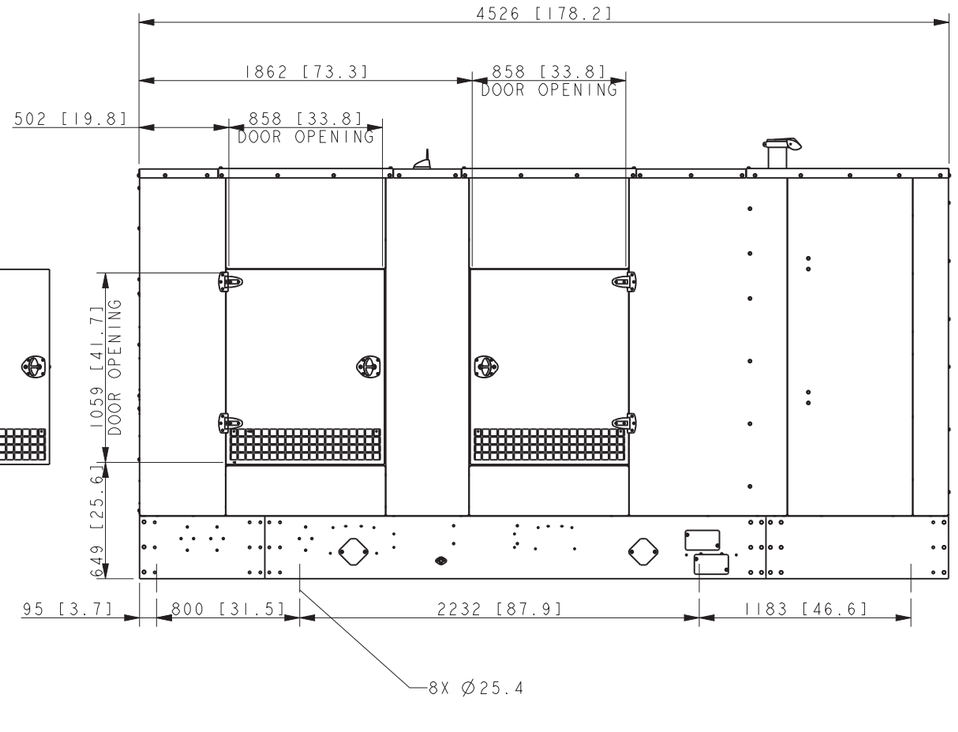
SCALE 0.08 | CAD NO. | SHEET 1 of 3
DWG NO. **ADV-7987** | **D**



MODEL	GENSET WEIGHT (WET) WITH ENCLOSURE		ENCLOSURE ONLY
250 4UA10/4UA13, 300 4UA13	STEEL WEATHER	3942 Kg [8690 LBS]	748 Kg [1650 LBS]
	STEEL SOUND	3969 Kg [8750 LBS]	776 Kg [1710 LBS]
	ALUMINUM SOUND	3647 Kg [8040 LBS]	454 Kg [1000 LBS]







300/250 MODEL, 4UA10/4UA13 RECONNECTABLE
IMPROVED MOTOR STARTING (IMS) RECONNECTABLE
& 600 VOLT ALTERNATORS
14.6 LITER DOOSAN

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
C	9-28-12	(A-3) 95 WAS 50, 800 WAS 1159 (A-2) 2232 WAS 1919 [CT25241]	SAM
D	2-18-13	UPDATED TO NEW DECALS [CT32175]	SAM
E	9-27-17	(D-7) DIM. Ø100.8 [3.97] ADDED [CT177004]	SRM
F	03-07-18	(C,D-4)2504UA10/4UA13,3004UA13 WAS 2504UA10/4UA13; (A-4) 300/250 WAS 250 [CT184844]	SRB
G	9-6-18	(B-7) C.O.B ADDED [CT189264]	APB

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN MILLIMETERS
2) TOLERANCES ARE:
X.XX ± 0.25
X.X ± 1.0
X ± 1.5
ANGLES ± 0° 30'
SURFACE FINISH MAX.
THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	KDW	9-11-09
CHECKED	KDW	9-11-09
APPROVED	JAS	9-11-09

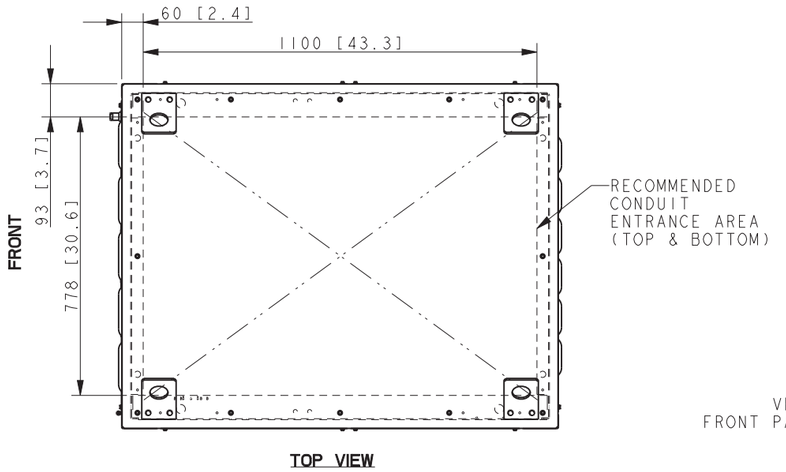
KOHLER CO. METRIC | PRO-E

POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

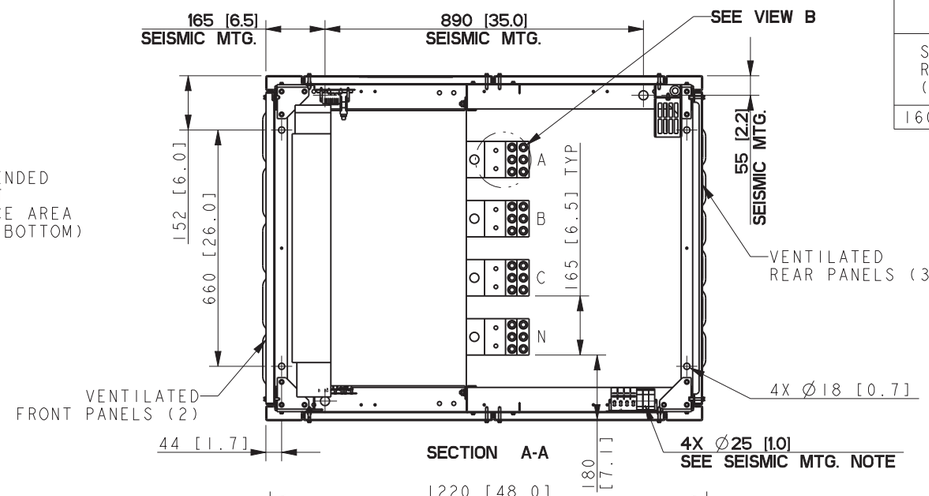
TITLE: **DIMENSION PRINT, ENCLOSURE**

SCALE 0.06 | CAD NO. | SHEET 1 of 1

DWG NO. **ADV-7718** | **D**



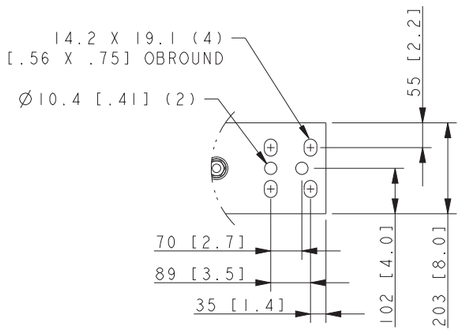
TOP VIEW



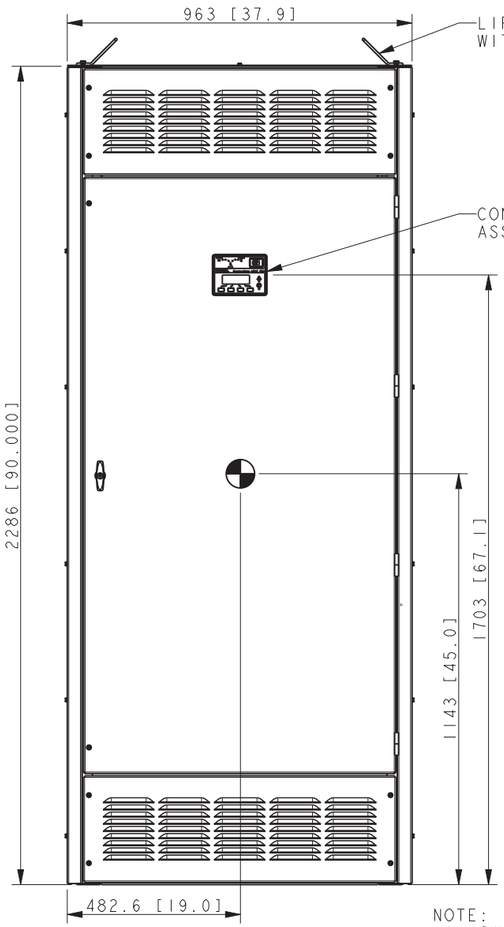
SECTION A-A

SCREW TYPE TERMINALS FOR EXTERNAL POWER CONNECTION			
SWITCH RATING (AMPS)	RANGE OF AL-CU WIRE SIZES		
	CONTACTOR (PER PHASE)	NEUTRAL (3 POLE)	GROUND
1600-2000	(6) 1/0 - 750 KCMIL	(24) 1/0 - 750 KCMIL	(3) #4 - 500 KCMIL

SEISMIC MOUNTING NOTE:
FOR SEISMIC CERTIFIED UNITS,
MOUNT WITH THE FOLLOWING HARDWARE:
Ø19.05 [.750] BOLT (4)
Ø50.8 [2.00] x 3.76 [.148] THICK WASHER (4)
HARDWARE TO COMPLY WITH SPECIFICATIONS
ON ADV-7456.

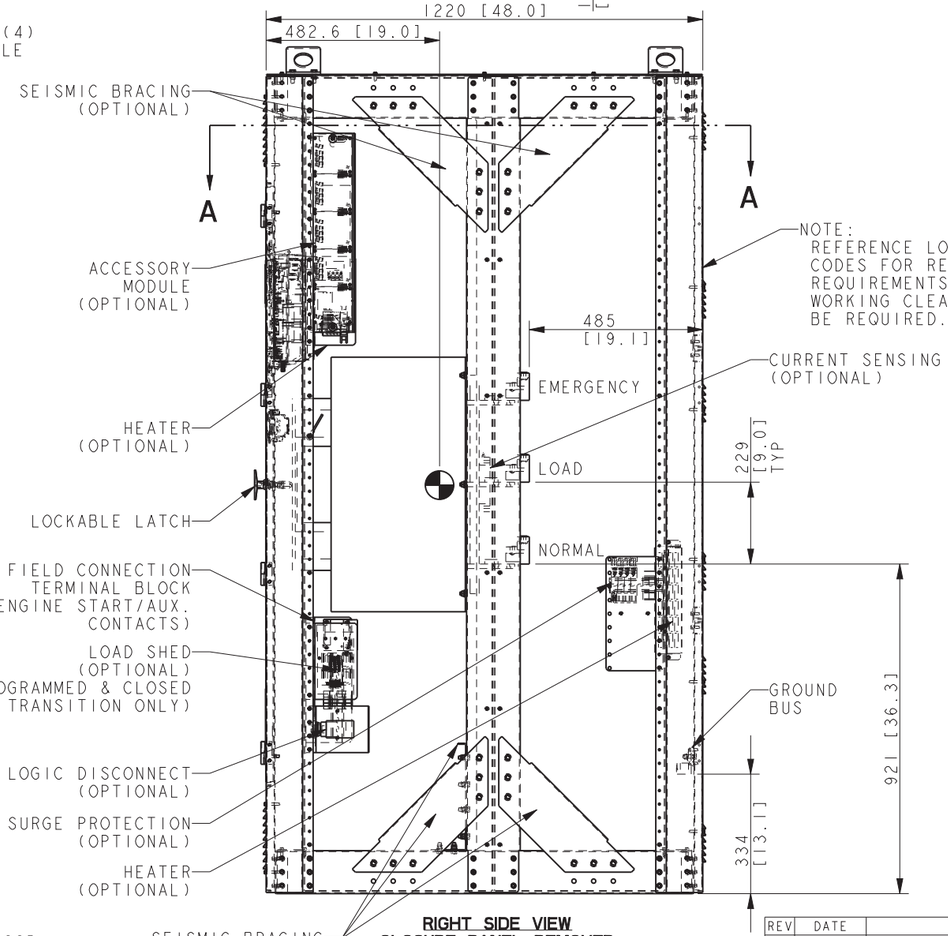


VIEW B
BUS TERMINATION DETAIL
LUG NOT SHOWN



FRONT VIEW

NOTE:
ALLOW FOR MINIMUM DOOR SWING CLEARANCE OF 963 [38.0] IN FRONT OF THE CABINET.



RIGHT SIDE VIEW
CLOSURE PANEL REMOVED

WEIGHT KG [LBS]		
TRANSITION	3P	4P
STANDARD	472 [1040]	494 [1090]
CLOSED/PROGRAMMED	533 [1175]	556 [1225]

NOTES:
DIMENSIONS IN [ ] ARE IN INCHES.

FINISH - ANSI 49 GRAY.

REFER TO OPERATORS MANUAL PRIOR TO INSTALLATION AND OPERATION OF SWITCH.

FOR SEISMIC CERTIFIED UNITS, REFER TO ADV-7456 AND INSTALLATION INSTRUCTIONS.

SEE ADV-8565 FOR FULL MODEL CODE DEFINITION

STYLE	MECHANISM	TRANSITION	MPAC LOGIC	VOLTS	POLES	NEUTRAL	ENCLOSURE	AMPS	CONNECTION
KCS	STANDARD	STANDARD	1200,1500	208-600	3,4	SOLID,SW,OVLP	1	1600,2000	STANDARD
KCP, KCC	STANDARD	PROG, CLOSED	1200,1500	208-600	3,4	SOLID,SW	1	1600,2000	STANDARD

REV	DATE	REVISION	BY
-	8-21-13	NEW DRAWING [CT54441]	BTW
A	12-14-20	(A-6-7) STANDARD WAS STD; (A-B-5) GM114691-1 WAS GM21311; (B-6) PROGRAMMED & CLOSED WAS PROGRAMMED; (A-4)(D-4) REMOVED NEUTRAL; (B-3-4) REMOVED NOTE; (A-3) REMOVED DIMENSION; (B-8) REMOVED GM107357 DECAL;	ZHK
		(B-5,7) ADDED CG; [CT20803I]	

UNLESS OTHERWISE SPECIFIED:
1) DIMENSIONS ARE IN MILLIMETERS
2) TOLERANCES ARE:
X.XX
X.X
X
ANGLES
SURFACE FINISH MAX.
THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	BTW	8-21-13
CHECKED	BTW	8-21-13
APPROVED	MTL	8-21-13

KOHLER CO. METRIC PRO-E
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

TITLE: DIMENSION PRINT

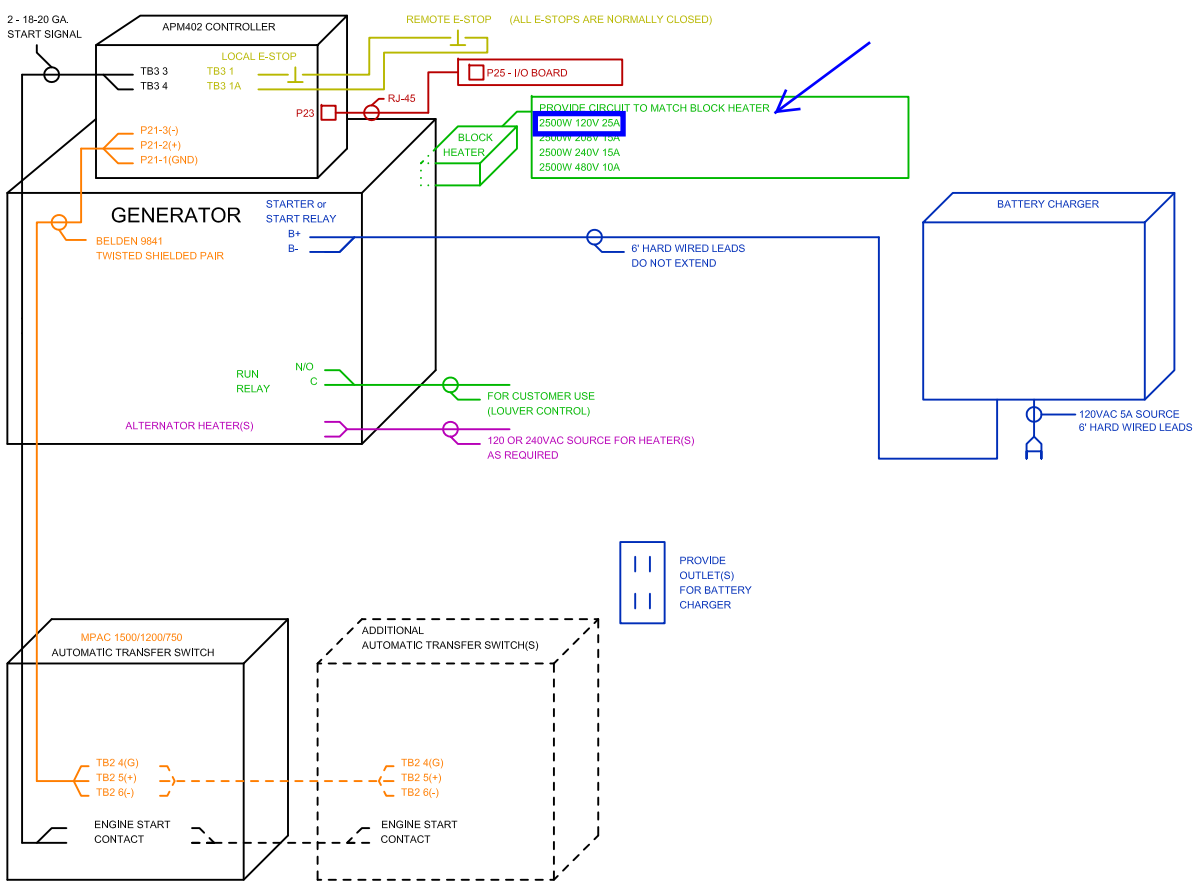
SCALE 0.12 | CAD NO. | SHEET 1 of 1

DWG NO. ADV-8579 | D

KOHLER®

Wiring Schematics

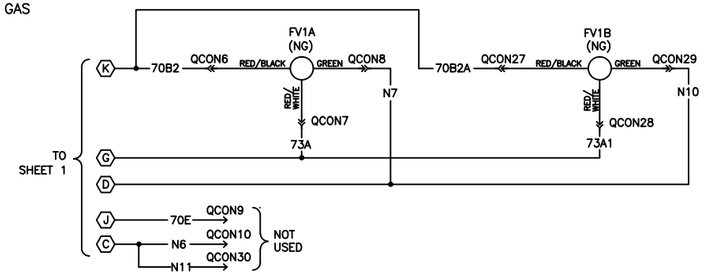
FIELD WIRING APM402 CONTROLLER



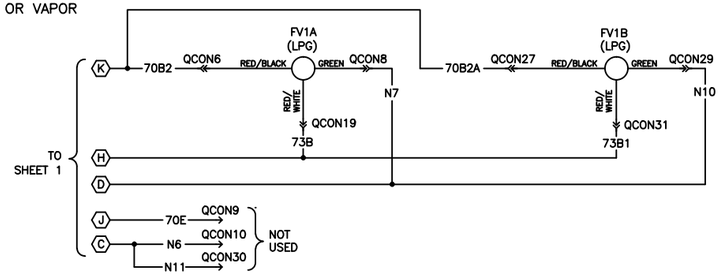
REV	DATE	REVISION	BY	#
E	10-1-14	SEE SHEET 1 [CT94120]	DFS	
F	7-30-15	SEE SHEET 1 [CT118596]	DFS	
G	10-4-17	(A-3) APM402 TEXT ADDED; SEE SHEET 1 [CT179841]	ABS	
H	3-23-18	(A-2,-1) DOOSAN 250 KW & 300 KW WAS DOOSAN 250 KW [CT185684]	PAR	

FUEL SYSTEMS

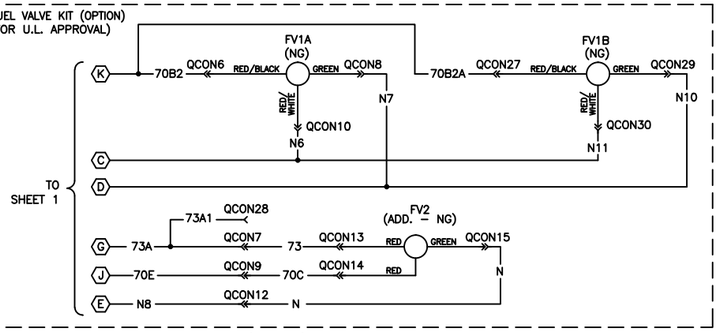
NATURAL GAS



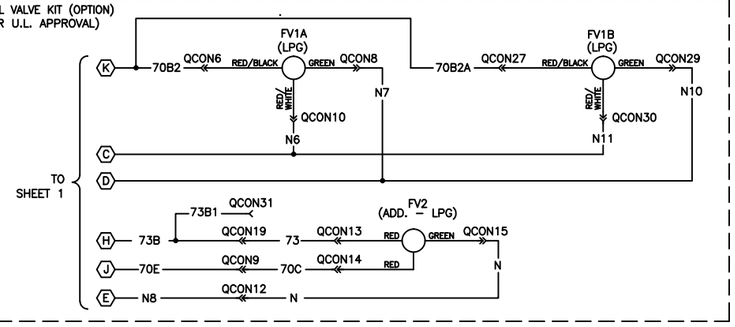
LPG LIQUID OR VAPOR

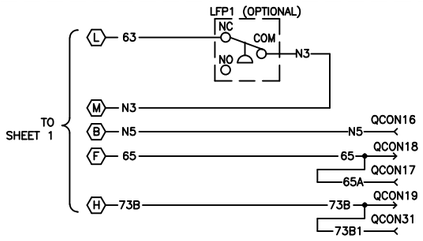


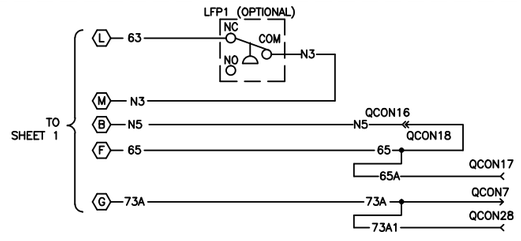
ADDITIONAL FUEL VALVE KIT (OPTION) (REQUIRED FOR U.L. APPROVAL)



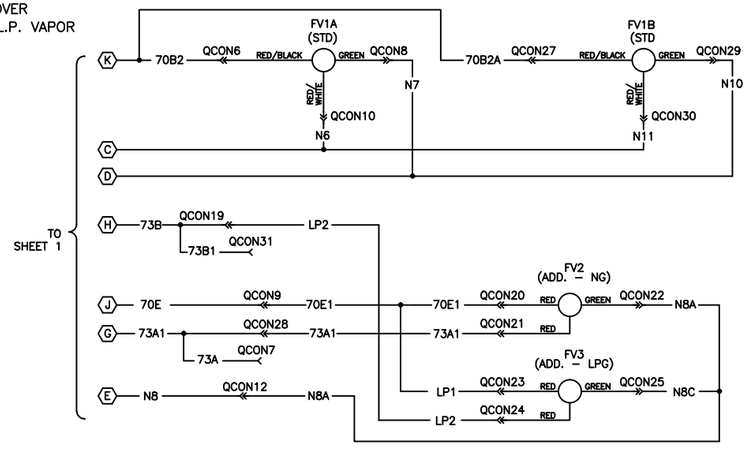
ADDITIONAL FUEL VALVE KIT (OPTION) (REQUIRED FOR U.L. APPROVAL)

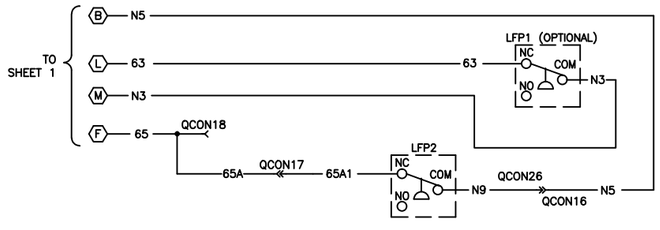






AUTO CHANGEOVER NATURAL GAS/L.P. VAPOR





14.6L
DOOSAN 250 KW & 300 KW
APM402 / DEC 3000 CONTROLLER
W/ SPLIT ACTIVATOR 1ø, 3ø & 600V

UNLESS OTHERWISE SPECIFIED — 1) DIMENSIONS ARE IN INCHES 2) TOLERANCES ARE: .XXX ± .010 ANGLES ± 1/2° .XX ± .030 SURFACE FINISH .X ± .060 MAX. FRACTIONS ±

APPROVALS	DATE
DRAWN DFS	11-12-10
CHECKED CRS	11-12-10
APPROVED JAS	11-12-10

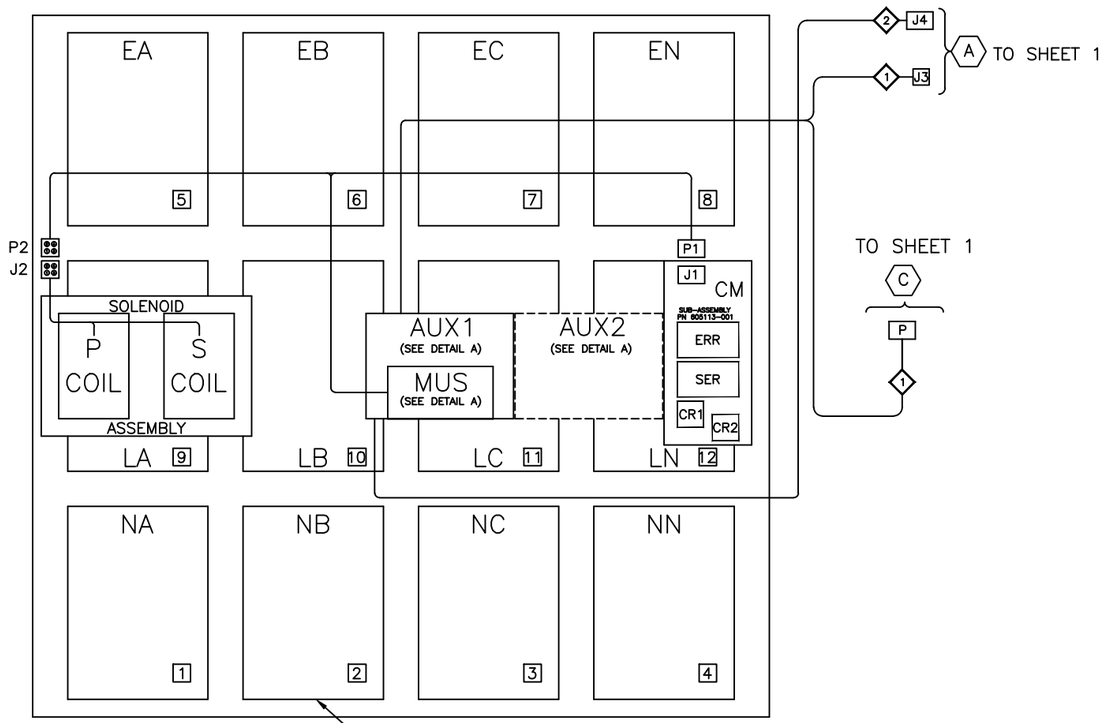
KOHLER CO.
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

TITLE: DIAGRAM, SCHEMATIC
DOOSAN 250 KW & 300 KW

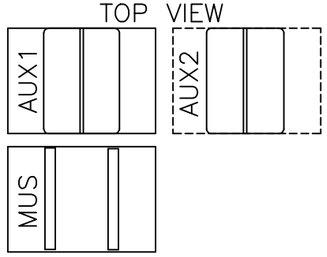
SCALE: NONE | CAD NO. | SHEET 2-2
PLOTTED | DWG. NO. ADV-7970 | D

REV	DATE	REVISION	BY	M T
–	11–10–20	NEW DRAWING [CT208033]	SMH	
A	2–10–21	SEE SHEET 3 [CT209873]	SBR	

TS (TRANSFER SWITCH)



DETAIL A
MUS, AUX1 & AUX2
TOP VIEW



MODEL KCS
TIME BASED MECHANISM
STANDARD TRANSITION
1600–4000A, 1 & 3 PHASE

UNLESS OTHERWISE SPECIFIED –
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX ± .010 ANGLES ± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

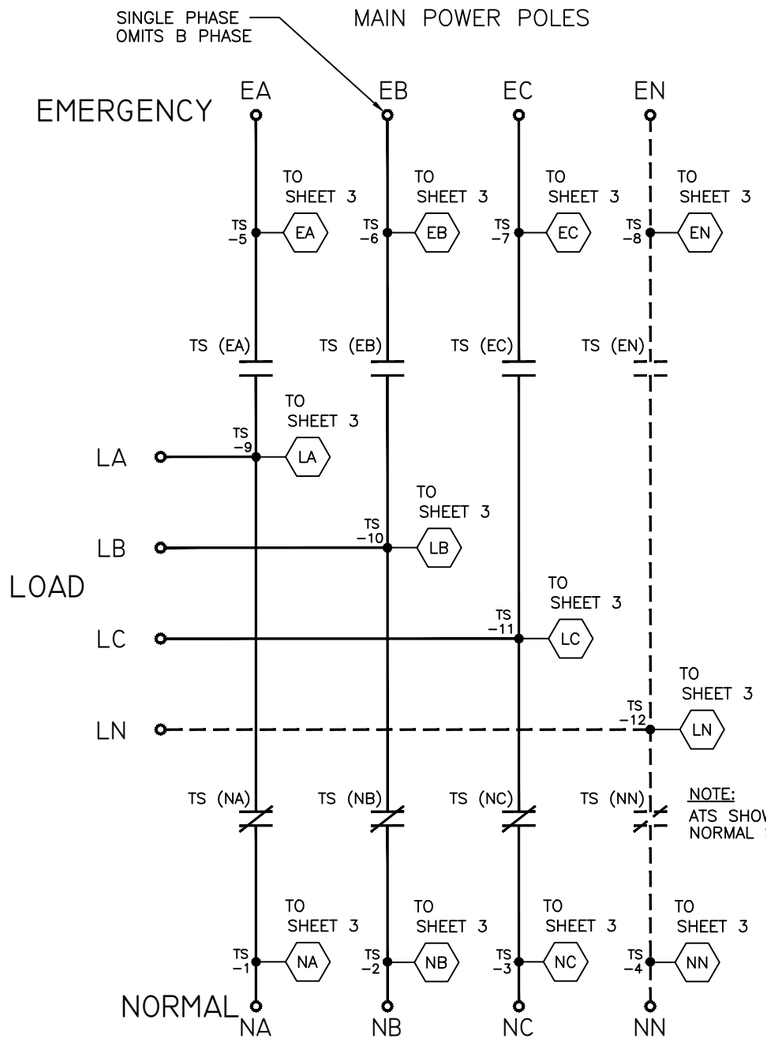
APPROVALS	DATE
DRAWN SMH	11–13–20
CHECKED DJY	11–13–20
APPROVED DJY	11–13–20

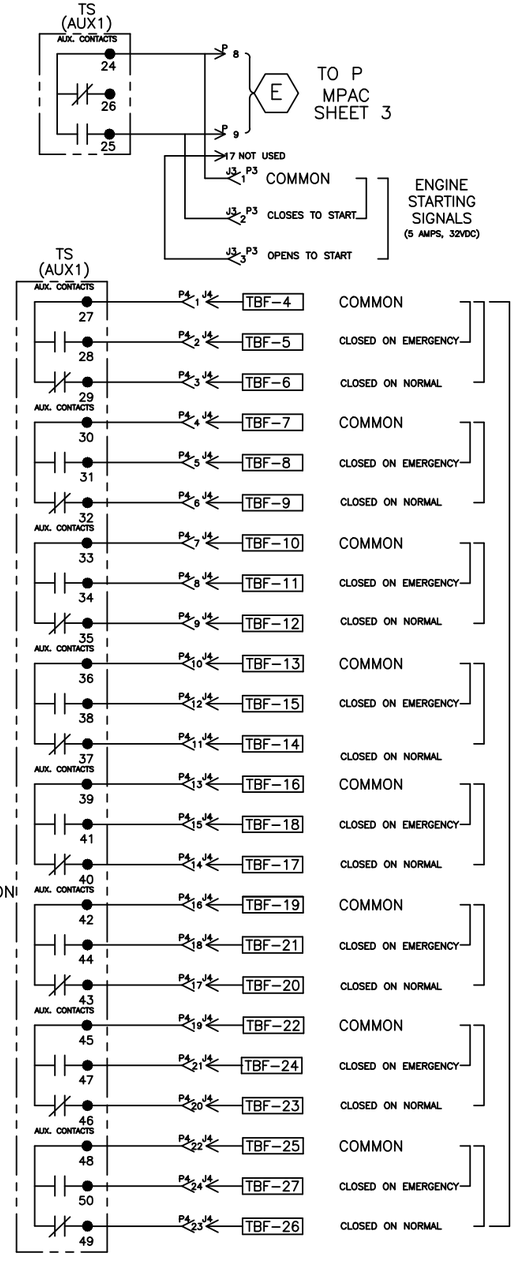
KOHLER.
KOHLER, WI 53044

TITLE: DIAGRAM, ATS, KCS
1600–4000A G FRAME

SCALE: / / / SHEET 2–4
PLOTTED DWG. NO. GM115514 D

REV	DATE	REVISION	BY	M P
–	11–10–20	NEW DRAWING [CT208033]	SMH	
A	2–10–21	SEE SHEET 3 [CT209873]	SBR	





GENERAL NOTES

1. SWITCH SHOWN DE–ENERGIZED AND CONNECTED TO THE NORMAL SOURCE.
2. DEVICE SYMBOLS AND DESIGNATIONS ARE IN ACCORDANCE WITH NEMA PUBLICATION ICS 1–1983, PART 1–101A.
3. ALL WIRING IS #16 AWG, TINNED, STRANDED COPPER UNLESS OTHERWISE INDICATED.
4. ○ ON TERMINAL BLOCKS INDICATES AVAILABLE FIELD CONNECTION POINT.
5. ● ON TERMINAL BLOCKS INDICATES FACTORY CONNECTION POINT.

MODEL KCS
TIME BASED MECHANISM
STANDARD TRANSITION
1600–4000A, 1 & 3 PHASE

UNLESS OTHERWISE SPECIFIED – 1) DIMENSIONS ARE IN INCHES 2) TOLERANCES ARE: .XX±.010 .XXX±.030 .X±.060 FRACTIONS ± ANGLES± 1/2° SURFACE FINISH 125 MAX.

APPROVALS	DATE
DRAWN SMH	11–13–20
CHECKED DJY	11–13–20
APPROVED DJY	11–13–20

TITLE: DIAGRAM, ATS, KCS 1600–4000A G FRAME
SCALE: /// SHEET 4–4
PLOTTED
DWG. NO. GM115514 D

KOHLER®

Miscellaneous

OVERVIEW:
THE AUTOMATIC MULTI-LEVEL FLOAT/ EQUALIZE CHARGER SPECIFIED BELOW IS INTENDED TO CHARGE ENGINE STARTING BATTERIES EITHER INDEPENDENT OR IN CONJUNCTION WITH AN ENGINE DRIVEN CHARGING SYSTEM.

BATTERY TYPES TO BE CHARGED:
LEAD ACID
AGM
GEL CELL
HIGH PERFORMANCE AGM
FLOODED
NICKEL CADMIUM (NiCd)

INPUT AC:
INPUT VOLTAGE: 90-265V SINGLE PHASE
INPUT FREQUENCY: 47-63 Hz

INPUT LEAD:
APPROXIMATELY 1.8M (72") (REF) TYPE SJTOW -40°C TO 105°C UL RATED WIRE AND INSULATION.
TERMINATED IN PRE-MOLDED UL RATED 3 PRONG NEMA 5-15 MALE AC PLUG.

DC OUTPUT:
10A @ 12V
10A @ 24V
VOLTAGE REGULATION: +/-1% (VOLTAGE AT EACH STAGE IS TOPOLOGY DEPENDENT)

OUTPUT LEAD:
APPROX. 1.8M (72") (REF) TYPE SJTOOW -40°C TO 105°C UL RATED WIRE WITH RED AND BLACK WIRE INSULATION. TERMINATED IN 9.5 mm (REF) RING STYLE TERMINALS.

FUSES:
THE FUSE MUST BE LOCATED APPROXIMATELY 6" FROM RING TERMINAL ON RED OUTPUT LEAD.
20A ATC

ENVIRONMENTAL:
STORAGE TEMPERATURE RANGE: -40 TO +85°C (-40 TO +185°F)
OPERATING TEMPERATURE RANGE: -20 TO +70°C (-4 TO +158°F)
HUMIDITY: 5 TO 95% (NON-CONDENSING)
SALT SPRAY TESTING - ASTM B117
CORROSIN RESISTANT FROM GASSING OF BATTERIES

REVERSE POLARITY PROTECTION:
THE CHARGER SHALL SUSTAIN NO DAMAGE WHEN INCORRECTLY CONNECTED TO THE BATTERY IN REVERSE ORIENTATION.

MOUNTING:
4 NON-THREADED THROUGH HOLES FOR M6 FASTENERS TO PASS THOUGH

ENCLOSURE:
SHALL PROTECT THE CHARGER COMPONENTS FROM RAIN, SNOW, DUST AND DRIPPING WATER AND UNINTENTIONAL INPACTS. ALL INTERNAL COMPONENTS PROTECTED FROM WATER DROPLETS.

INDICATORS:
POWER: INDICATES THE ACCEPTABILITY OF AC INPUT TO THE CHARGER
COMMUNICATION: INDICATES THE STATE OF THE COMMUNICATION SYSTEM
TEMPERATURE COMPENSATION: INDICATES THE STATE OF THE TEMPERATUARE COMPENSATION SUBSYSTEM WHEN INSTALLED
VOLTAGE OUTPUT: INDICATES THE STATE OF THE BATTERY AND CERTAIN FAULT CONDITIONS.

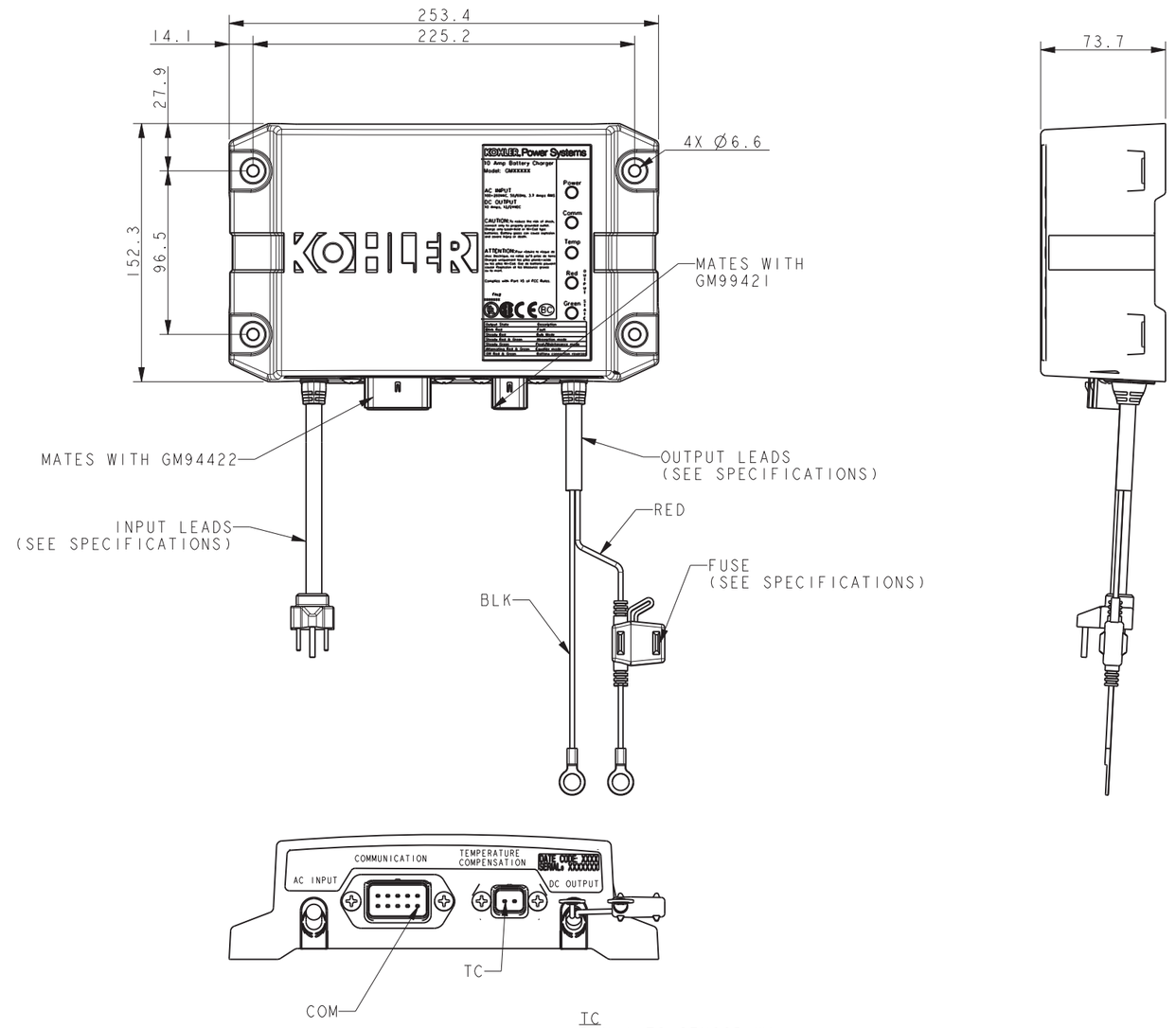
DOCUMENTATION:
THERE SHALL BE AN INSTALLATION / OPERATIONAL MANUAL SUPPLIED WITH EACH CHARGER.
PER KOHLER SUPPLIED ARTWORK.

CERTIFICATIONS (US AND CANADA):
UL1236
CSA - C22.2 NO 107.2-01
FCC- TITLE 47, PART 15 CLASS A
CE
EN 61000-6-2
CEC AND DOE
NFPA-110 LEVEL1 (WHEN SUPPORTED WITH APPLICABLE KOHLER CONTROLLER)
IBC

PRODUCT LABELING:
THE LABEL ATTACHED TO THE CHARGER SHALL HAVE THE FOLLOWING INFORMATION:
UL LISTING
KOHLER PART NUMBER
DESCRIPTION OF ALL INDICATOR
OUTPUT CURRENT AND VOLTAGE
INPUT VOLTAGE AND FREQUENCY

PACKAGING LABEL:
THE PACKAGING LABEL SHALL CONTAIN THE FOLLOWING INFORMATION:
KOHLER P/N
DESCRIPTION - BATTERY CHARGER
MFG. MODEL NO.
MFG. PART NUMBER
DATE CODE

WARRANTY:
2 YEAR FROM DATE OF PURCHASE FROM MANUFACTURE.



COM
PIN 1 N/C
2 ID SEL 1
3 ID SEL 2
4 N/C
5 CAN-H
6 N/C
7 ID SEL 1 RTN
8 ID SEL 2 RTN
9 CAN-GND
10 CAN-L

TC
PIN 1 TC SENSOR W1
2 TC SENSOR W2

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
-	9-22-14	NEW DRAWING [CT91634]	SAM
A	5-9-17	(C-4,2) MATING NOTE ADDED (A-2, 4) PIN CONNECTIONS ADDED [CT174256]	SAM

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN MILLIMETERS
2) TOLERANCES ARE:
X.XX ± 0.25
X.X ± 1.0
X ± 1.5
ANGLES ± 0° 30'
SURFACE FINISH MAX.
THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	SAM	9-22-14
CHECKED	SAM	9-22-14
APPROVED	AGT	9-22-14

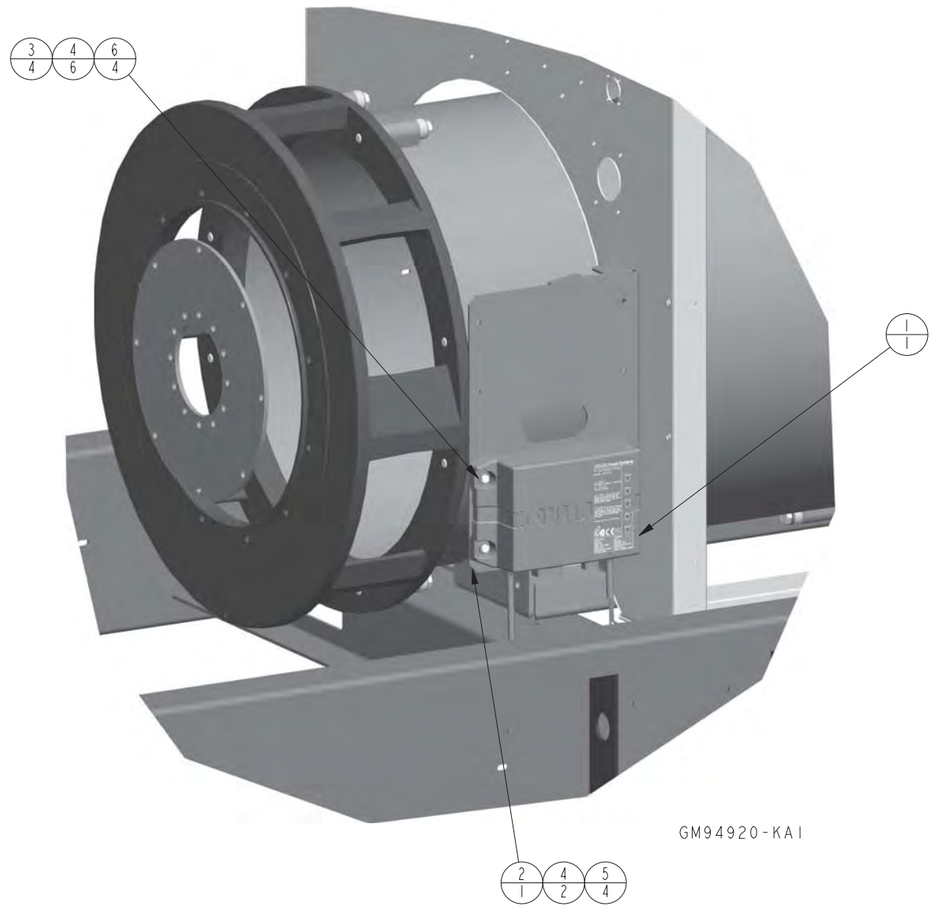
KOHLER CO. METRIC PRO-E
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

TITLE
CHARGER, BATTERY 10 AMP

SCALE 0.50 | CAD NO. | SHEET 1 of 1
DWG NO. GM87448 | D

KIT NO.	ITEM	PART NO	QTY	DESCRIPTION
GM94920-KA1				ASSY BATTERY CHARGER 12/24V-10A
	1	GM87448	1	CHARGER, BATTERY
	2	GM94448	1	BRKT, 10 AMP BATTERY CHARGER
	3	M125A-06-80	4	WASHER, PLAIN 6.4 ID X 12.0 OD
	4	M6923-06-80	8	NUT, HEX 6MM
	5	M933-06016-60	4	SCREW, HEX CAP
	6	M933-06030-60	4	SCREW, HEX CAP
GM94920-KA2				ASSY BATTERY CHARGER 12/24V-10A
	1	GM87448	2	CHARGER, BATTERY
	2	GM94448	2	BRACKET, 10 AMP BATTERY CHARGER
	3	M125A-06-80	8	WASHER, PLAIN 6.4 ID X 12.0 OD
	4	M6923-06-80	12	NUT, HEX 6MM
	5	M933-06016-60	4	SCREW, HEX CAP
	6	M933-06030-60	8	SCREW, HEX CAP
	7	GM95017	1	HARNESS, Y

THIS IS AN AUTOMATED TABLE. ALL UPDATES MUST BE MADE IN THE ASSEMBLY.



GM94920-KA1

NOTE: FOR PROPER ASSEMBLY METHOD OF HARDWARE, USE G-585 AS A GUIDELINE.

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
-	10-2-14	NEW DRAWING [CT953033]	SAM
A	11-28-16	(D-8) M6923-06-80: 8 WAS 6, M933-06016-60:4 WAS 2, GM94920-KA2 VOIDED, VIEW REMOVED [CT166633]	SAM

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN MILLIMETERS
2) TOLERANCES ARE:
X.XX ± 0.25
X.X ± 1.0
X ± 1.5
ANGLES ± 0° 30'
SURFACE FINISH MAX.
THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	SAM	10-2-14
CHECKED	SAM	10-2-14
APPROVED	AGT	10-2-14

KOHLER CO. METRIC | PRO-E

POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

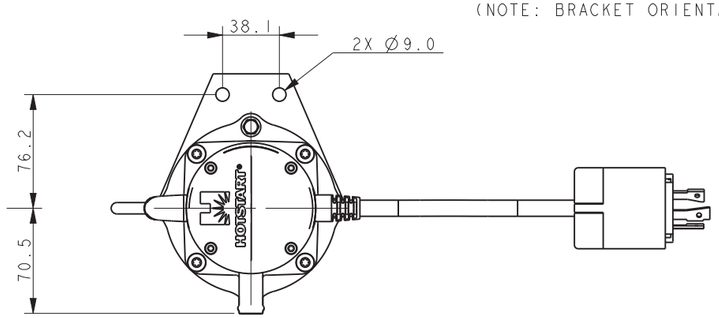
TITLE
DWG, ASSY BATTERY CHARGER

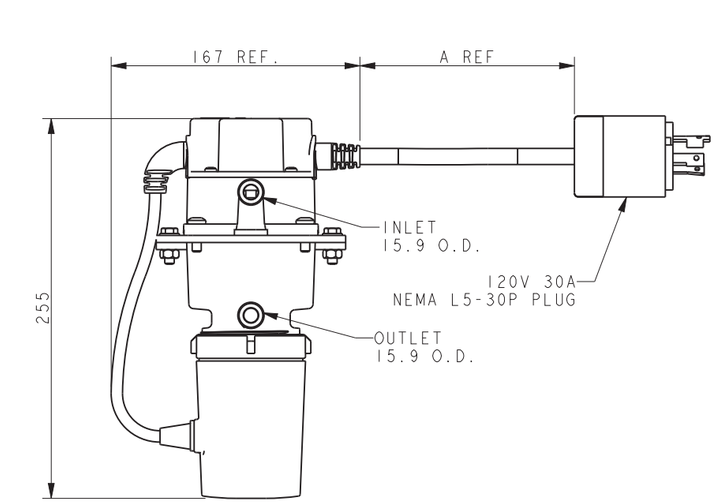
SCALE 0.25 | CAD NO. | SHEET 1 of 1

DWG NO. **GM94920** | **D**

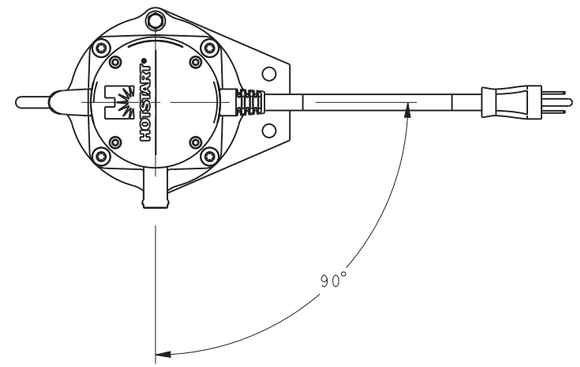
PART NO.	REV.	VOLTAGE	WATTAGE	AMPS	VIEW	PUMP WATTAGE	CORD LENGTH "A"	THERMOSTAT TEMP RANGE	REMARKS
GM67502	B	120V	2500W	30	1	50W	1219 [48.0]	38°/49°C[100°/120°F]	-
~~GM67503~~	~~-~~	~~240V~~	~~2500W~~		~~1~~				
GM73898	B	120V	1000W	15	2	50W	1219 [48.0]	38°/49°C[100°/120°F]	-
GM101193	-	120V	2000W	16.7	3	50W	2438 [96.0]	27°/38°C[80°/100°F]	ORIENT INLET AND OUTLET TO LEFT SIDE OF CORD

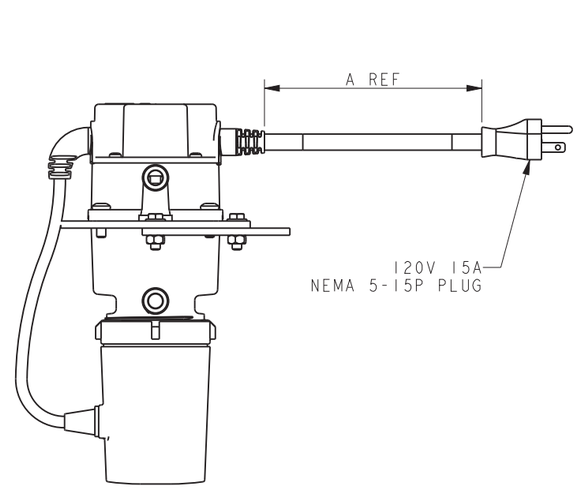
VIEW 1
(NOTE: BRACKET ORIENTATION)



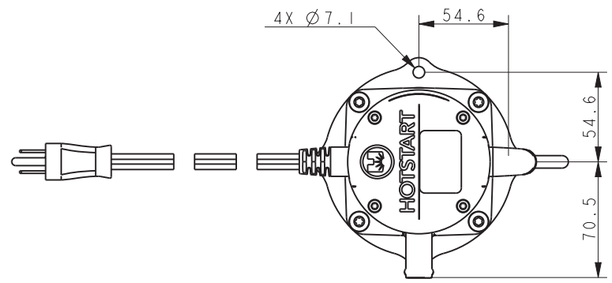


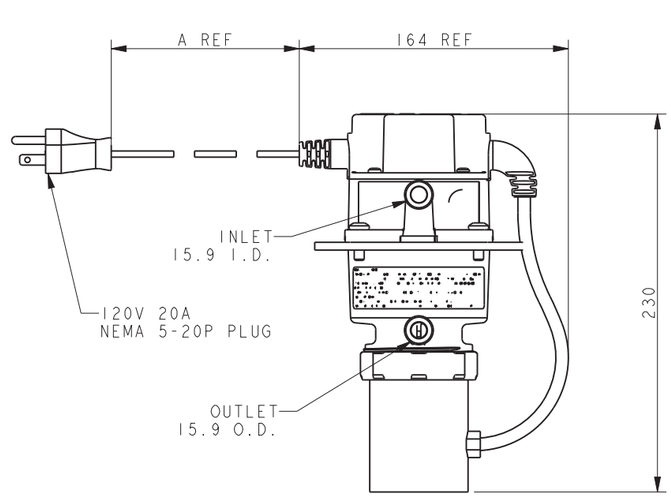
VIEW 2
(NOTE: BRACKET ORIENTATION)





VIEW 3
(NOTE: NO BRACKET)





30 KW JD
180/200 KW
11.1L DOOSAN

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
-	6-8-09	NEW DRAWING [87613-2]	DCF
A	12-16-09	(D-8) GM73898 & VIEW 2 ADDED [S.O.#1007323716]	BAL
B	3-25-11	VIEW 1 AND 2 UPDATED PER VENDOR REQUEST. (D-8) GM67503 VOIDED. [90708]	GFR
C	5-12-16	GM101193 ADDED; TABLE UPDATED [CTI46529]	SSH

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN MILLIMETERS
2) TOLERANCES ARE:
X.XX ± 0.25
X.X ± 1.0
X ± 1.5
ANGLES ± 0° 30'
SURFACE FINISH 63 MAX.
THIRD ANGLE PROJECTION

APPROVALS	DATE
DRAWN DCF	6-8-09
CHECKED DJG	6-8-09
APPROVED JAS	6-8-09

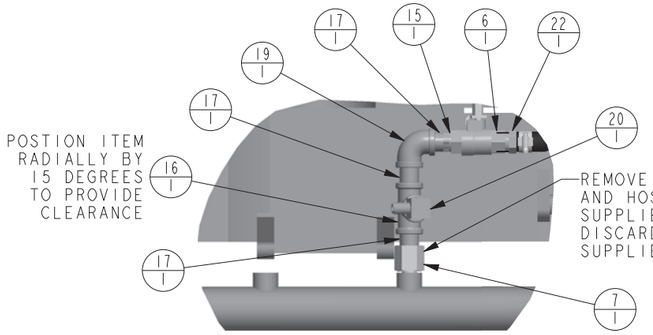
KOHLER CO. METRIC | PRO-E
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

TITLE
DWG, HEATER, BLOCK

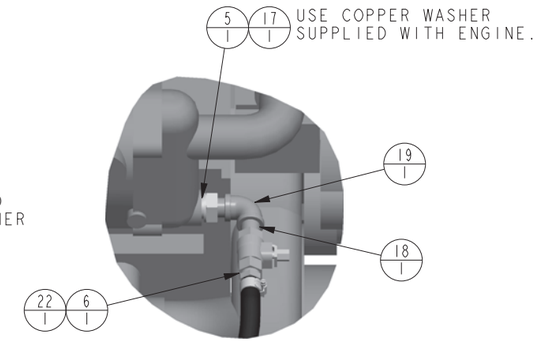
SCALE 0.50 | CAD NO. | SHEET 1 of 1
DWG NO. GM67502-CMP | D

KIT NO.	ITEM	PART NO	QTY	DESCRIPTION
GM70703-KB				BASE GRP, BLOCK HEATER
	1	25450-00062	7.00FT	HOSE, .63 I.D.
	2	X-312-35 (REF)	1	HOSE,.63 ID
	3	X-312-49 (REF)	1	HOSE,.63 ID
	4	279047	1	TAG, INSTRUCTION
	5	361358	1	ADAPTER, BUSHING
	6	GM19670	2	VALVE, SHUTOFF (1/2-14NPT)
	7	GM24328	1	ADAPTER, BUSHING (1/2-14NPT - M16X1.5)
	8	GM67506	1	BRACKET, BLK HEATER MTG
	9	M125A-08-80	2	WASHER, PLAIN 8.4 ID X 16.0 OD
	10	M125A-10-80	2	WASHER, PLAIN 10.5 ID X 20.0 OD
	11	M6923-08-80	2	NUT, HEX 8MM
	12	M6923-10-80	2	NUT, HEX 10MM
	13	M933-08025-60	2	SCREW, HEX CAP
	14	M933-10025-60	2	SCREW, HEX CAP
	15	X-202-28	1	BUSHING, REDUCING (3/8 X 1/2"NPT)
	16	X-203-13	1	TEE, PIPE (1/2 X 1/2 X 1/2 NPT)
	17	X-209-2	4	PIPE (1/2"NPT X 1.19")
	18	X-209-5	1	PIPE (1/2"NPT X 1.50")
	19	X-215-1	2	ELBOW, PIPE (90 DEG X 1/2"NPT)
	20	X-391-42	1	CONNECTOR, 90 DEG. (3/8"ID HOSE)
	21	X-426-12	4	CLAMP, HOSE, .69/1.25 IN.
	~~22~~	~~X-502-1~~	~~2~~	~~CONNECTOR, HOSE 5/8" X 1/2" MIP BRASS~~
GM70703-KA1				BLOCK HEATER, 2500W, 120V
	23	GM67502	1	HEATER, BLOCK
GM70703-KA2				BLOCK HEATER, 2500W, 240V
	~~23~~	~~GM67503~~	~~1~~	~~HEATER, BLOCK~~

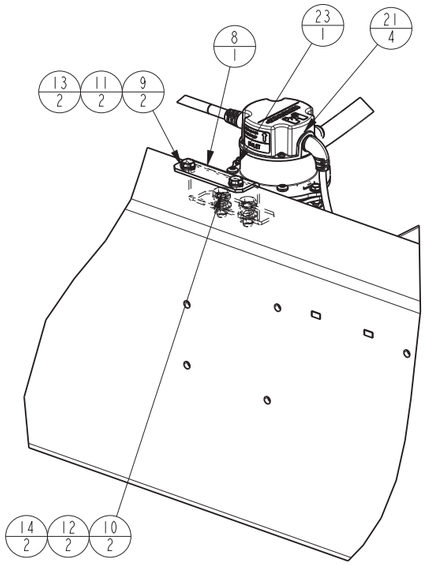
THIS IS AN AUTOMATED TABLE. ALL UPDATES MUST BE MADE IN THE ASSEMBLY.
ITEMS 1-4 & 22 ARE FIXED



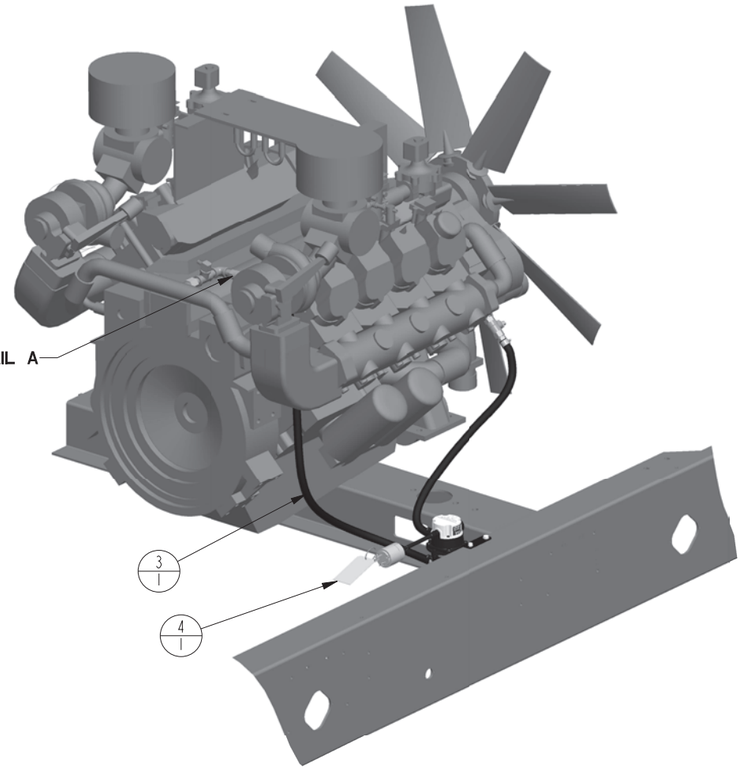
DETAIL A
VIEWED FROM TOP REAR
SCALE 0.30

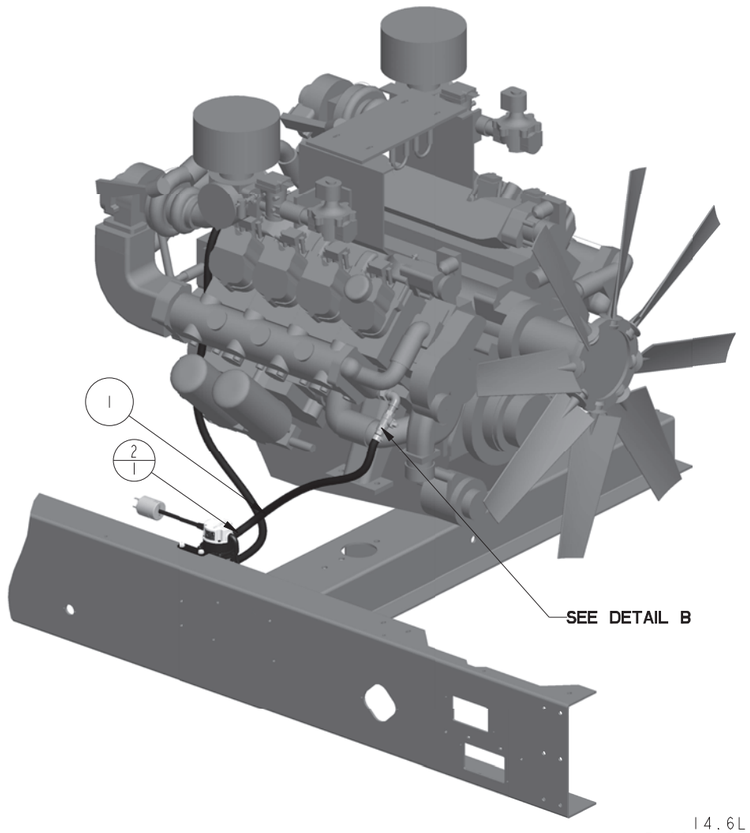


DETAIL B
VIEW FROM RIGHT
SCALE 0.300



DETAIL C
SCALE 0.30





14.6L DOOSAN
BLOCK HEATER KIT

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
-	8-19-09	NEW DRAWING [88254-7]	DJV
A	6-25-12	(C-8) GM70713-KA2 VOIDED [CT16543]	SAM
B	9-14-12	(D-8) 279047(1) ADDED [CT21716]	KMP
C	3-7-13	(D-8) GM24328 WAS 225127; (C-8) X-209-2 (4) WAS	
		X-209-2 (1); (C-8) X-215-1 WAS X-215-9, X-203-13	
		WAS X-6278-10 & X-391-42 WAS X-6278-12; (C-4)	
		DETAIL A UPDATED; (D-1) NOTE ADDED [CT39528]	SVP
D	4-3-13	(C-8) X-215-1: QTY 2 WAS 1, X-215-3 (1) REMOVED	
		[CT42324]	PKD

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN MILLIMETERS
2) TOLERANCES ARE:
X.XX ± 0.25
X.X ± 1.0
X ± 1.5
ANGLES ± 0° 30'
SURFACE FINISH 125 MAX.
THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	DJV	8-19-09
CHECKED	CWF	8-19-09
APPROVED	JAS	8-19-09

KOHLER CO. METRIC | PRO-E
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

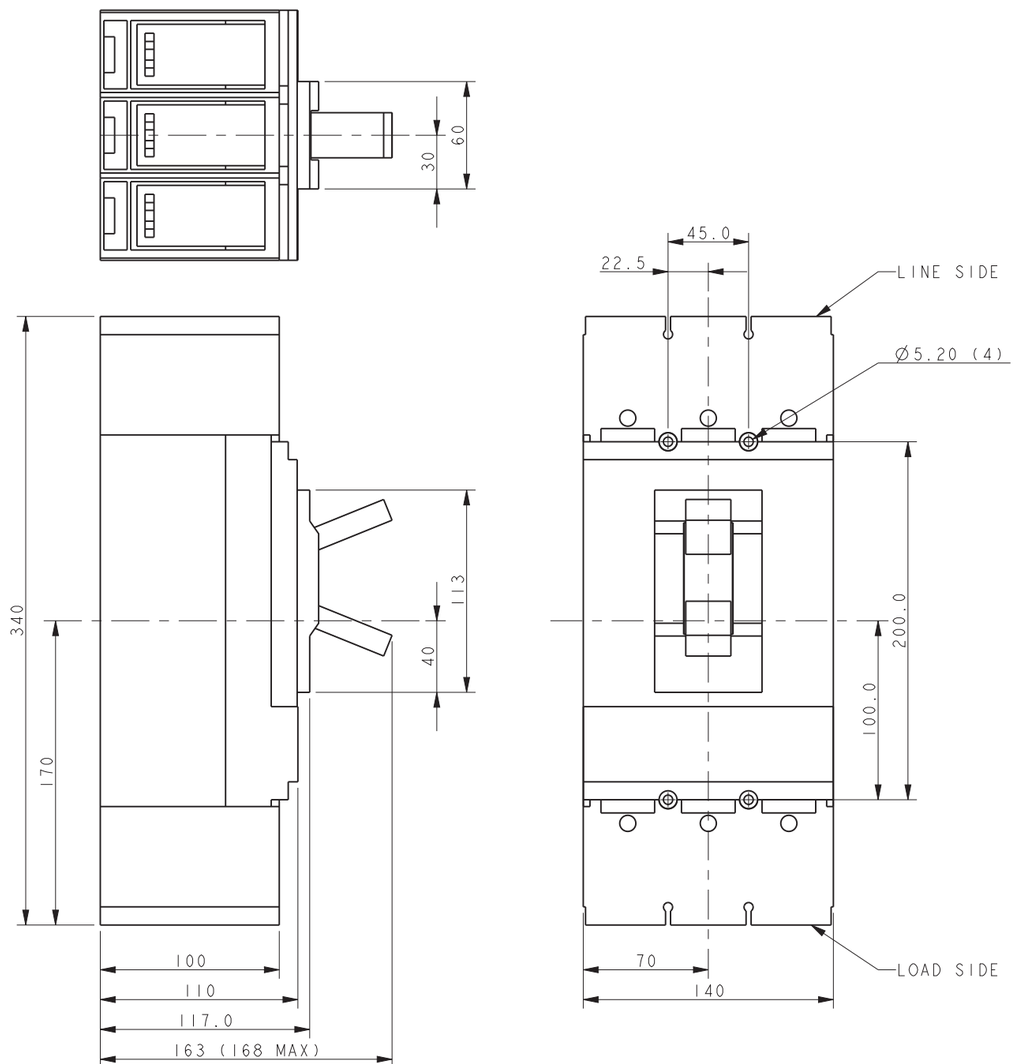
TITLE
DWG, ASSY BLOCK HEATER, 2500W

SCALE 0.12 | CAD NO. | SHEET 1 of 1
DWG NO. **GM70703** | **D**

PART NO.	PART REV	DESCRIPTION	AMPS	INTERRUPT kA @480 VAC	CONNECTION TYPE		POLES	VOLTS	RATING	TRIP TYPE	SQUARE D PART NO.
					LINE	LOAD					
GM85432-1	-	BREAKER, CIRCUIT 400A LGP							80%	MICROLOGIC 3.3 LI	LGP36400U31X
GM85432-2	-	BREAKER, CIRCUIT 400A LGP							80%	MICROLOGIC 3.3S LSI	LGP36400U33X
GM85432-3	-	BREAKER, CIRCUIT 400A LGP							80%	MICROLOGIC 6.3A LSIG	LGP36400U44X
GM85432-4	-	BREAKER, CIRCUIT 400A LGP	400	35	BUS	AL600LS52K3 LUGS	3	600	100%	MICROLOGIC 3.3 LI	LGP36400CU31X
GM85432-5	-	BREAKER, CIRCUIT 400A LGP							100%	MICROLOGIC 3.3S LSI	LGP36400CU33X
GM85432-6	-	BREAKER, CIRCUIT 400A LGP							100%	MICROLOGIC 6.3A LSIG	LGP36400CU44X
GM85432-7	-	BREAKER, CIRCUIT 600A LGP							80%	MICROLOGIC 3.3 LI	LGP36600U31X
GM85432-8	-	BREAKER, CIRCUIT 600A LGP	600	35	BUS	AL600LS52K3 LUGS	3	600	80%	MICROLOGIC 3.3S LSI	LGP36600U33X
GM85432-9	-	BREAKER, CIRCUIT 600A LGP							80%	MICROLOGIC 6.3A LSIG	LGP36600U44X

CONNECTION CHART		
CONNECTION TYPE	CONNECTIONS (PER PHASE)	TORQUE
BUS	(1) M10	50 Nm [442 IN-LB]
AL600LS52K3 LUGS	(2) 2/0-500 KCMIL AL/CU	50 Nm [442 IN-LB]

NOTE:
(4) M5 X 85 MOUNTING SCREWS, WASHERS AND NUTS INCLUDED.
(3) M10 X 25 BUS CONNECTION SCREWS AND SPRING WASHERS INCLUDED.



DENOTES A CRITICAL CHARACTERISTIC THAT MUST BE ADDRESSED IN THE PRODUCTION CONTROL PLAN.
TOTAL QUANTITY OF CRITICAL CHARACTERISTICS ON THIS DRAWING = 0

DENOTES A MAJOR CHARACTERISTIC THAT MUST BE ADDRESSED IN THE PRODUCTION CONTROL PLAN.
TOTAL QUANTITY OF MAJOR CHARACTERISTICS ON THIS DRAWING = 0

KOHLER PART NUMBER TO BE CLEARLY VISIBLE ON CIRCUIT BREAKER AND ON INDIVIDUAL PACKAGING.

☐ INDICATES PART NUMBERS AFFECTED BY LATEST DRAWING REVISION

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
-	4-3-12	NEW DRAWING [CT14516]	WSD

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN MILLIMETERS
2) TOLERANCES ARE:
X.XX ± 0.25
X.X ± 1.0
X ± 1.5
ANGLES ± 0° 30'
SURFACE FINISH MAX.
THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	WSD	4-3-12
CHECKED	WSD	4-3-12
APPROVED	AJH	4-3-12

KOHLER CO. METRIC PRO-E
POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

TITLE: DWG, CIRCUIT BREAKER

SCALE 0.60 | CAD NO. | SHEET 1 of 1

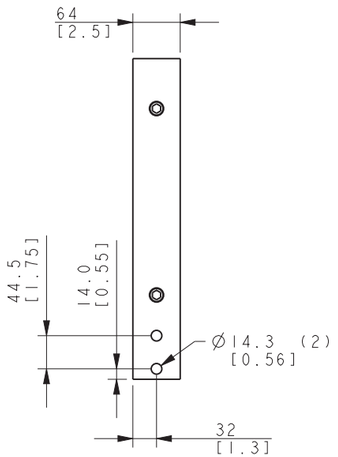
DWG NO. GM85432-CMP | D

STANDARD BREAKER COMBINATIONS			
BREAKER 1	BREAKER 2	BREAKER 3	TRIP TYPE
H OR J	-	-	ALL
LA	-	-	ALL
LG	-	-	ALL
M	-	-	ALL
P	-	-	ALL
H OR J	H OR J	-	ALL
LA	H, J OR LA	-	ALL
LG	H, J, LA OR LG	-	ALL
M OR P	H, J, LA OR LG	-	ALL
P	P	-	NO LSIG
H OR J	H OR J	H OR J	NO LSIG
LA	H OR J	H OR J	NO LSIG
LA	LA	H, J OR LA	NO LSIG
LG	H OR J	H OR J	NO LSIG
LG	LA	LA, H, J	NO LSIG
LG	LG	H, J, LA OR LG	NO LSIG
M OR P	H OR J	H OR J	NO LSIG
M OR P	LA	H, J OR LA	NO LSIG
M OR P	LG	H, J, OR LG	NO LSIG

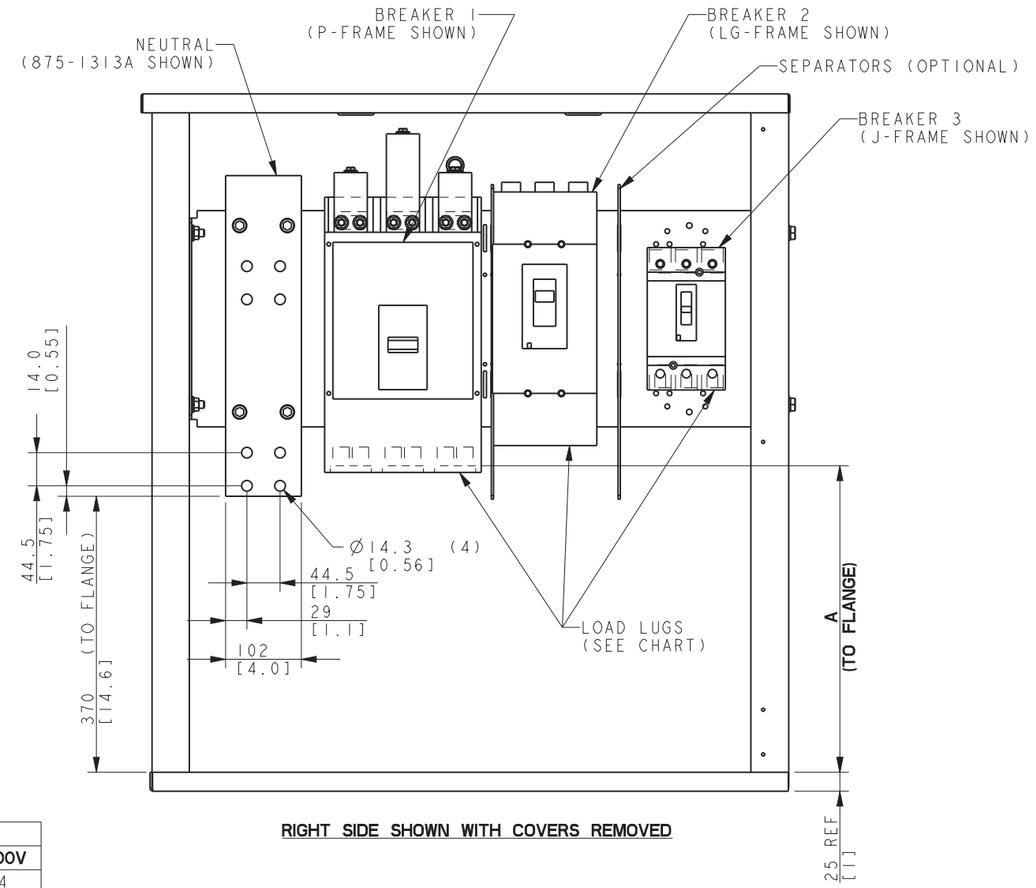
AL/CU MECHANICAL LOAD LUGS PER PHASE			
BREAKER FRAME	AMPS	WIRE RANGE	A WIRE BENDING SPACE
H	15-150	(1) #14 TO 3/0	530 [20.8]
J	175	(1) 1/0 TO 4/0	516 [20.3]
	200-250	(1) 3/0 TO 350 KCMIL	
LA	300-400	(1) #1 TO 600 KCMIL OR (2) #1 TO 250 KCMIL	472 [18.6]
LG	400-600	(2) 2/0 TO 500 KCMIL AL/CU	480 [18.9]
M	700-800	(3) 3/0 TO 500 KCMIL	454 [17.9]
P	250-800		
P	1000-1200	(4) 3/0 TO 500 KCMIL	412 [16.2]
MECHANICAL LOAD LUGS INCLUDED WITH H, J & LG LSIG NEUTRALS			
H	60-150	(1) #14 TO 3/0 AWG AL/CU	
J	250	(1) 3/0 TO 350 KCMIL AL/CU	
LG	400-600	(2) 4/0 TO 500 KCMIL AL/CU	

NOTES:

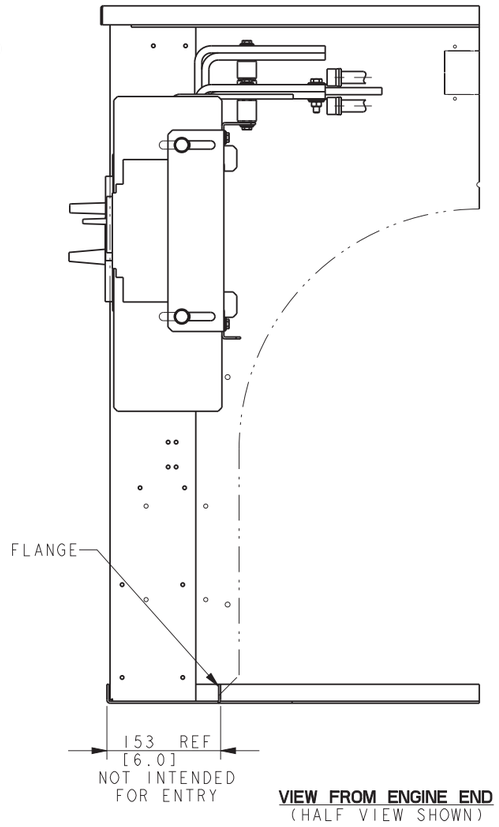
1) SEE UNIT DIMENSION PRINT (ADV-XXXX) FOR ADDITIONAL DIMENSIONS, JUNCTION BOX AND STUB-UP LOCATION.
2) ADD SKID DEPTH TO WIRE BENDING HEIGHTS ON THIS PRINT TO ARRIVE AT FULL WIRE-BENDING SPACE.
3) CONSULT FACTORY FOR BREAKER COMBINATIONS NOT SHOWN ON THIS PRINT.
4) MECHANICAL LUGS ARE AVAILABLE FOR NON-LSIG NEUTRAL. SEE ADV-7376. H, J & LG LSIG NEUTRALS INCLUDE LUGS (SEE CHART).
5) NEUTRALS ARE BONDED TO GROUND AS STANDARD. CONSULT LOCAL CODES OR SYSTEM REQUIREMENTS.
6) CIRCUIT BREAKER FRAMES REFER TO STANDARD SQUARE-D PRODUCT.
7) STANDARD NEUTRALS PROVIDED ARE SIZED FOR MAXIMUM UNIT AMPS. LSIG NEUTRALS ARE MATCHED TO THEIR CIRCUIT BREAKER AMPS.
8) DIMENSIONS ARE MM, DIMENSIONS IN [ ] ARE INCHES.



625A NEUTRAL



RIGHT SIDE SHOWN WITH COVERS REMOVED



VIEW FROM ENGINE END
(HALF VIEW SHOWN)

ELECTRONIC TRIP UNITS		
FRAME	TRIP UNIT	
H	LI	MICROLOGIC 3.2
	LSI	MICROLOGIC 3.2S
	LSIG	MICROLOGIC 6.2A
J	LI	MICROLOGIC 3.2
	LSI	MICROLOGIC 3.2S
	LSIG	MICROLOGIC 6.2A
LG	LI	MICROLOGIC 3.3
	LSI	MICROLOGIC 3.3S
	LSIG	MICROLOGIC 6.3A
M	TM/I	ET 1.0
P	TM/I	ET 1.0I
	LI	MICROLOGIC 3.0
	LSI	MICROLOGIC 5.0
	LSIG	MICROLOGIC 6.0A

UL INTERRUPT kA RATINGS			
BREAKER	@ 240V	@ 480V	@ 600V
HD	25	18	14
HG	65	35	18
HJ	100	65	25
JD	25	18	14
JG	65	35	18
JJ	100	65	25
LA	42	30	22
LG	65	35	18
MG	65	35	18
PG	65	35	18
PJ	100	65	25
PL	125	100	25

ELECTRICALLY OPERATED BREAKERS FOR DEC6000 DPS OR APM603 PARALLELING ONLY NO 2ND BREAKERS ARE ALLOWED			
RATING	AMPS	TRIP TYPE	FRAME
100%	250	ELECTRONIC LI OR LSI	PJ OR PL
	400		
	600		
	800		
	1000		
	1200		

LCB KITS
4UA, 4M6226
ALTERNATOR FRAMES

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
-	7-10-07	NEW DRAWING [79677]	WSD
A	5-26-15	(B-8) 625A WAS 500A, VIEW UPDATED [83690]	WSD
B	4-22-08	(D-8) 15-150 WAS 40-150 [84767]	WSD
C	10-19-12	UPDATED D TO LG, 100% H/J ADDED, LSIG NEUTRAL LUG CHART ADDED [CT26372]	WSD
D	11-2-16	(D-6) REMOVED SEPARATE LINES FOR H & J 100% LUGS; (D-8) UPDATED TABLE AND ADDED 3RD LCBS [CT114236]	WSD
E	3-26-19	(A-6) EOB TABLE ADDED [CT194577]	WSD

DO NOT SCALE. REFERENCE THE MODEL FOR ALL UNSPECIFIED DIMENSIONS

THIRD ANGLE PROJECTION

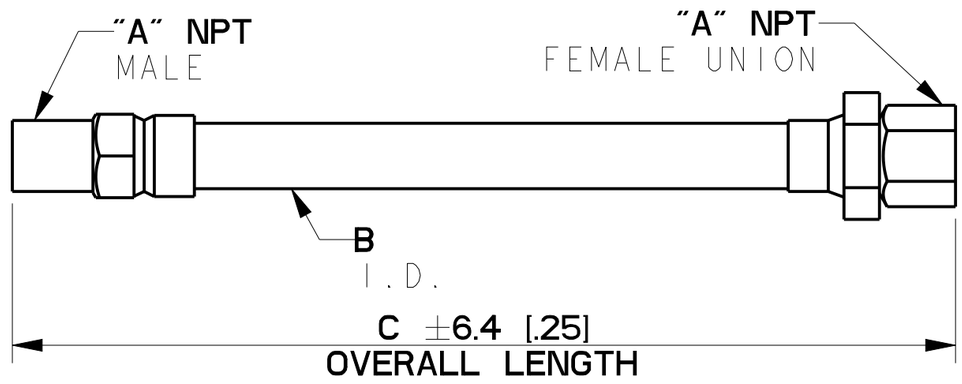
APPROVALS		DATE
DRAWN	WSD	7-10-07
CHECKED	WSD	7-10-07
APPROVED	AJH	7-10-07

TITLE: DIMENSION PRINT

SCALE 0.25 | CAD NO. | SHEET 1 of 1

DWG NO. ADV-7372 | D

PART NO.	REV		A	B	C		SERVICE ONLY
					MM	IN	
X-504-1	AT	☐	1/2	1/2	304.8	12	
X-504-2	AS		3/4	3/4	304.8	12	X
~~X-504-12~~	~~AS~~		~~3/8~~	~~3/8~~	~~385.8~~	~~15 3/16~~	
X-504-16 *	AT	☐	2	2	457.2	18	
X-504-17	AS		1	1	508.0	20	X
X-504-18	AS		3/4	3/4	730.3	28 3/4	X
X-504-20 *	AT	☐	1	1	736.6	29	
X-504-21 *	AV	☐	1	1	457.2	18	
X-504-22 *	AV	☐	1 1/2	1 1/2	717.6	28 1/4	
~~X-504-23~~	~~AS~~		~~1~~	~~1~~	~~342.9~~	~~13 1/2~~	
X-504-25 *	AU	☐	1/4	3/8	1066.8	42	
X-504-26 *	AU	☐	3	3	838.2	33	
X-504-27 *	A	☐	2	2	825	32 1/2	
THIS IS A MANUAL TABLE							



MATERIAL:
ANNULAR CORRUGATED BRONZE/STAINLESS STEEL HOSE WITH BRONZE/
STAINLESS STEEL TUBULAR WIRE BRAID OR EQUIV.

FITTINGS-
FEMALE UNION - STEEL OR BRASS (NO GALVANIZED FITTING)
ALL FLUX USED IN BRAZING MUST BE REMOVED.
INSTALL HAND TIGHT.
* PRODUCT SHALL MEET UL 536 AND ULC ORD-C536 FOR CANADA
-USE-
NATURAL GAS, LP FUEL, GASOLINE, DIESEL FUEL, WATER & OIL.

NOTE:
PAINT MALE ENDS OF FUEL LINE
1200° F, HIGH TEMPERATURE BLACK.

THIS ASSEMBLY OR PART MUST COMPLY WITH PEP-RML-001

☐ INDICATES PART NUMBERS AFFECTED BY LATEST DRAWING REVISION

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
AW	1-9-19	(A-2,3) NOTE: CSA B149 WAS CSA 8.1 [CT192179]	PAS
AY	3-11-19	(C-3) X-504-2, 12, 17, 18 & 23 VOIDED;	
		'SERVICE ONLY' COLUMN ADDED; X-504-1, 16,	
		20, 25, 26, 27 CSA ASTERISK ADDED [CT194154]	ARP
BA	10-9-19	(B-1,2) NOTE "PRODUCT SHALL MEET UL 536...CANADA" WAS	
		"MUST MEET CSA B149"; (C-1,2) MATERIAL NOTE UPDATED;	
		(D-4) X-504-1: "*" SYMBOL REMOVED; (B-4)	
		"PEP-RML-001" NOTE ADDED; (D-1,2) VIEW & NOTES	
		UPDATED [CT199012]	YBY

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN MILLIMETERS
2) TOLERANCES ARE:
X.XX ± 0.25
X.X ± 1.0
X ± 1.5
ANGLES ± 0° 30'
SURFACE FINISH MAX.

THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	DKO	11-19-62
CHECKED	EB	9-21-68
APPROVED	SAS	2-22-84

METRIC | PRO-E

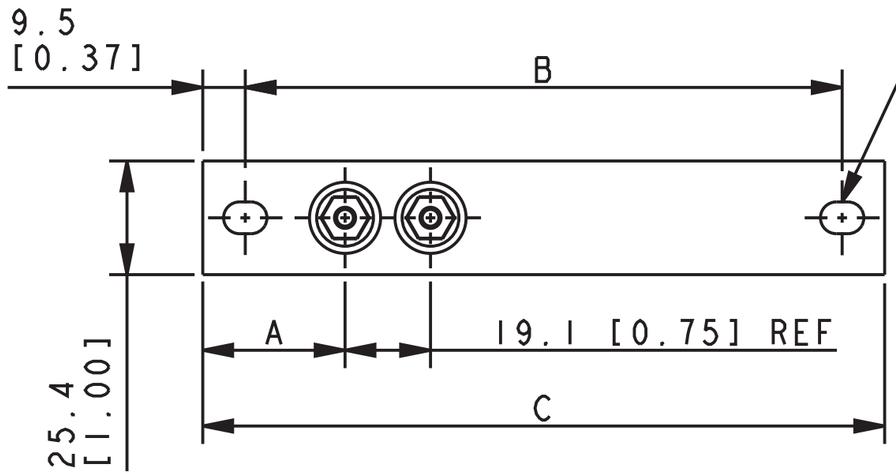
TITLE
DWG, LINE, FLEX FUEL

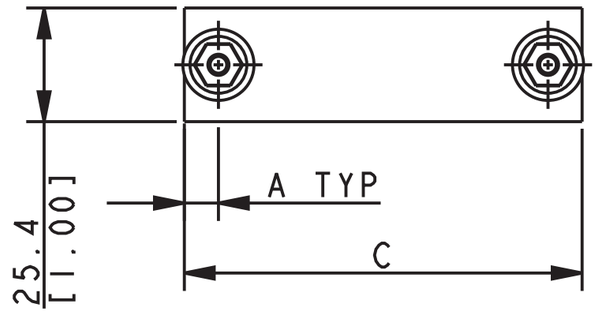
SCALE 1.00 | CAD NO. | SHEET 1 of 1

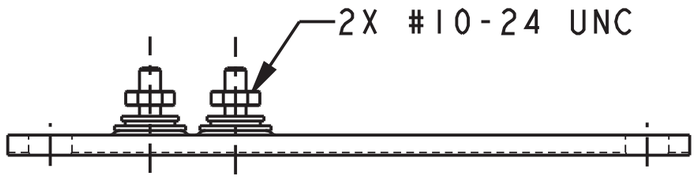
DWG NO. X-504 | B

PART NO.	REV	A	A INCH	B	B INCH	C	C INCH	VOLTS	WATTS	TYPE
291269	J	31.8	1.25	133.4	5.25	152.4	6.00	120	100	A
256890	J	7.6	0.30	-		88.9	3.50	120	50	B
THIS IS AN AUTOMATED TABLE. ALL CHANGES TO THIS TABLE MUST BE MADE IN THE FAMILY TABLE OF THE GENERIC MODEL.										

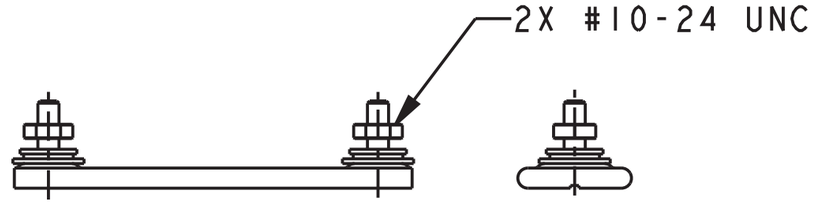
NOTE:
DIMENSIONS IN [ ] ARE
INCH EQUIVALENTS







TYPE A



TYPE B

NOTE:
SIMILAR TO GM79574

REV	DATE	ON COMPOSITE DWGS, SEE PART NO. FOR REVISION LEVEL	BY
H	12-23-03	.28 X .38 WAS .25 X .38 [71119]	SAM
J	1-4-11	REDRAWN IN PROE & DUAL DIMENSIONED [90603-7]	DFH

UNLESS OTHERWISE SPECIFIED -
1) DIMENSIONS ARE IN MILLIMETERS
2) TOLERANCES ARE:
X.XX ± 1.0
X.X ± 1.5
X ± 3.0
ANGLES ± 0° 30'
SURFACE FINISH √ MAX.

THIRD ANGLE PROJECTION

APPROVALS		DATE
DRAWN	RH	3-22-78
CHECKED	EB	3-27-78
APPROVED	RJS	3-27-78

KOHLER CO. METRIC PRO-E

POWER SYSTEMS, KOHLER, WI 53044 U.S.A.

TITLE

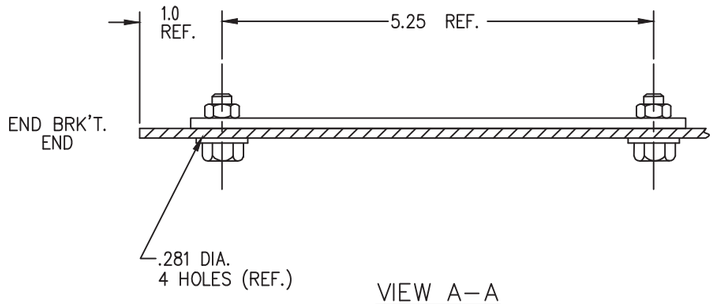
HEATER, STRIP

SCALE 0.75 | CAD NO. | SHEET 1 of 1

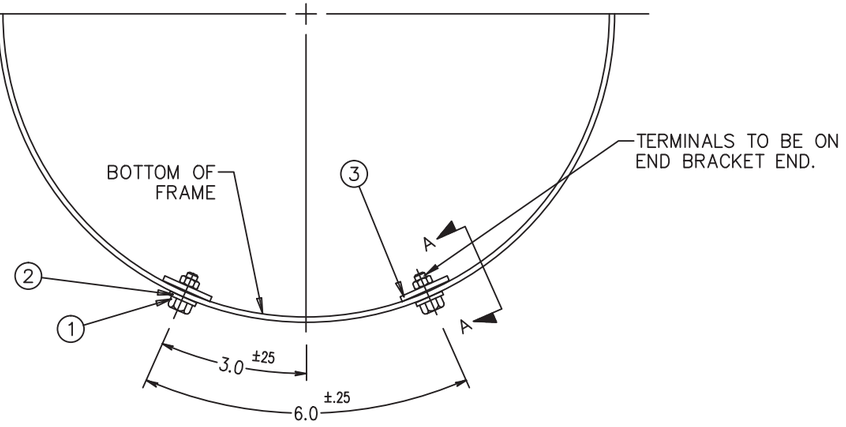
DWG NO. 291269 | B

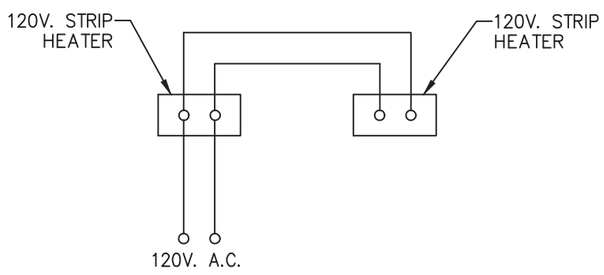
NO.	KOHLER PART NO.	DESCRIPTION	QTY.	KIT NO. 253213				
				STRIP HEATER 120V./240V.				
1	M933-05014-60	SCREW, HEX CAP	4	X				
2	M125A-05-80	WASHER, PLAIN	4	X				
3	GM79574	HEATER, STRIP	2	X				
4								
5								

REV	DATE	REVISION	BY	MF
E	2-6-95	(D-3, D-4) KIT NO. EA9901 & CUMMINS NO'S. REMOVED,		
		ITEM #2: X-6210-2 WAS X-81-1 [40557]	RSH	
F	7-29-02	(D-4) X-465-8 WAS X-465-7 [67906]	JMS	
G	9-20-12	(D-4) GM79574 WAS 291269, M933-05014-60 WAS X-465-8,		
		M125A-05-80 WAS X-25-40, X-101-8 AND X-6210-2		
		REMOVED (C-3) ASSY NOTE REMOVED [CT24087]	SAM	

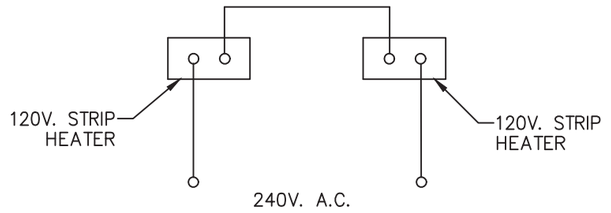


VIEW A-A





120V. CONNECTION
DIAGRAM



240V. CONNECTION
DIAGRAM

STRIP HEATER
200 WATT 120V. OR 240V.
B & C SERIES

UNLESS OTHERWISE SPECIFIED --
1) DIMENSIONS ARE IN INCHES
2) TOLERANCES ARE:
.XXX± .010 ANGLES± 1/2°
.XX ± .030 SURFACE FINISH
.X ± .060 √ MAX.
FRACTIONS ±

APPROVALS		DATE
DRAWN	RLD	3-9-83
CHECKED	RDH	3-9-83
APPROVED	LW	3-30-83

TITLE: DRAWING, ASSEMBLY

SCALE: / / / | CAD NO. | SHEET 1-1

PLOTTED | DWG. NO. Y-253000 | C

KOHLER®

Warranty

Transfer Switch One-Year Limited Warranty

Your Kohler product has been manufactured and inspected with care by experienced craftsmen. If you are the original end user, Kohler Co. warrants, for the period indicated below, each product to be free from defects in materials and workmanship. In the event of a defect in materials or workmanship, Kohler Co. will repair, replace, or make appropriate adjustment at Kohler Co.'s option if the product, upon Kohler Co.'s inspection, is found to be properly installed, maintained, and operated in accordance with Kohler Co.'s instruction manuals. A Kohler distributor, dealer, or authorized service representative must perform startup.

Kohler Product	**Warranty Coverage**
Transfer switch and factory-supplied transfer switch accessories	One (1) year from the registered startup date. In any event, the warranty period will expire not later than thirty (30) months from the date of shipment from Kohler Co.'s factory.
Transfer switch main contacts	Ten (10) years from the registered startup date. In any event, the warranty period will expire not later than eleven (11) years and six (6) months from the date of shipment from Kohler Co.'s factory.

The following will **not** be covered by the warranty:

1. Normal wear, periodic service, and routine adjustments.
2. Damage, including but not limited to damage caused by accidents, improper installation or handling, faulty repairs not performed by an authorized Kohler service representative, improper storage, or acts of God.
3. Damage caused by:
   a. Operation above or below rated capacity, voltage, or frequency.
   b. Modifications.
   c. Installation contrary to published specifications and codes.
4. Damage caused by negligent maintenance such as:
   a. Failure to provide a clean, dry environment.
   b. Failure to perform recommended exercising.
   c. Failure to perform scheduled maintenance as prescribed in supplied manuals.
   d. Use of parts and/or procedures other than factory-supplied or -approved replacement parts and/or procedures.
5. Non-Kohler replacement parts. Replacement of a failed Kohler part with a non-Kohler part voids the warranty on that part.
6. Original installation charges and startup costs.
7. Additional expenses for repair after normal business hours, i.e. overtime or holiday labor rates.
8. Rental of equipment during performance of warranty repairs.
9. Removal and replacement of non-Kohler-supplied options and equipment.
10. Non-Kohler-authorized repair shop labor without prior approval from Kohler Co. Warranty Department.
11. Expenses incurred investigating performance complaints unless the problem is caused by defective Kohler materials or workmanship.
12. Maintenance items such as fuses, lamps, and adjustments.
13. Labor and travel charges after the first year of the transfer switch main contacts warranty period.
14. Travel time and mileage exceeding 300 miles round trip.

To obtain warranty service, call 1-800-544-2444 for your nearest authorized Kohler service representative or write Kohler Co., Kohler Power Systems Service Department, MS072, Kohler, WI 53044 USA.

KOHLER CO. SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, AND/OR CONSEQUENTIAL DAMAGES OF ANY KIND including, but not limited to, incidental and/or consequential labor costs, installation charges, telephone charges, or transportation charges in connection with the replacement or repair of defective parts.

This is our exclusive written warranty. We make no other express warranty nor is anyone authorized to make any on our behalf.

ANY IMPLIED OR STATUTORY WARRANTY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS EXPRESSLY LIMITED TO THE DURATION OF THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental and/or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

KOHLER®

KOHLER CO. Kohler, Wisconsin 53044
Phone 920-457-4441, Fax 920-459-1646
For the nearest sales/service outlet in the US and Canada, phone 1-800-544-2444
KOHLERPower.com

TP-5373 4/15f

Stationary Standby and Prime Power Industrial Generator Set One-Year or Two Thousand (2000)-Hour Limited Warranty

Your Kohler product has been manufactured and inspected with care by experienced craftsmen. If you are the original end user, Kohler Co. warrants, for the period indicated below, each product to be free from defects in materials and workmanship. In the event of a defect in materials or workmanship, Kohler Co. will repair, replace, or make appropriate adjustment at Kohler Co.'s option if the product, upon Kohler Co.'s inspection, is found to be properly installed, maintained, and operated in accordance with Kohler Co.'s instruction manuals. A Kohler distributor, dealer, or authorized service representative must perform startup.

Kohler Product	Warranty Coverage
Stationary Standby Generator Set & Accessories	One (1) year from registered startup or two thousand (2000) hours (whichever occurs first). In any event, the warranty period will expire not later than thirty (30) months from the date of shipment from Kohler Co.'s factory.
Stationary Prime Power Generator Set & Accessories	One (1) year from registered startup or two thousand (2000) hours (whichever occurs first). In any event, the warranty period will expire not later than thirty (30) months from the date of shipment from Kohler Co.'s factory.

The following will **not** be covered by the warranty:

1. Normal wear, routine tuneups, tuneup parts, adjustments, and periodic service.
2. Damage, including but not limited to damage caused by accidents, improper installation or handling, faulty repairs not performed by an authorized Kohler service representative, improper storage, or acts of God.
3. Damage caused by operation at speeds, or with fuel, loads, conditions, modifications or installation contrary to published specifications.
4. Damage caused by negligent maintenance such as:
   a. Failure to provide the specified type and sufficient quantity of lubricating oil.
   b. Failure to keep the air intake and cooling fin areas clean.
   c. Failure to service the air cleaner.
   d. Failure to provide sufficient coolant and/or cooling air.
   e. Failure to perform scheduled maintenance as prescribed in supplied manuals.
   f. Failure to regularly exercise the generator set under load (stationary applications only).
5. Original installation charges and startup costs.
6. Starting batteries and the following related expenses:
   a. Labor charges related to battery service.
   b. Travel expenses related to battery service.
7. Additional expenses for repairs performed after normal business hours, i.e. overtime or holiday labor rates.
8. Rental of equipment during the performance of warranty repairs.
9. Removal and replacement of non-Kohler-supplied options and equipment.
10. Non-Kohler replacement parts. Replacement of a failed Kohler part with a non-Kohler part voids the warranty on that part.
11. Radiators replaced rather than repaired.
12. Fuel injection pumps not repaired by an authorized Kohler service representative.
13. Non-Kohler-authorized repair shop labor without prior approval from Kohler Co. Warranty Department.
14. Engine fluids such as fuel, oil, or coolant/antifreeze.
15. Shop supplies such as adhesives, cleaning solvents, and rags.
16. Expenses incurred investigating performance complaints unless the problem is caused by defective Kohler materials or workmanship.
17. Maintenance items such as fuses, lamps, filters, spark plugs, loose or leaking clamps, and adjustments.
18. Travel time and mileage exceeding 300 miles round trip.

To obtain warranty service, call 1-800-544-2444 for your nearest authorized Kohler service representative or write Kohler Co., Service Department, MS072, Kohler, WI 53044 USA.

KOHLER CO. SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, AND/OR CONSEQUENTIAL DAMAGES OF ANY KIND including, but not limited to, incidental and/or consequential labor costs, installation charges, telephone charges, or transportation charges in connection with the replacement or repair of defective parts.

This is our exclusive written warranty. We make no other express warranty nor is anyone authorized to make any on our behalf.

ANY IMPLIED OR STATUTORY WARRANTY, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, IS EXPRESSLY LIMITED TO THE DURATION OF THIS WARRANTY. Some states do not allow limitations on how long an implied warranty lasts, or the exclusion or limitation of incidental and/or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

KOHLER®

KOHLER CO., Kohler, Wisconsin 53044
Phone 920-457-4441, Fax 920-459-1646
For the nearest sales/service outlet in the US and Canada, phone 1-800-544-2444
KOHLERPower.com

TP-5374 12/15f

KOHLER®

Certification

Certificate of Registration

QUALITY MANAGEMENT SYSTEM - ISO 9001:2015

This is to certify that:

Kohler Power Systems
N7650 Lakeshore Road
Sheboygan
Wisconsin
53083
USA

Holds Certificate No: **FM 727336**

and operates a Quality Management System which complies with the requirements of ISO 9001:2015 for the following scope:

Design, manufacture, and distributor support for electrical generators, alternators, fuel tanks, automatic transfer switches and switchgear.

This certificate is traceable to this company's original registration certificate number 16852 dated February 28, 1995 and issued by NQA.

For and on behalf of BSI:

Carlos Pitanga, Chief Operating Officer Assurance – Americas

Original Registration Date: 1995-02-28
Effective Date: 2020-05-07
Latest Revision Date: 2020-05-07
Expiry Date: 2021-11-06

...making excellence a habit.™

Certificate No: **FM 727336**

Location	Registered Activities
Kohler Power Systems N7650 Lakeshore Road Sheboygan Wisconsin 53083 USA	Design, manufacture, and distributor support for electrical generators, automatic transfer switches and switchgear.
Kohler Power Systems 300 N Dekora Woods Blvd Saukville Wisconsin 53080 USA	Manufacture of fuel tanks, skids, fabricated components and generators.
Kohler Power Systems Muth Warehouse 2821 Muth Court Sheboygan Wisconsin 53083 USA	The distribution of generator sets.
Kohler Power Systems KWIP Warehouse 4327 County EE Sheboygan Wisconsin 53081 USA	Receiving, sequencing and warehousing of generator components.

Original Registration Date: 1995-02-28

Effective Date: 2020-05-07

Latest Revision Date: 2020-05-07

Expiry Date: 2021-11-06

PROTOTYPE TEST REPORT

Models Covered: **250RZXB, 250REZXB**
Model Tested: **250REZX**
Cooling System Tested: **50C**
Alternator Tested: **4UA10**
Engine Tested: **D146L**
Voltage Tested: **208V**

GENSET

Maximum power test to assure that the prime mover and alternator have sufficient capacity to operate within specifications.

Meets Rated Load

Steady-state load test to ensure voltage stability meets or exceed ISO8528-5 requirements and to verify compliance with steady state speed control specifications.

Natural Gas

± 0.50 % Frequency Band
± 0.50 % Voltage Deviation

LP Gas

± 0.50 % Frequency Band
± 0.50 % Voltage Deviation

Transient load tests per NEMA MG1-32.18, and ISO 8528 to verify specifications of transient voltage regulation, voltage dip, voltage overshoot, recovery voltage, and recovery time. Values shown for model tested above. Please contact factory for additional details.

Natural Gas

Full Load Acceptance	Full Load Rejection
37.2 % Voltage Dip	**21.6** % Voltage Overshoot
13.4 Seconds of Recovery Time	**1.90** Seconds of Recovery Time
22.5 % Frequency Dip	**13.6** % Frequency Overshoot
12.8 Seconds of Recovery Time	**3.70** Seconds of Recovery Time

G1 ISO8528-5 Class (G1, G2, G3)

LP Gas

Full Load Acceptance	Full Load Rejection
12.5 % Voltage Dip	**9.00** % Voltage Overshoot
1.80 Seconds of Recovery Time	**1.00** Seconds of Recovery Time
6.50 % Frequency Dip	**6.30** % Frequency Overshoot
3.20 Seconds of Recovery Time	**3.60** Seconds of Recovery Time

G2 ISO8528-5 Class (G1, G2, G3)

PROTOTYPE TEST REPORT

Models Covered: **250RZXB, 250REZXB**
Model Tested: **250REZX**
Cooling System Tested: **50C**

Alternator Tested: **4UA10**
Engine Tested: **D146L**
Voltage Tested: **208V**

GENSET

NFPA 110 one step testing to determine the amount of time required for the generator set to reach 90% voltage and frequency to allow the ATS to transfer.

Complies with NFPA 110 Type 10

Vibrational analysis, to verify that generator vibrations are within acceptable limits per ISO 8528-9.

Complies

Torsional analysis data, to verify torsional effects are not detrimental and that the generator set will provide dependable service as specified.

Complies

Generator set cooling and air flow tests to verify maximum operating ambient temperature. (Cooling system test results are available on TIB-118)

Acoustical noise intensity and sound attenuation effects tests. (Acoustical noise results are available on TIB-114 &115)

Exhaust Back Pressure test completed to demonstrate within engine limitation
(Exhaust back pressure test results are available on TIB-119)

ALTERNATOR

Alternator temperature rise test per NEMA MG1-32.6. Standby and prime ratings of the alternator are established during this test.

Alternator overload test per NEMA MG1-32.8. Motor starting tests per NEMA MG1-32.18.5 to evaluate capabilities of generator, exciter, and regulator system.

Three-phase symmetrical short-circuit test per NEMA MG1-32.13 to demonstrate short circuit performance, mechanical integrity, ability to sustain short-circuit current.

Harmonic analysis, voltage waveform deviation per NEMA MG1-32.10 to confirm that the generator set is producing clean voltage within acceptable limits.

(Alternator detailed test results are available on TIB-102)

Kohler Standby/Prime Generator Set Test Program

Testing is an integral part of quality assurance. In keeping with our uncompromising commitment to quality, safety, and reliability, every Kohler Standby/Prime power generator set undergoes an extensive series of prototype and production testing.

Prototype Testing

Prototype testing includes the potentially destructive tests necessary to verify design, proper function of protective devices and safety features, and reliability expectations. Kohler's prototype testing includes the following:

- Alternator temperature rise test per NEMA MG1-32.6. Standby and prime ratings of the alternator are established during this test.
- Maximum power test to assure that the prime mover and alternator have sufficient capacity to operate within specifications.
- Alternator overload test per NEMA MG1-32.8.
- Steady-state load test to ensure voltage regulation meets or exceeds ANSI C84.1, NEMA MG1-32.17 requirements and to verify compliance with steady-state speed control specifications.
- Transient test to verify speed controls meets or exceeds specifications.
- Transient load tests per NEMA MG1-32.18, and ISO 8528 to verify specifications of transient voltage regulation, voltage dip, voltage overshoot, recovery voltage, and recovery time.
- Motor starting tests per NEMA MG1-32.18.5 to evaluate capabilities of generator, exciter, and regulator system.
- Three-phase symmetrical short-circuit test per NEMA MG1-32.13 to demonstrate short circuit performance, mechanical integrity, ability to sustain short-circuit current.
- Harmonic analysis, voltage waveform deviation per NEMA MG1-32.10 to confirm that the generator set is producing clean voltage within acceptable limits.
- Generator set cooling and air flow tests to verify maximum operating ambient temperature.
- Reliability tests to demonstrate product durability, followed by root cause analysis of discovered failures and defects. Corrective action is taken to improve the design, workmanship, or components.
- Acoustical noise intensity and sound attenuation effects tests.

Production Testing

In production, Kohler Standby/Prime generator sets are built to the stringent standards established by the prototype program. Every Kohler generator set is fully tested prior to leaving the factory. Production testing includes the following:

- Stator and exciter winding high-potential test on all generators. Surge transient tests on stators for generators 180 kW or larger. Continuity and balance tests on all rotors.
- One-step, full-load pickup tests to verify that the performance of each generator set, regulator, and governor meets published specifications.
- Regulation and stability of voltage and frequency are tested and verified at no load, 1/4 load, 1/2 load, 3/4 load, and full-rated load.
- Voltage, amperage, frequency and power output ratings verified by full-load test.
- The proper operation of controller logic circuitry, prealarm warnings, and shutdown functions is tested and verified.
- Any defect or variation from specification discovered during testing is corrected and retested prior to approval for shipment to the customer.

Torsional analysis data, to verify torsional effects are not detrimental and that the generator set will provide dependable service as specified, is available upon request.

Kohler offers other testing at the customer's request at an additional charge. These optional tests include power factor testing, customized load testing for specific application, witness testing, and a broad range of MIL-STD-705c testing. A certified test report is also available at an additional charge.

KOHLER®

KOHLER CO. Kohler, Wisconsin 53044
Phone 920-565-3381, Fax 920-459-1646
For the nearest sales/service outlet in the US and Canada, phone 1-800-544-2444
KohlerPowerSystemscom

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Kohler Automatic Transfer Switch Test Program
Non-Bypass Models

Testing is an integral part of quality assurance. In keeping with our uncompromising commitment to quality, safety, and reliability, every Kohler Automatic Transfer Switch (ATS) undergoes an extensive series of performance and production testing.

Performance Testing

All Kohler ATSs are UL1008 listed, which includes the following performance tests:

- General – Normal Operation
- Overvoltage
- Undervoltage
- Overload
- Temperature Rise
- Endurance
- Dielectric Voltage – Withstand
- Short Circuit Withstand
- Short Circuit Close- On
- Dielectric Voltage – Withstand (repeated)
- Strength of insulating base and support

EMC/EMI Immunity Verification

Controls and printed circuit board assemblies are evaluated to IEC and IEEE tests, including:

- EN61000- 4- 4 Fast Transient Immunity Severity Level 4
- EN61000- 4- 5 Surge Immunity Class 4 (voltage sensing and programmable inputs only)
- IEC Specifications for EMI/EMC Immunity:
  - CISPR 11, Radiated Emissions
  - IEC 1000- 4- 2, Electrostatic Discharge
  - IEC 1000- 4- 3, Radiated Electromagnetic Fields
  - IEC 1000- 4- 4, Electrical Fast Transients (Bursts)
  - IEC 1000- 4- 5, Surge Voltage
  - IEC 1000- 4- 6, Conducted RF Disturbances
  - IEC 1000- 4- 8, Magnetic Fields
  - IEC 1000- 4- 11, Voltage Dips and Interruptions
- IEEE 472 (ANSI C37.90A) Ring Wave Test

Production Testing

Every Kohler ATS is fully tested prior to leaving the factory. Visual inspections are also performed by the mechanism manufacturer as well as Kohler personnel during assembly and final test. Production testing includes the following:

- Electrical operation testing on all ATSs
- Verification of controller communication
- Verification of controller settings
- Voltage calibration
- Automatic transfer switch operation when Normal source is lost
  - Verify engine start signal
  - Verify transfer to Emergency position when Emergency source is available
- Automatic Transfer switch operation when Normal source returns
  - Verify transfer to Normal position
  - Verify engine start signal is removed

CSA Certification

CSA Certification is also available upon request. CSA certification includes the following additional test:

- Dielectric test at 1000V plus twice the maximum rated voltage

Options Testing

The operation of all installed options is verified. Tested options include:

- Input/Output Modules
- Supervised Transfer Control Switch
- Preferred Source Switch
- Load Shed, Normal and Emergency
- Line-to- Neutral Monitoring
- Digital Meter setup and operation

Kohler offers other testing at the customer's request at an additional charge. These optional tests include customized load testing for specific application, witness testing, and contact resistance testing. A certified test report is also available at an additional charge.

KOHLER®

KOHLER CO., Kohler, Wisconsin 53044
Phone 920-457-4441, Fax 920-459-1646
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KOHLERPower.com

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KOHLER®

Prestartup Checklist

Total Energy Systems, LLC

STARTUP REQUEST AND CHECKLIST FORM

Generator system startups are typically quoted for Normal working hours and are limited to a single trip to the job site. Please help us avoid the need to invoice for supplemental visits by insuring that the system is ready for startup on the initial trip. Any wiring, terminations or other additional work will be billed at our current labor rate in 1 hour increments.

Please allow at least 10 working days for scheduling of onsite startup and training services. Please email completed checklist to TES at service@totalenergysystems.com. Dispatch will call you to schedule the startup after this form is received. If you need the startup prior to requested 10 day notice, please call Dispatch at (888) 548-1400 to make arrangements. A $200 expedite fee may be charged. Due to safety concerns, in the event of inclement weather, startup may need to be completed at a later date.

Total Energy Systems Job Number:	
Weather Permitting, Preferred Startup Date and Time:	

Owner / Warranty / Service Bulletin Contact Information:

Owner Bill to:		**Owner Site Info:**	
Company Name:		Site Name:	
Address:		Address:	
City/State/Zip:		City/State/Zip:	
Bill to Contact Name:		Bill to Contact Name:	
Bill to Contact Number:		Bill to Contact Number:	
Bill to Contact Email:		Bill to Contact Email:	

Electrical Contractor / Site Information:

EC Name:	
EC On Site Contact Name & Number:	
Email Address:	

1. **Location of Generator: ☐Pad Mounted ☐Rooftop ☐Inside Building**

2. **Yes / No Is parking available for our technician's truck?**

ELECTRICAL:

3. **☐The AC circuit for the battery charger is installed and terminated. (DO NOT ENERGIZE).**
   Do not energize the battery charger because the technician will be bringing the battery or batteries to the start-up

4. **☐ The AC circuit for the block heater is installed and terminated.**
   We recommend the block heater and battery charger(s) be wired to individuals breakers. Verify coolant is at proper coolant level and then please have the engine block heater energized 24 hours before startup.

5. **☐ The engine start signal wires are pulled and terminated.**

6. **☐ Circuit Breakers and Protective Relays have been set per the coordination study by a 3rd Party Company**

7. **☐ The remote annunciator is installed and wires are pulled and terminated. (Ignore this question if no annunciator was provided.)**

8. **☐ All AC power cables are properly terminated at the generator and ATS.**
   NOTE: AC and DC wires must be in separate conduits. The control wiring should be stranded. TES technician can help identify the wires and terminate to our generator controller only. Please ensure that the wires are pulled, properly labeled, and that there are enough slacks to reach the terminals. Please initial here if you need assistance identifying and terminating wires to our controller. ____

9. **☐ Programing for Automatic Transfer Switch for pre-signal elevator controllers or other accessories will be required.**

10. **☐ Authorized Customer representative with knowledge of required alarms, time delays, and any specialty programming will be present at Startup.**

NETWORK COMMUNICATION:

11. ☐ **The emergency power system will be connected to or through a network. (Ignore this question if not applicable.)**
12. ☐ **A customer network representative will be present during startup to facilitate the setup of the MODBUS to Ethernet converters. (Ignore this question if not applicable.)**

FUEL SYSTEM - *Gaseous Fuel Systems*:

13. ☐ **All fuel lines are connected.**
14. ☐ **Fuel source is available and all required pressure regulators are installed.**
    Use caution when sizing fuel lines for gaseous systems. Please refer to the spec sheet and note that 11" of water column pressure is required at 100% rated capacity and consult with your local fuel supplier.
    Supply Line Size? _____
    Length of Run? _____
    No. of Elbows? _____
15. ☐ **Volume and pressure capacity of primary regulator meet generator demand requirements. Refer to spec sheet for required volume and pressure.**
    Pressure/Water Column?_____

FUEL SYSTEM - *Diesel Fuel Systems:*

16. ☐ **Inspections or certifications of storage tanks and piping have been completed.**
17. ☐ **The sub-base tank has been filled with fuel (#2 Winter Blend Diesel) & DEF Fluid if Tier IV.**

EXHAUST SYSTEM:

18. ☐ **If required, Exhaust Piping completed**
19. ☐ **Room Louvers, if required, have been installed and connected.**

SITE TESTING:

20. **For startups that include Load Bank testing (check all that apply):**
    ☐**NFPA110 Requirement**
    ***Total Energy Systems uses 2010 NFPA edition regulations.**
    If different version, which? _____
    ☐ **2 Hour Test**
    ☐ **2 Hour Test & 2 Hour Building Load Test**
    ☐ **4 Hour Test**
    ☐ **Additional Special Requirements**
    If Yes, What? _____
    ☐ **No Load Bank**

TRAINING:

21. **Yes / No Onsite personnel are scheduled and available for training to be completed same day as startup.**
    If not, return trip and Purchase Order is required.

SPECIAL REQUIREMENTS:

22. ☐ **Special Requirements (i.e. Security Clearance)**
    If Yes, What? _____

AKNOWLEDGEMENT & ACCEPTANCE:

These items must be completed prior to start-up. Failure to complete any or all of these items will require another scheduled service call and the original start-up appointment will be invoiced to the contractor responsible for completing the checklist. To schedule the second service call to complete start-up, a purchase order is required to be submitted to the Total Energy Systems, LLC Service Department and a 24 hour notice is required for any start-up cancellations.

I have read the above acknowledgement and have made all the necessary inspections to verify that all these requirements have been completed as specified and I agree to all terms outlined in this checklist.

Print Name:_____ Title:_____

Sign:_____ Date:_____

Flint Production
8/1/2024

Process Parameters

Jobs / Hour	53
Hours / Day	21.5
Days / Year	279
Projected hrs/yr	6005
Maximum hrs/yr	8,760
Max Annual Volume	318,262

Column / Area	Solvent Name	Solvent Type	Surface Area (ft^2)	VOC Content	wt% VOCs	HAPs	VOC PTE (TPY)	HAP PTE (TPY)
Assembly Final Repair [Z-63-1]	Bonderite C-SO 575 WB	Top Loading Parts Cleaner	1.53	2.2	26%	0%	0.02	0.00
Assembly Main Tooling Crib [2nd Floor X29]	Armakleen M-HP-2	Top Loading Parts Cleaner	5.19	0.0	10%	0%	0.03	0.00
Assembly HiLoTruck Repair [HH-03]	OzzyJuice SW-X1	Top Loading Parts Cleaner	4.63	1.5	0%	0%	0.00	0.00
Body Shop [M13]	Citrus Degreaser 1185 DG	Solvent Parts Cleaner	8.34	6.4	90%	0%	0.45	0.00
Paint Shop Paint Kitchen [F-2-31 (24)]	Gage 31947	Solvent Paint Cup and Gun Cleaner	1.42	7.2	100%	45%	0.08	0.04
	Bonderite C-SO 575 WB	Waterborne Paint Cup and Gun Cleaner	1.42	2.2	26%	0%	0.02	0.00
Paint Shop Mix Room	Gage 31947	Top Loading Parts Cleaner	3.78	7.2	100%	45%	0.23	0.10
Paintshop Between Booths [J-2-22]	Gage 36620 WB Purge	Top Loading Parts Cleaner	1.62	2.0	25%	0%	0.02	0.00
Paintshop Between Booths [J-2-29]	Gage 36620 WB Purge	Top Loading Parts Cleaner	1.62	2.0	25%	0%	0.02	0.00
Paintshop Between Booths [J-2-29]	Gage 36620 WB Purge	Top Loading Parts Cleaner	1.62	2.0	25%	0%	0.02	0.00
Paintshop Between Booths [J-2-29]	Gage 36620 WB Purge	Top Loading Parts Cleaner	1.62	2.0	25%	0%	0.02	0.00
Paintshop Obs Zone of CC 1 [H-2-18] - in booth	Gage 31947	Top Loading Parts Cleaner	1.5	7.2	100%	45%	0.09	0.04
							0.88	**0.14**

EGLE EF (lb/hr/ft^2)	0.08
Control Efficiency (%)	83

Notes:
Cold Cleaner product emissions are associated with miscellaneous solvents, which are included in the FG-Facility VOC limit.

Criteria and Greenhouse Gas Emissions From Diesel Emergency Generators
8/1/2024

Engine Information

North Fire Pump House	420
David Road Fire Pump House	196
FMC Fire Pump House	420
FEO Fire Pump #1	265
FEO Fire Pump #2	265
Operating Hours/Yr	500
Fuel Consumption, Btu/bhp-hr	7000
Total heat input capacity, mmbtu/hr	11.0

Emission Factos		Units	Source
NOx	3.0	g/hp-hr	Emergency generator engine - 40 CFR 60.4205(b), 60.4202(a)(2), 89.112(a) & Table 1
CO	2.6	g/hp-hr	Emergency generator engine - 40 CFR 60.4205(b), 60.4202(a)(2), 89.112(a) & Table 1
PM (PM10/PM2.5)	0.15	g/hp-hr	Emergency generator engine - 40 CFR 60.4205(b), 60.4202(a)(2), 89.112(a) & Table 1
VOC	2.51E-03	lb/hp-hr	AP 42, Table 3.3-1
SO_2	2.05E-03	lb/hp-hr	AP 42, Table 3.3-1

Emissions	lb/hr	Tons/yr
NOx	10.36	2.6
CO	8.98	2.2
PM (PM10/PM2.5)	0.52	0.13
VOC	3.94	1.0
SO_2	3.21	0.8

Carbon Dioxide Equivalent (CO_2e) Emissions

Potential Diesel Usage, mmbtu/yr	CO_2 Emission Factor (lb/ MMBTU)	CO_2 (tons)	CH_4 Emission Factor (lb/ MMBTU)	CH_4 (tons)	N_2O Emission Factor (lb/ MMBTU)	N_2O (tons)	Total
5,481	163.054	447	0.0066	0.02	0.00132	0.004	
Total tons on a mass basis		447		0.02		0.004	
Global Warming Potential		1		25		298	
Total tons on a CO_2e Basis		447		0.45		1.08	**448**

Notes

1. CO_2, CH_4 and N_2O emission factors are based on 40 CFR 98 Subpart C.

Calculation method of GHG from the new project

Emissions = Max annual fuel usage (mmbtu/yr) x GHG emission factor

Diesel Toxic Air Contaminants (TAC) Potential Emission Rate
8/1/2024

Engine Information	**BHP**
North Fire Pump House	420
David Road Fire Pump House	196
FMC Fire Pump House	420
FEO Fire Pump #1	265
FEO Fire Pump #2	265
Operating hours per Yr	500
Fuel Consumption, Btu/bhp-hr	7000
Total heat input capacity, mmbtu/hr	11.0

Name	CAS No.	AP-42 Emission Factor[2] (lb/MMBtu)	Generator Emissions, lb/month	Generator Emissions, lb/hr
Formaldehyde	50-00-0	1.18E-03	0.539	1.29E-02
Benzo(a)pyrene	50-32-8	1.88E-07	0.000	2.06E-06
Dibenz(a,h)anthracene[1]	53-70-3	5.83E-07	0.000	6.39E-06
Benzo(a)anthracene[1]	56-55-3	1.68E-06	0.001	1.84E-05
Benzene	71-43-2	9.33E-04	0.426	1.02E-02
Acetaldehyde	75-07-0	7.67E-04	0.350	8.41E-03
Acenaphthene	83-32-9	1.42E-06	0.001	1.56E-05
Phenanthrene	85-01-8	2.94E-05	0.013	3.22E-04
Fluorene	86-73-7	2.92E-05	0.013	3.20E-04
Napthalene	91-20-3	8.48E-05	0.039	9.30E-04
1,3-Butadiene	106-99-0	3.91E-05	0.018	4.29E-04
Acrolein	107-02-8	9.25E-05	0.042	1.01E-03
Toluene	108-88-3	4.09E-04	0.187	4.48E-03
Propylene	115-07-1	2.58E-03	1.178	2.83E-02
Anthracene	120-12-7	1.87E-06	0.001	2.05E-05
Pyrene	129-00-0	4.78E-06	0.002	5.24E-05
Benzo(g,h,I)perylene	191-24-2	4.89E-07	0.000	5.36E-06
Indeno(1,2,3-cd)pyrene[1]	193-39-5	3.75E-07	0.000	4.11E-06
Benzo(b)fluoranthene[1]	205-99-2	9.91E-08	0.000	1.09E-06
Fluoranthene	206-44-0	7.61E-06	0.003	8.34E-05
Benzo(k)fluoranthene[1]	207-08-9	1.55E-07	0.000	1.70E-06
Acenaphthylene	208-96-8	5.06E-06	0.002	5.55E-05
Chrysene[1]	218-01-9	3.53E-07	0.000	3.87E-06
Xylenes	1330-20-7	2.85E-04	0.130	3.12E-03
			Total	**7.07E-02**

Footnotes

1. These chemicals are Polycyclic Aromatic Hydrocarbons (PAHs).
2. Emission Factor Source: AP-42, Table 3.3-2

Criteria and Greenhouse Gas Emissions From Natural Gas Usage
8/1/2024

Emissions from Natural Gas Usage

Estimated Natural Gas Usage in New Equipment	1000	MMCF/yr

Pollutant	Emission Factor, Lbs/MMCF	Emission Factor Source	Emissions Tons/Yr
CO	84	AP-42, Table 1.4-1, Small Boilers	42.0
NOx	100		50.0
PM10/PM2.5**	7.6	AP-42, Table 1.4-2	3.8
VOC	5.5	AP-42, Table 1.4-2	2.8
SO_2	0.6	AP-42, Table 1.4-2	0.3
Lead	0.0005	AP-42, Table 1.4-2	0.0003

** Using PM10 as a surrogate for PM2.5

Carbon Dioxide Equivalent (CO_2e) Emissions

Nat Gas Heating Value, Btu/scf	CO_2 Emission Factor (lb/ MMBTU)	CO_2 (tons)	CH_4 Emission Factor (lb/ MMBTU)	CH_4 (tons)	N_2O Emission Factor (lb/ MMBTU)	N_2O (tons)	Total
1,020	116.98	59,660	0.0022	1.1	0.00022	0.11	
Total tons on a mass basis		59,660		1.1		0.11	
Global Warming Potential		1		25		298	
Total tons on a CO_2e Basis		59,660		28		33	**59,721**

Notes

1. CO_2, CH_4 and N_2O emission factors are based on 40 CFR 98 Subpart C.

Calculation method of GHG from the new project

Emissions = Max annual fuel usage limit x fuel heating value x GHG emission factor

Natural Gas Combustion Toxic Air Contaminants (TAC) Potential Emission Rate
8/1/2024

Natural Gas Usage = 1000 mmcf/yr
0.11 mmcf/hr

Name	CAS No.	AP-42 Emission Factor[2] (lb/mmcf)	Total NG Emissions, lb/month	Total NG Emissions, lb/hr
Formaldehyde	50-00-0	0.075	6.3	0.01
Benzo(a)pyrene[1]	50-32-8	1.2E-06	0.0	0.00
Dibenzo(a,h)anthracene[1]	53-70-3	1.2E-06	0.0	0.00
3-Methylchloranthrene[1]	56-49-5	1.8E-06	0.0	0.00
Benz(a)anthracene[1]	56-55-3	1.8E-06	0.0	0.00
7,12-Dimethylbenz(a)anthracene[1]	57-97-6	1.6E-05	0.0	0.00
Benzene	71-43-2	0.0021	0.2	0.00
Ethane	74-84-0	3.1	258	0.35
Propane	74-98-6	1.6	133	0.18
Acenaphthene	83-32-9	1.80E-06	0.0	0.00
Phenanthrene	85-01-8	1.70E-05	0.0	0.00
Fluorene	86-73-7	2.80E-06	0.0	0.00
Napthalene	91-20-3	6.1E-04	0.1	0.00
2-Methylnaphthalene	91-57-6	2.40E-05	0.0	0.00
Butane	106-97-8	2.10	175.0	0.24
Toluene	108-88-3	0.0034	0.3	0.00
Pentane	109-66-0	2.60	217	0.30
n-Hexane	110-54-3	1.80	150	0.21
Anthracene	120-12-7	2.40E-06	0.0	0.00
Pyrene	129-00-0	5.00E-06	0.0	0.00
Benzo(g,h,i)perylene	191-24-2	1.20E-06	0.0	0.00
Indeno(1,2,3-cd)pyrene[1]	193-39-5	1.8E-06	0.0	0.00
Acenaphthylene	208-96-8	1.8E-06	0.0	0.00
Benzo(k)fluoranthene[1]	207-08-9	1.8E-06	0.0	0.00
Benzo(b)fluoranthene[1]	205-99-2	1.8E-06	0.0	0.00
Fluoranthene	206-44-0	3.0E-06	0.0	0.00
Chrysene[1]	218-01-9	1.8E-06	0.0	0.00
Dichlorobenzene	25321-22-6	1.20E-03	0.1	0.00

Metal Toxic Air Contaminants (TAC) Potential Emission Rate

Name	CAS No.	AP-42 Emission Factor[3] (lb/mmcf)	Emissions, lb/month	Emissions, lb/hr
Arsenic	7440-38-2	2.00E-04	2.000E-01	2.283E-05
Barium	7440-39-3	4.40E-03	4.400E+00	5.023E-04
Beryllium	7440-41-7	1.20E-05	1.200E-02	1.370E-06
Cadmium	7440-43-9	1.10E-03	1.100E+00	1.256E-04
Chromium	7440-47-3	1.40E-03	1.400E+00	1.598E-04
Cobalt	7440-48-4	8.40E-05	8.400E-02	9.589E-06
Copper	7440-50-8	8.50E-04	8.500E-01	9.703E-05
Manganese	7439-96-5	3.80E-04	3.800E-01	4.338E-05
Mercury	7439-97-6	2.60E-04	2.600E-01	2.968E-05
Molybdenum	7439-98-7	1.10E-03	1.100E+00	1.256E-04
Nickel	7440-02-0	2.10E-03	2.100E+00	2.397E-04
Selenium	7782-49-2	2.40E-05	2.400E-02	2.740E-06
Vanadium	1314-62-1	2.30E-03	2.300E+00	2.626E-04
Zinc	7440-66-6	2.90E-02	2.900E+01	3.311E-03
			Total	**1.29**

Notes:

1. These chemicals are Polycyclic Aromatic Hydrocarbons (PAHs).
2. Emission Factor Source: AP-42, Table 1.4-3
3. Emission Factor Source: AP-42, Table 1.4-4

Final Repair VOC Emissions
8/10/2023

Annual Volume 318,262

Process	Repair Percent	No. of Estimated Repairs	Usage, Gal per Job	Total Usage, Gallons	VOC, LB/Gal	Total VOC Emissions, TPY
Final Repair	5	15,913	0.06	955	4.8	**2.3**

Emissions tons/yr = No. of Repairs x Usage gal/job x VOC lb/gal x 1/2000 ton/lb

FG-Facility VOC Emissions Summary
8/1/2024

VOC Emissions Summary	(Tons/Year)
Pretreatment	649.6
Electrocoat	
Primer & Topcoat (Three Wet)	
Sealers & Adhesives	
Glass Install	
Sound Dampener	
Fluid Fill	
Final Repair	
Purge & Clean	
Natural Gas	
Boilers	
Storage Tanks	

Permitted
If the emission source is identified in a Permit to Install or a ROP then it is "permitted." Review all permits that have been issued to your facility by the Michigan Department of Environmental Quality (DEQ) Air Quality Division (AQD). These permits contain valuable information which will assist you in calculating your PTE. For example, limits contained in a permit may be to restrict your PTE.

Emission Units: EU-PRETREATMENT, EU-ECOAT, EU-SEALERS & ADHESIVES, EU-SOUND DAMP, EU-THREE WET, EU-GLASS INSTALL, EU-FINAL REPAIR, EU-PURGE&CLEAN, EU-VEHICLE FLUID FILL, EU-NATURAL GAS, EU-GASOLINE TANK1, EU-GASOLINE TANK2, EU-DIESEL TANK1, EU-DIESEL TANK2, EU-AF TANK1, EU-AF TANK2, EU-TF TANK1, EU-POWER STEERING TANK, EU-NPSPRGRECTNK, EU-WBPURGETANK, EU-BOILER1, EU-BOILER2, EU-BOILER3, EU-BOILER4, EU-BOILER5, EU-PSEMERGEN

	Paint	Final Repair
Jobs Per Hour	53.00	8.00
Hours per Day	21.50	
Hours per Year	8760.00	
Days per Year	259.00	
Jobs Per Year	464280	
Hours per Month	730	

Plant: Flint Assembly		USAGE - W/O CONTROLS						
PROCESS	SUBPROCESS	Process (GAL/Job)	Process (GAL/HR)	Density material (LB/GAL)	HAP Content (%)	Process (LB/HR)	Uncontrolled PTE (TPY)	Controlled PTE (TPY)
Primer Surfacer		0.98	51.94	10.04	0.01	5.21	22.84	7.65
Basecoat		1.71	49.59	8.66	0.00	0.00	0.00	0.00
Clearcoat		1.43	41.47	8.16	0.01	1.69	7.41	2.48
Final Repair	Primer Repair	0.200	1.60	6.00	0.20	1.92	8.41	8.41
Purge Solvent	Waterborne	0.20	10.52	7.59	0.00	0.00	0.00	0.00
	Purge Solvent	1.12	4.40	7.15	0.65	20.45	89.57	30.00
Misc. solvents	Assume VOC = HAPs						413.43	413.43
Fluid Fill & Tanks							2.19	2.19

Total HAPs (TPY)	544	464

Notes:
CE = 70%
DE = 95%

PM/PM10/PM2.5 Emissions Summary
8/1/2024

Stack	Estimated PM Emissions, tons/yr	Estimated PM10 Emissions, tons/yr	Estimated PM2.5 Emissions, tons/yr	Calculation Method/Basis
Permit Limit (FG-PAINT & ASSEMBLY)	25.1	25.1	25.1	Permit Limit (FG-PAINT & ASSEMBLY)
Emergency Generator (Diesel)	0.13	0.13	0.13	40 CFR 60 (NSPS) Subpart IIII emission limit
Total	**25.2**	**25.2**	**25.2**	

Potential to Emit Summary
8/1/2024

Annual Potential Emissions										
	CO	**PM**	**PM10[1]**	**PM2.5[1]**	**NO_x**	**VOC**	**SO_2**	**CO_2e**	**Lead**	**HAPs**
Potential Total Emissions (TPY)	44.2	25.2	25.2	25.2	53	650	1.1	60,170	0.0	465.7

[1]All PM10 emissions are assumed to be PM2.5