From: Kevin Musser
To: EGLE-ROP
Cc: Carl Troike; Brooke Tharp; Gerry Caron
Subject: Cabot ROP Renewal
Date: Tuesday, July 16, 2024 10:17:14 AM
Attachments: Cabot - Air Products ROP Renewal.pdf
N6251 Final 1-28-20 - Markup for ROP Renewal.docx
MAP May 2021.docx

Attached are the three files that comprise the ROP renewal application for Cabot's Midland, Michigan facility. These 3 files are:

1. ROP Renewal Application Forms
2. A marked-up version of the current ROP identifying proposed changes (removal of TFSCRUBBER)
3. A copy of the facility's current Malfunction Abatement Plan

Air Products' forms have been incorporated into item #1 above.

Please review and let me know if you have any comments or questions regarding the ROP Renewal

Original signed forms have been mailed to:

Gina McCann
Michigan EGLE, AQD
Bay City District Office
401 Ketchum Street, Suite B
Bay City, Michigan 48708-5430

Kevin Musser, CSP, COSS
SHE Manager
Midland Facility

CABOT

T 989-495-2117
C 989-948-9608
F 989-495-2139

3603 S. Saginaw Road
Midland, Michigan 48640

Kevin.Musser@cabotcorp.com

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)
N6251	2819	325188	MI-ROP-N6251-2020	1

Source Name
Cabot Corporation

Street Address
3603 S Saginaw Road

City	State	ZIP Code	County
Midland	MI	48640-7612	Midland

Section/Town/Range (if address not available)

Source Description
The Cobot Midland facility produces amorphous fumed silica (silicon dioxide).

☐ 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)
Cabot Corporation	1

Mailing address (☐ check if same as source address)
2 Seaport Lane, Suite 1300

City	State	ZIP Code	County	Country
Boston	MA	02210	Suffolk	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: N6251	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	
Kevin Musser			Safety, Health & Environment Manager	
Company Name & Mailing address (☒ check if same as source address)				
3603 S Saginaw Road				
City	State	ZIP Code	County	Country
Midland	MI	48640-7612	Midland	USA
Phone number		E-mail address		
989-495-2117		Kevin.musser@cabotcorp.com		

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

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name			Title	
Kevin Musser			Safety, Health & Environment Manager	
Company Name & Mailing address (☒check if same as source address)				
City	State	ZIP Code	County	Country
Phone number		E-mail address		
989-495-2117		Kevin.musser@cabotcorp.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: N6251	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 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)

Kevin Musser, Safety, Health & Environment Manager

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

Signature of Responsible Official — Date: 7/16/24

SRN: N6251	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) 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-MAP**	

SRN: N65251	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-ENGINE	Emergency generator	Rule 285(2)(g)	Rule 212(4)(c)
EU-PARTSCLEANER	Cold Cleaners	Rule 281(2)(h)	Rule 212(4)(b)
EU-FUELBURN	Calciner, 4 space heaters, all natural gas-fired	Rule 282(2)(b)(i)	Rule 212(4)(c)
EU-PROPANETANKS	Propane tanks for fork lift	Rule 284(2)(b)	Rule 212(4)(d)

Comments:

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

SRN: N6251	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-

SRN: N6251	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. 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: N6251	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-

SRN: N6251	Section Number (if applicable): 1

PART H: REQUIREMENTS FOR ADDITION OR CHANGE

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

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

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

SRN: N6251	Section Number (if applicable): 1

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: N6251	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: N6251	Section Number (if applicable): 1

1. Additional Information ID
AI-MAP

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

Item C.9. – Include MAP

The MAP is attached as a stand-alone document.

Item C.10. – Identify any regulations that are being listed as non-applicable requirements.

Non-Applicable Requirements:

Emisison Unit/Flexible Group ID	Non-Applicable Requirement	Justification
FG-SILICA-MFTING-PROCESS-A	40 CFR 63, Subpart JJJJJJ	No unit at Cabot is subject to this regulation
FG-SILICA-MFTING-PROCESS-A	40 CFR 63, Subpart NNNNN	Emission units are not located at a major HAP source
FG-SILICA-MFTING-PROCESS-A	40 CFR 63, Subpart VVVVVV	CMPU does not use as feedstock or produce as product or byproduct any of the HAP listed in Table 1 of Subpart VVVVVV in concentrations greater than 0.1 percent by weight

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RENEWABLE OPERATING PERMIT RENEWAL APPLICATION FORM

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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)
N6251	2813	325120	MI-ROP-N6251-2020	2

Source Name: Air Products and Chemicals, Inc.

Street Address: 3603 South Saginaw Road

City	State	ZIP Code	County
Midland	MI	48640-7612	Midland

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

Source Description: The Air Products and Chemicals, Inc. plant produces hydrogen gas using the steam methane reforming (SMR) process. Hydrogen gas is used by the Cabot Corporation (Cabot) at the Cabot Midland, MI facility.

☐ 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)
Air Products and Chemicals, Inc.	2

Mailing address (☐ check if same as source address): 1940 Air Products Boulevard

City	State	ZIP Code	County	Country
Allentown	PA	18106-5500	Lehigh	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: N6251	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	
James Mikkola			Site Supervisor	
Company Name & Mailing address (☐ check if same as source address)				
Air Products and Chemicals, Inc., 3603 South Saginaw Road				
City	State	ZIP Code	County	Country
Midland	MI	48640	Midland	USA
Phone number		E-mail address		
989-798-2057		mikkolje@airproducts.com		

Contact 2 Name (optional)			Title	
Preston Klingseis			Principal Environmental Specialist	
Company Name & Mailing address (☐ check if same as source address)				
Air Products and Chemicals, Inc., 1940 Air Products Boulevard, Mail Code A8F04-4				
City	State	ZIP Code	County	Country
Allentown	PA	18106-5500	Lehigh	USA
Phone number		E-mail address		
610-481-5909		klingspm@airproducts.com		

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name			Title	
Edward Gastenveld			Midwest HyCO Area Manager	
Company Name & Mailing address (☐ check if same as source address)				
Air Products and Chemicals, Inc., 14121 Waterway Boulevard				
City	State	ZIP Code	County	Country
Fishers	IN	46040	Hamilton	USA
Phone number		E-mail address		
270-519-6119		gastenet@airproducts.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: N6251	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.

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)

Edward Gastenveld, Midwest HyCO Area Manager

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

Edward Gastenveld — **Signature of Responsible Official**

6/11/24 — **Date**

PART C: SOURCE REQUIREMENT INFORMATION

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

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

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

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

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

If No, go to Part E.

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

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

Comments:

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

SRN: N6251	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-**

SRN: N6251	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: N6251	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-**

SRN: N6251	Section Number (if applicable): 2

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

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-**	

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

EFFECTIVE DATE: JANUARY 28, 2020

ISSUED TO

Cabot Corporation

and

Air Products and Chemicals, Inc.

State Registration Number (SRN): N6251

LOCATED AT

3603 South Saginaw Road, Midland, Midland County, Michigan

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-N6251-2020

Expiration Date: January 28, 2025

Administratively Complete ROP Renewal Application Due Between
July 28, 2023 and July 28, 2024

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

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-N6251-2020

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

_____

Chris Hare, Bay City 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 – CABOT CORPORATION

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.

SOURCE-WIDE CONDITIONS

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Individual HAPs	8.9 tpy	Based on a 12-month rolling time period as determined at the end of each calendar month.	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	SC VI.1	**R 336.1213(2)(d)** Permittee requested
2. Aggregate HAPs	22.4 tpy	Based on a 12-month rolling time period as determined at the end of each calendar month.	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	SC VI.1	**R 336.1213(2)(d)** Permittee requested

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

See Appendix 5-1

VI. MONITORING/RECORDKEEPING

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

1. Individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month. For the first month following permit issuance, the calculations shall include the summation of emissions from the 11-month period immediately preceding the issuance date. For each month thereafter, calculations shall include the summation of emissions for the appropriate number of months prior to permit issuance plus the months following permit issuance for a total of 12 consecutive months. **(R 336.1205(3))**

   Note: For the purpose of these records, potential emissions may be substituted for actual emissions when addressing equipment that emits only combustion product HAPs.

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. Each Responsible Official shall certify annually the compliance status of the stationary source with all stationary Source-Wide conditions. This certification shall be included as part of the annual certification of compliance as required in the General Conditions in Part A and Rule 213(4)(c). **(R 336.1213(4)(c))**

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-FILTERVENT	Secondary Filter separation. Separation of residual fumed silica product from conveying air.	08-01-1998 06-27-2018	FG-SILICA-MFTING-PROCESS
EU-HCL-RECOVERY	HCL Recovery Plant. Series of absorption towers to recover HCL and NaOH from the process off-gas stream. Prior to its discharge to atmosphere, chlorine and HCL emissions are routed through a caustic scrubber (CD-SCRUB).	08-01-1998 06-27-2018	FG-SILICA-MFTING-PROCESS
EU-DENSER	Two (2) Densers. Doubles the (normal) density of the fumed silica.	08-01-1998	FG-SILICA-MFTING-PROCESS
EU-STMCONDTANK	Steam Condensate Tank. Receiving and storage tank for all steam condensate at the facility.	08-01-1998	FG-SILICA-MFTING-PROCESS
EU-CAUSTICTANK	Caustic Storage Tank. Tank stores 20% NaOH for use in scrubbing in CD-SCRUB.	08-01-1998	FG-SILICA-MFTING-PROCESS
EU-HYPOREACTOR	Hypochlorite Reactor. Tank provides catalytic reduction of NAOCl (from CD-SCRUB) to NaCl (wastewater).	08-01-1998 06-27-2018	FG-SILICA-MFTING-PROCESS
EU-GLYCOLTANK	Ethylene Glycol Tank. Provides tank inventory of chilled ethylene glycol used in condensing water from the HCl gas product stream.	08-01-1998	FG-SILICA-MFTING-PROCESS
EU-FLOORSWEEP	Particulate Collection System. Vacuum system evacuates silica from equipment and is generally used for sweeping floor particulates.	08-01-1998	FG-SILICA-MFTING-PROCESS
EU-TANKFARM	Weak acid gases from breathing losses of HCl storage tanks and container loading. Emissions are controlled by CD-SCRUB~~ or CD-TFSCRUBBER (backup)~~.	08-01-1998 04-24-2019	FG-SILICA-MFTING-PROCESS
EU-WWTANK	Wastewater Storage Tank. Contains wastewater from CD-SCRUB discharge.	08-01-1998	FG-SILICA-MFTING-PROCESS

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EU-RC-LOADFILTER	Railcar Loading Filter. Product separation from conveying air during railcar loading.	08-01-1998	FG-SILICA-MFTING-PROCESS
EU-MAINTCOLDCLEANER	Maintenance shop cold cleaner.	09-25-1999	FG-COLDCLEANERS
EU-ENGINE	Onan/Cummins 188 Hp Emergency Generator.	08-01-1998	FG-RICEMACT

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-SILICA-MFTING-PROCESS	Amorphous fumed silica manufacturing facility.	EU-FILTERVENT EU-HCL-RECOVERY EU-DENSER EU-STMCONDTANK EU-CAUSTICTANK EU-HYPOREACTOR EU-GLYCOLTANK EU-FLOORSWEEP EU-TANKFARM EU-WWTANK EU-RC-LOADFILTER
FG-COLDCLEANERS	Any cold cleaner that is grandfathered or exempt from Rule 201 pursuant to Rule 278 and Rule 281(h) or Rule 285(r)(iv).	EU-MAINTCOLDCLEANER
FG-RICEMACT	Any reciprocating internal combustion engine (RICE) subject to the RICE NESHAP found in 40 CFR Part 63, Subpart ZZZZ	EU-ENGINE

FG-SILICA-MFTING-PROCESS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Amorphous fumed silica manufacturing facility. (PTI 29-18A)

Emission Units: EU-FILTERVENT, EU-HCL-RECOVERY, EU-DENSER, EU-STMCONDTANK, EU-CAUSTICTANK, EU-HYPOREACTOR, EU-GLYCOLTANK, EU-FLOORSWEEP, EU-TANKFARM, EU-WWTANK, EU-RC-LOADFILTER

POLLUTION CONTROL EQUIPMENT

- Particulate Filter Vent (EU-FILTERVENT): Bag filter is used to control particulate emissions during separation of residual fumed silica product from conveying air.
- Caustic Scrubber Control (CD-SCRUB): Sodium hydroxide is used to scrub out chlorine and HCl prior to discharge to atmosphere.
- ~~Backup Water Scrubber Control for EU-TANKFARM (CD-TFSCRUBBER): Water is used to scrub out chlorine and HCl prior to discharge to atmosphere.~~

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. CO	4,000 ppmv*[2]	Continuous based on 15-minute rolling average.	FG-SILICA-MFTING-PROCESS equipment venting to SV-7	SC VI.1 & 2	**40 CFR 52.21(d) & (j)**
2. CO	432 tpy[2]	Based on a 12-month rolling time period as determined at the end of each calendar month.	FG-SILICA-MFTING-PROCESS	SC VI.1, 2 & 6	**40 CFR 52.21(j)**
3. Total Chloromethanes	21 ppmv[1]	Hourly[A]	FG-SILICA-MFTING-PROCESS equipment venting to SV-7	SC V.1, VI.1	**R 336.1224**
4. Total Chloromethanes	8.9 tpy[1]	Based on a 12-month rolling time period as determined at the end of each calendar month.	FG-SILICA-MFTING-PROCESS	SC VI.1, 2, 4 & 6	**R 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a)**
5. Particulate Matter	0.10 pound per 1,000 pounds of exhaust gases, calculated on a dry gas basis.[2]	Hourly[A]	FG-SILICA-MFTING-PROCESS equipment venting to SV-2	SC VI.3 & 5	**R 336.1331**
6. Particulate Matter	3.4 tpy[2]	Based on a 12-month rolling time period as determined at the end of each calendar month.	FG-SILICA-MFTING-PROCESS	SC VI.3, 5 & 6	**40 CFR 52.21**
7. Hydrogen chloride (HCl)	0.95 pph[1]	Hourly[A]	FG-SILICA-MFTING-PROCESS equipment venting to SV-2	SC V.2, VI.2	**R 336.1224, R 336.1225**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
8. HCl	0.61 pph[1]	Hourly[A]	FG-SILICA-MFTING-PROCESS equipment venting to SV-7	SC III.1, III.4, V.3	**R 336.1224, R 336.1225**

* Except during:
- Start-up (the first 60 minutes following initiation of operation of the process, after a period of process downtime);
- Grade changes (the first 60 minutes following initiation of changes in process conditions to produce a different specified quality product); and
- Rate changes (the first 60 minutes following initiation of changes in process conditions to produce the same product at an increased or decreased rate).

[A] If a stack test is used to demonstrate compliance with this emission limit, the hourly emission rate during testing shall be determined by the average of the qualified test runs performed in accordance with the method requirements.

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FG-SILICA-MFTING-PROCESS unless CD-SCRUB is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining the minimum pH level and recirculation flow rate specified in the Malfunction Abatement Plan (MAP).[2] (**R 336.1205(3), R 336.1224, R 336.1225, R 336.1910, R 336.1911)**

2. The permittee shall not operate FG-SILICA-MFTING-PROCESS unless a post reaction peak temperature range of 1300°F - 1600°F, as measured in the staged methane / hydrogen injection process, is maintained. This temperature range may be revised upon request by the applicant and approval by the Department, upon demonstration that the change will not result in an increase above permitted emission rates.[2] **(R 336.1224, R 336.1225, R 336.1910, 40 CFR 52.21(j))**

3. The permittee shall not operate FG-SILICA-MFTING-PROCESS unless the bag filter (EU-FILTERVENT) is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes maintaining the operating parameters within the ranges specified in the MAP.[2] **(R 336.1331, R 336.1910)**

4. The permittee shall not operate FG-SILICA-MFTING-PROCESS unless the approved MAP for satisfactory operation of EU-FILTERVENT and EU-HCL-RECOVERY is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed or upon request from the AQD District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits.[2] **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1910, R 336.1911)**

5. The permittee shall submit to the AQD District Supervisor, for review and approval, an amendment for the MAP required by SC III.4 within 45 days of commencement of trial operation of the new adiabatic tower with the changed raw material feed. If the AQD does not notify the permittee within 90 days of submittal, the amended MAP shall be considered approved. Until an amended MAP is approved, the permittee shall implement manufacturer's recommendations and other practices necessary to comply with all applicable emission limits.[2] **(R 336.1224, R 336.1225, R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain CD-SCRUB with a liquid flowrate indicator.[2] **(R 336.1205(3), R 336.1224, R 336.1225, R 336.1910)**

2. The permittee shall equip and maintain EU-FILTERVENT with a pressure drop indicator.[2] **(R 336.1331, R 336.1910)**

3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the CO emissions from FG-SILICA-MFTING-PROCESS vent SV-7 on a continuous basis.[2] **(40 CFR 52.21(d)&(j))**

V. TESTING/SAMPLING

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

1. Verification of total chloromethanes emission rates from CD-SCRUB (SV-7) by testing at owner's expense, in accordance with Department requirements, no later than 36 months after the last test. Verification of emission rates includes the submittal of a complete report of the test results.[2] **(R 336.1213(3), R 336.2001(a)(e))**
   a. The permittee shall submit a complete test protocol to the AQD for approval at least 30 days prior to the anticipated test date. **(R 336.2001(3))**
   b. The permittee shall notify the District Supervisor and the Technical Programs Unit no less than 7 days prior to the anticipated test date. **(R 336.2001(3))**
   c. The permittee shall submit a complete test report of the test results to the District Supervisor and the Technical Programs Unit within 60 days following the last date of the test. **(R 336.2001(4))**

2. Within 180 days after commencement of permanent use of the changed raw material feed with the new adiabatic tower, the permittee shall verify HCl emission rates from FG-SILICA-MFTING-PROCESS equipment venting to SV-2 by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.[2] **(R 336.1224, R 336.1225, R 336.2001, R 336.2003, R 336.2004)**

3. Within 180 days after commencement of permanent use of the changed raw material feed with the new adiabatic tower, the permittee shall verify HCl emission rates from FG-SILICA-MFTING-PROCESS equipment venting to SV-7 by testing at the owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol. No less than 60 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test.[2] **(R 336.1224, R 336.1225, R 336.2001, R 336.2003, R 336.2004)**

See Appendix 5-1

VI. MONITORING/RECORDKEEPING

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

1. Applicant shall monitor and record the carbon monoxide (ppm) emissions from FG-SILICA_MFTING_PROCESS and CD-SCRUB, specifically from vent SV-7, on a continuous basis in a manner and with instrumentation acceptable to the Air Quality Division. A relationship between process operating parameters and the CO CEMS may be used to demonstrate compliance with the chloromethane emission rate limit (tons per year). For the purpose of this condition, "on a continuous basis" is defined as an instantaneous data point recorded at least

once every 15 minutes. The permittee may record block average values for 15 minute or shorter periods calculated from all measured data values during each period.

The CO monitor and associated monitoring data shall be used for compliance demonstration purposes. Prior to installation, applicant shall submit a Monitoring Plan to the District Supervisor for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required monitor.

The continuous emission monitoring system (CEMS) shall be installed, calibrated, maintained and operated in accordance with the procedures set forth in 40 CFR 60.13 and Performance Specification No. 4, of Appendix B, 40 CFR Part 60. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations. No less than 30 days prior to the performance specification testing, a complete test plan must be submitted to the District Supervisor for approval. Applicant shall submit to the District Supervisor within 30 days of completion, two copies of the final report demonstrating the CEM complies with the requirements of PS No. 4. In accordance with 40 CFR Parts 60.7(c) and (d) an excess emissions report (EER) and summary report shall be submitted in an acceptable format to the District Supervisor within 30 days following the end of each calendar quarter. The EER shall include each occurrence of all excursions and the magnitudes of the excess emissions of the specified permit limit, the cause of the excess emissions, if known, periods of monitor downtime, any corrective action taken, and the total operating time of the source.

If no exceedances or CEMS downtime occurred during the reporting period, applicant shall report that fact. Applicant shall perform and report the Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR Part 60. Each quarter the results shall be presented and submitted in the format of the data assessment report (DAR) along with the quarterly EER and summary reports. Furthermore, all monitoring data shall be kept on file for a period of at least five years and made available to the Air Quality Division upon request.[2] **(R 336.1910, 40 CFR 52.21, 40 CFR 60.7(c) & (d), 40 CFR 60.13 and Performance Specification No. 4 of Appendix B, 40 CFR Part 60, 40 CFR Part 60, Appendix F)**

2. The permittee shall equip and maintain FG-SILICA-MFTING-PROCESS with a continuous temperature indicator and strip chart recorder or disk storage for the staged methane/hydrogen injection process post reaction peak temperatures. This data shall be kept on file for a period of at least five years and made available to the Air Quality Division upon request.[2] **(R 336.1910)**

3. Maintenance records for EU-FILTERVENT, specifically of filter bag inspections and replacements, shall be kept on file for a period of at least five years and made available to the Air Quality Division upon request.[2] **(R 336.1331, R 336.1910)**

4. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner a device to monitor and record the liquid flow rate, liquid level, and pH for CD-SCRUB on a continuous basis. For the purpose of this condition, “on a continuous basis” is defined as an instantaneous data point recorded at least once every 15 minutes for at least 90 percent of the operating time during an operating calendar day.[2] **(R 336.1910)**

5. The permittee shall install, calibrate, maintain, and operate in a satisfactory manner a device to monitor and record the pressure drop for EU-FILTERVENT on a continuous basis. For the purpose of this condition, “on a continuous basis” is defined as an instantaneous data point recorded at least once every 15 minutes for at least 90 percent of the operating time during an operating calendar day.[2] **(R 336.1910)**

6. The permittee shall calculate the CO, total chloromethanes, and PM emission rates from FG-SILICA-MFTING-PROCESS monthly, for the preceding 12-month rolling time period, using a method acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility for a period of five years and make them available to the Department upon request.[2] **(R 336.1205(3), R 336.1331, R 336.1702)**

7. The permittee shall calculate and keep records of the annual emissions of CO from FG-SILICA-MFTING-PROCESS described in Appendix 4-1, in tons per calendar year. Calculations and record keeping shall begin the month in which regular operations of FG-SILICA-MFTING-PROCESS resume and shall continue for ten (10) years.[2] **(40 CFR 52.21(r)(6)(c)(iii))**

8. The permittee shall keep a record of the beginning time, the duration, and the date of each the following occurrences for FG-SILICA-MFTING-PROCESS:
   a. Start-up (the first 60 minutes following initiation of operation of the process, after a period of process downtime);
   b. Grade changes (the first 60 minutes following initiation of changes in process conditions to produce a different specified quality product);
   c. Rate changes (the first 60 minutes following initiation of changes in process conditions to produce the same product at an increased or decreased rate).

   The permittee shall keep all records on file at the facility and make them available to the Department upon request.[2] **(40 CFR 52.21)**

VII. REPORTING

1. Within 30 days after the commencement of permanent use of the changed raw material feed with the new adiabatic tower, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor and the AQD Permit Section Manager of the activity, in writing.[2] **(R 336.1201(7)(a), 40 CFR 52.21(r)(6)(c)(iii))**

2. The permittee shall submit records of the annual emission of CO from FG-SILICA-MFTING-PROCESS described in Appendix 4-1 in tons per calendar year, to the AQD Permit Section Supervisor within 60 days following the end of each reporting year if both the following occur:
   a. The calendar year actual emissions of CO exceed the baseline actual emissions (BAE) by a significant amount, and
   b. The calendar year actual emissions differ from the pre-construction projection.

   The report shall contain the name, address, and telephone number of the facility (major stationary source); the annual emissions as calculated pursuant to SC VI.7, and any other information the owner or operator wishes to include (i.e., an explanation why emissions differ from the pre-construction projection).[2] **(40 CFR 52.21(r)(6)(c)(iii))**

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

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

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

See Appendix 8-1

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 Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV-2 (Product Filter Vent) unobstructed non-vertically discharged	8[2]	47[2]	**R 336.1225, 40 CFR 52.21(c) & (d)**
2. SV-7 (Caustic Tower Stack)	24[2]	135[2]	**R 336.1225, 40 CFR 52.21(c) & (d)**

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
3. SV-10 (NaOCl Reactor)	2[2]	20[2]	**R 336.1225, 40 CFR 52.21(c) &(d)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall strictly adhere to the AQD approved fugitive dust control program or an alternate program approved by the AQD District Supervisor.[2] **(R 336.1371)**

See Appendix 9-1

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-COLDCLEANERS
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

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

Emission Unit: EU-MAINTCOLDCLEANER

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

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

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

IV. DESIGN/EQUIPMENT PARAMETER(S)

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

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

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

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

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

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

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

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

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

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

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

VII. REPORTING

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

2. 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-RICEMACT
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

40 CFR Part 63, Subpart ZZZZ – National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE), any existing emergency reciprocating internal combustion engine (RICE) subject to the RICE NESHAP found in 40 CFR Part 63, Subpart ZZZZ

Emission Unit: EU-ENGINE

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. Minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to 40 CFR Part 63, Subpart ZZZZ apply. **(40 CFR 63.6625(h))**

2. Perform the following maintenance as required: **(40 CFR Part 63, Subpart ZZZZ, Table 2D(4))**
   a. Change oil and filter every 500 hours of operation or annually, whichever comes first;
   b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary;
   c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.
   d. If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in (a)-(c) above, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state, or local law under which the risk was deemed unacceptable.

3. Operate and maintain the engine in accordance with the manufacturer's emission related operating and maintenance instructions, or develop and follow 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 63.6625(e), 40 CFR 63.6640(a), and 40 CFR Part 63, Subpart ZZZZ, Table 6(9))**

4. Operate the engine according to the requirements listed below in order for the engine to be considered an emergency engine. Any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described below is prohibited. If the engine is not operated according to the requirements listed below, the engine will not be

considered an emergency engine and must meet all requirements for non-emergency engines. **(40 CFR 63.6640(f))**

a. There is no time limit on the use of the engine in emergency situations.
b. The engine may be operated for any combination of the purposes specified below for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by (c) counts as part of the 100 hours per calendar year.
    i. The engine may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state, or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associate with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency engines beyond 100 hours per calendar year.
    ii. The engine may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies, or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.
    iii. The engine may be operated for periods where there is a deviation of voltage of frequency of 5 percent or greater below standard voltage or frequency.
c. The engine may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in (b). Except as provided in (i) below, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.
    i. The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:
        A. The engine is dispatched by the local balancing authority or local transmission and distribution system operator;
        B. The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region;
        C. The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines; and
        D. The power is provided only to the facility itself or to support the local transmission and distribution system.

The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission, or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. Install a non-resettable hour meter if one is not already installed. **(40 CFR 63.6625(f))**

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary engine is operating. 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. You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods. **(40 CFR 63.6635(b) & (c))**

2. Maintain the following records: **(40 CFR 63.6655(a))**
   a. A copy of each notification and report that was submitted to comply with 40 CFR Part 63, Subpart ZZZZ;
   b. Records of the occurrence and duration of each malfunction of operations (i.e., process equipment) or the air pollution control and monitoring equipment;
   c. Records of all required maintenance performed on the air pollution control and monitoring equipment;
   d. Records of actions taken during periods of malfunctions to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

3. Maintain records of the maintenance conducted on the engine in order to demonstrate that you operated and maintained the stationary engine and after-treatment control device (if any) according to your own maintenance plan. **(40 CFR 63.6655(e))**

4. Maintain records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. **(40 CFR 63.665(f))**

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. Report all deviations as defined in 40 CFR Part 63, Subpart ZZZZ in the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). **(40 CFR 63.6650(f))**

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 by the compliance date. **(40 CFR 63.6595, 40 CFR Part 63, Subparts A and ZZZZ)**

E. NON-APPLICABLE REQUIREMENTS

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

APPENDICES

Appendix 1-1. 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

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 4-1 Recordkeeping

Recordkeeping Provisions for Source Using Actual to Projected Actual Applicability Test

All information in this Appendix shall be maintained pursuant to 40 CFR 52.21(r)(6)(i) for ten years after the emission unit(s) identified in Table C resume regular operations and shall be provided to the Department for the first year and thereafter made available to the Department upon request or as required by SC VII.2.

A. Project Description:

Increase chlorine content of raw material feed, with associated replacement of the adiabatic tower and increased hydrogen plant capacity, for which PTI No. 29-18 was issued.

B. Applicability Test Description:

Hybrid test with no netting.

C. Emission Limitations:

Table C

		Emissions (tpy)			
Emission Unit/Flexible Group ID	**Pollutant**	**Baseline Actual**	**Project Total**	**Excluded**	**Reason for Exclusion**
FG-SILICA-MFTING-PROCESS and all hydrogen plants	CO	157.4	280.9	42.5	Maximum monthly emissions during baseline period

Appendix 5-1 Testing Procedures

There are no specific testing requirement plans or procedures for this ROP. 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-N6251-2013. 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-N6251-2013 is being reissued as Source-Wide PTI No. MI-PTI-N6251-2020.

Permit to Install Number	ROP Revision Application Number	Description of Equipment or Change	Corresponding Emission Unit(s) or Flexible Group(s)
29-18	NA	Install a new adiabatic absorption tower to accommodate new feedstock. Increase the capacity of the hydrogen plant associated with the source.	FG-SILICA-MFTING-PROCESS
29-18A	NA	Administrative changes to facilitate flexibility in testing based upon changes in production schedule.	FG-SILICA-MFTING-PROCESS

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.

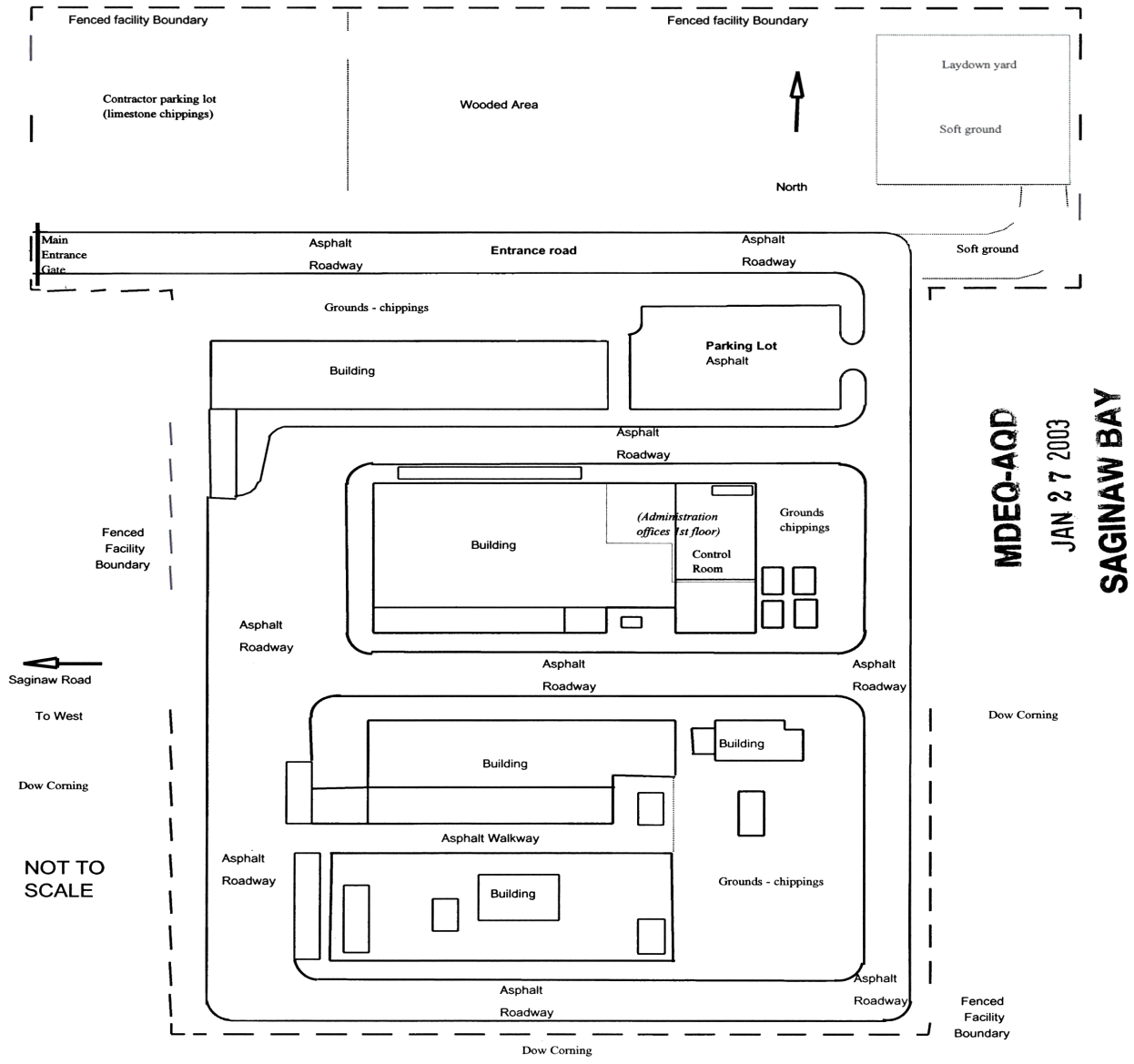
Appendix 9-1 Fugitive Dust Control Plan

CABOT MIDLANT PLANT FUGITIVE DUST EMISSION PROGRAM

January 24, 2003

AREA	CONTROL METHOD	FREQUENCY *
Paved Entrance road & Parking Lot	Street sweeper / power washer	None - due to low vehicle access approx. 20 / day
All other paved roads	Street sweeper / power washer	None - due to rare vehicle access approx. 1-2 / day
Contractor Parking Lot	Apply CaCl2 dust supressant	None - low vehicle access - approx. 5 / day
Unpaved areas of stone chippings	Apply CaCl2 dust supressant	None - rare vehicle access approx. 1 / month
Unpaved laydown yard - north end	Apply CaCl2 dust supressant	None - rare vehicle access - approx 1 / quarter

*** Road conditions will be monitored and road dust controlled accordingly as necessary.**



SECTION 2 – AIR PRODUCTS AND CHEMICALS INC.

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:
    d. 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))**
    e. 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))**
    f. The applicable requirements of the acid rain program, consistent with Section 408(a) of the CAA. **(R 336.1213(6)(b)(iii))**

e. 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:
    f. Operational flexibility changes made pursuant to Rule 215. **(R 336.1215(5))**
    g. Administrative Amendments made pursuant to Rule 216(1)(a)(i)-(iv). **(R 336.1216(1)(b)(iii))**
    h. 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))**
    i. Minor Permit Modifications made pursuant to Rule 216(2). **(R 336.1216(2)(f))**
    j. 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.

SOURCE WIDE CONDITIONS

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Individual HAPs	8.9 tpy	Based on a 12-month rolling time period as determined at the end of each calendar month.	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	SC VI.1	**R 336.1213(2)(d)** Permittee requested
2. Aggregate HAPs	22.4 tpy	Based on a 12-month rolling time period as determined at the end of each calendar month.	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	SC VI.1	**R 336.1213(2)(d)** Permittee requested

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

See Appendix 5-2

VI. MONITORING/RECORDKEEPING

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

1. Individual and aggregate HAP emission calculations determining the annual emission rate of each in tons per 12-month rolling time period as determined at the end of each calendar month. For the first month following permit issuance, the calculations shall include the summation of emissions from the 11-month period immediately preceding the issuance date. For each month thereafter, calculations shall include the summation of emissions for the appropriate number of months prior to permit issuance plus the months following permit issuance for a total of 12 consecutive months. **(R 336.1205(3))**

   Note: For the purpose of these records, potential emissions may be substituted for actual emissions when addressing equipment that emits only combustion product HAPs.

See Appendix 3-2

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)

1. Each Responsible Official shall certify annually the compliance status of the stationary source with all stationary Source-Wide conditions. This certification shall be included as part of the annual certification of compliance as required in the General Conditions in Part A and Rule 213(4)(c). **(R 336.1213(4)(c))**

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-DEAERATOR	Deaerator	12-1999	FG-RULE290

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	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290.	EU-DEAERATOR

FG-RULE290
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290.

Emission Unit: Deaerator

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

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

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

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

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

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

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

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

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

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

See Appendix 4-2

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

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

There are no specific testing requirement plans or procedures for this ROP. 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-N6251-2013. 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-N6251-2013 is being reissued as Source-Wide PTI No. MI-PTI-N6251-2020.

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, 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.

MALFUNCTION ABATEMENT PLAN

RENEWABLE OPERATING PERMIT

Submitted

May 2021

by

Cabot Corporation

Midland, Michigan

MALFUNCTION ABATEMENT PLAN
RENEWABLE OPERATING PERMIT

Table of Contents

1. General Description of the Caustic Scrubber Operation

Summary

All process gas that flows through vent EP-7 is scrubbed in the caustic scrubber, prior to release. This scrubbing will remove residual traces of hydrogen chloride and chlorine from the vent stream, as they react with the caustic solution to form salts. The salts are removed in the liquid phase and are sent to wastewater treatment. The exiting vent stream is continuously monitored, prior to venting through EP-7.

Detail

The caustic tower inlet fan, GB-10, compresses process gases containing carbon monoxide, carbon dioxide, hydrogen chloride, chlorine, chloromethanes, and air as they flow to the caustic tower, T-5. The process gases enter the bottom of the tower and flow up through the packed sections, making contact with the caustic. The caustic reacts with the process gas as follows:

$$Cl_2(g) + 2NaOH(aq) \rightarrow NaOCl(aq) + NaCl(aq) + H_2O$$

$$HCl + NaOH(aq) \rightarrow NaCl(aq) + H_2O$$

Liquid is collected in the bottom of the tower and pumped to the top of the column. Caustic is added to this recirculation loop at the suction of the recirculation pumps to control the pH of the recirculated liquid to the top of the column. Water is added in proportion to the caustic addition to allow for necessary dilution and quantity of solution to provide gas/liquid contact across the packing. A slipstream of recirculated liquid is removed to wastewater treatment to control the liquid level in the system. The residual gases at the top of the caustic tower are vented via the caustic tower stack, EP-7, to atmosphere.

Dual instruments measure the pH of the recirculation line being fed to the top of the tower. The operator selects which pH reading is to be used for control purposes. If there is a discrepancy between the pH meters, it will be determined which is more accurate and control off that instrument while the other is being re-calibrated.

The fresh caustic available for use in the scrubber is typically stored as a 20% solution. The pH of the recirculation loop will be maintained above 7.8. As makeup caustic is required to adjust the pH of the recirculation loop, water will be proportionately added to dilute the makeup to the desired strength.

There are two sources of water for makeup. Cooled, steam condensate is primarily used; however, industrial water will be automatically selected when there is a low level in the condensate tank. The operator can also manually select industrial water makeup.

As spent caustic leaves the caustic tower (based upon liquid level control in the tower) the fluid is pumped to the wastewater tank, D-6, and is then sent to wastewater treatment.

2. Caustic Scrubber Equipment Specifications

The major pieces of the Caustic Scrubber consist of the inlet fan, the tower, the recirculation pumps, the packing, and the stack. Specific design details of each of these pieces of equipment are presented in Table 2.1.

The inlet fan draws the reactor off gas from the process and compresses the stream into the packed tower. The tower contains 2 packed sections for enhanced contact of the acid gases with the caustic scrubbing solution. The reaction of the caustic with the acid gases will generally take place on the surface of the packing. The inert components of the gas stream will be vented through the top of the tower to the caustic tower stack. In this transfer line from the tower to the stack, control and process monitoring for carbon monoxide will take place.

The recirculation pumps transfer the caustic solution collected in the bottom of the tower back to the top of the tower, to provide continued scrubbing of the process gases. Makeup caustic (at a typical 4% strength) is added to the pump inlet to maintain the pH of the stream. A side stream off the discharge of the pumps is sent through dual pH monitors in order to adjust the caustic addition. The discharge from the monitors is returned back into the pump inlet. The recirculation pumps will also transfer spent caustic out of the system as the liquid level in the bottom of the tower increases.

There is an emergency generator installed to provide alternative power to both recirculation pumps and the inlet fan. This will ensure continued scrubbing of reactor off gas in case of unplanned events such as loss of power supply to the facility and the motor control center.

TABLE 2.1
CAUSTIC SCRUBBER EQUIPMENT SPECIFICATIONS

Equipment	Item #	Description
Caustic Tower Inlet Fan	GB-10	Centrifugal fan with a capacity of 4183 SCFM at 20" WC
Recirculation Pumps	P-18 A&B	Spared, centrifugal pump with a capacity of 446 GPM at 115' TDH
Emergency Generator	EG-001	Backup power supply to provide power to GB-10, P-18 A&B in case of motor control center power loss
Caustic Tower	T-5	FRP construction with Halar lining height of 60'-6" diameter of 5'-0" design pressure of +5/-3 psig design temperature of 150°F
Tower Packing		2-20' packed beds 3.5" Rauchert Hi-Flow PVDF (or equivalent) design temperature of 200°F
Caustic Tower Stack	X-119	FRP construction Outlet elevation 135' above grade height of 74'-0" diameter of outlet 24" design pressure of 25" WC design temperature of 150°F

Routine shutdowns of the process are intended every 12 – 18 months, to perform maintenance and upgrades of needed equipment. During these maintenance shutdowns, the caustic scrubber will also be shutdown and inspected. As part of this, the tower will be opened, to allow inspection of tower internals, such as the packing, packing supports, and liquid distributors.

It is anticipated that the tower packing will periodically need to be replaced. The inspections of the tower packing will be performed to better estimate the timing of the replacement. If it is determined that another packing is available that will better enhance the operation of the caustic scrubber, it will be used as a replacement.

The facility will maintain both recirculation pumps, so that there is generally an on-line spare available for immediate use. A pump taken out of service will receive timely repair, such that there will be little time when the plant is operating with only one pump. There will also be a spare replacement for the inlet fan maintained in inventory.

There will be weekly, visual inspections of the caustic scrubber system conducted. The visual inspection will include process equipment, piping, pumps, etc. The emergency generator will also be checked.

All maintenance and periodic inspections will be performed under the direct guidance of the Operations Manager for the facility. The Operations Manager reports to the Facility Manager, who will ensure that appropriate inspections and repairs are made in a timely manner.

3. Caustic Scrubber Process Control

The caustic scrubber will generally be automatically controlled, through the use of process monitoring instrumentation, computerized process logic and controllers. All operators will be trained in how to monitor and control the automatic operation of the facility, along with use of manual controls.

Table 3.1 itemizes the key process controls used for the caustic scrubber, with a description of operation and response that are part of the operating procedure. The operating procedure for the caustic scrubber indicates the intended operator responses to the pre-startup alarm or upset conditions, in addition to reflecting changes that will be due to operational experience with the plant, and so could be occasionally updated. The operating procedure will be made available for review, upon request.

TABLE 3.1
CAUSTIC SCRUBBER PROCESS CONTROL

Equipment	Description
pH Monitors	Will provide two active pH measurements of the caustic recirculation loop. Will be used to control the flow of 20% caustic to the recirculation pumps. The pH monitors are calibrated every 14 – 21 days, in accordance with manufacturer's recommendations. An alarm will be based on low pH, which corresponds to potential chlorine and hydrogen chloride emissions. Operator response to a confirmed low pH will be to add additional caustic to scrubber. An alarm will be based upon a deviation of greater than 0.3 pH units between the two pH probes. Operator response to alarm will be to check both probes to determine which is correct, and ensure that process will control off of the correctly reading probe. Instruments will receive timely repair, if warranted.
Independent High Tower Level Alarm	Probe (independent of analog tower level instrument) located on the tower that will sense high caustic inventory level in the bottom of T-5 tower. Triggering of this high level alarm will indicate that the analog level monitor on the tower may not be properly working. Operator responses similar to increasing tower level. Instrument will receive timely repair, if warranted.
Tower Level	Will provide indication of caustic inventory level in the bottom of T-5 tower. Will be used to automatically control the flow of spent caustic out of the tower. An alarm will be based upon high level in the tower. Operator response to increasing level will include increasing spent caustic discharge, consideration of flow restrictions to pumps, consideration of excessive makeup flow, and eventual process shutdown to ensure that packing does not get flooded. Instrument will receive timely repair, if warranted.
Recirculation Flow	Will provide flow measurement of the caustic recirculation loop. An alarm will be based upon low flow. Operator response to low flow will be to establish proper flow. This will include starting the spare pump, unplugging flow restriction, cleaning filter, etc. If proper flow cannot be established, the process will be shut down to locate and repair the source of the flow restriction. Instrument will receive timely repair, if warranted.

Equipment	Description
Low Flow Switch	Will sense low analyzer loop flow. An alarm will be based upon triggering of this low flow switch. The alarm condition will indicate that the pH monitors may not be receiving a representative sample. Operator response will be to ensure that the probes are getting a good sample flow, by increasing sample flow or flushing/unplugging the sample line. If it is confirmed that the analyzers are not receiving proper flow for measurement purposes, the process will be shutdown to locate and repair the flow restriction. Instrument will receive timely repair, if warranted.
Pressure Relief	Provides T-5 with a pressure relief device that will pass exhaust gases to the atmosphere if the pressure exceeds 5 psig. In this event, the process will be shutdown, which halts the reaction. The only source of gas generation is the actual reaction, and very little gas is actually in residence within the process, as it is continually being scrubbed. Within seconds, any residual gas within the system would be vented. It is anticipated that much less than one pound of chlorine and hydrogen chloride would be vented in such a case. The cause of overpressuring of the system would be investigated and corrected appropriately. Startup of the process would not occur until the source was determined and corrected. This vacuum/pressure protection for T-5 is checked during the maintenance turnarounds.

4. Caustic Scrubber Instrumentation Specifications

The instrumentation critical to the operation of the caustic scrubber was described in Section 3. The process monitors employ analog instrumentation, used to control the variables during normal operation, and many of the key process parameters will also have digital switches to be used as redundant indications of control. An example of this is a variable tower liquid level, plus a high level switch.

The following Table 4.1 lists the process controls referred to in Section 3 and further identifies the pre-startup design criteria. The alarm setpoints indicated for analog instrument signals will generally be defined through use of control logic software, and may be subject to change, so as to improve process reliability. The specifications for the instruments may change over time, as the plant gains additional operational experience, and enhances the design of the control scheme. Any changes will be identified in the operating procedures, and available for review, upon request.

The parameters listed in Table 4.1 will be monitored in the control room, and recorded on computer. The data being monitored will, at a minimum, be extracted once every 15 minutes and averaged to calculate an hourly average for the parameter. The hourly averages will be recorded on computer for a period of not less than 5 years from the date of generation and made readily available to AQD staff upon request.

TABLE 4.1
CAUSTIC SCRUBBER INSTRUMENTATION SPECIFICATIONS

Process Parameter	**Instrument Equipment Number**	**Instrument Range**	**Setpoint or Normal Operating Range**	**Alarm Setpoint**
pH	AE-4412 A&B	0 – 14 pH	Minimum 7.8 pH	*Low* 8.3
Tower Level	LT-4419	0 – 100%	25 – 55%	*Low* 17% *High* 60%
Independent High Tower Level Alarm	LSH-4417	Switch location on tower corresponds with 81% of LT-4419 span	NA	*High* On
Recirculation Flow	FT-4405 or FT-4452	0 – 600 gpm (140000 kg/hr)	50,000 Kg/hr	*Low* 50,000 Kg/hr *High* 140,000 kg/hr
Analyzer Low Flow Switch	FSL-4426	1.04 – 10.4 gpm (240-2400 kg/hr)	3 – 8 gpm (700-1800 kg/hr)	*Low* 5 gpm (1100 kg/hr)

5. General Description of the Product Vent Filter Operation

Summary
In the final stages of fumed silica production, process gasses flow through a particulate bag filter (TF-13), which is used to control particulate emissions during the secondary separation of fumed silica from conveyance air.

Detail
Following a combustion reaction and many meters of cooling tubes to lower temperature hot gases are introduced into a Main Unit Filter (MUF). At the MUF, the fumed silica is separated from the off gas and conveyed to a cyclone (JC-7) where it is then separated from the air and fed into a rotary calciner (HD-1). In the calciner, steam or sweep gas is used to remove residual HCl. Following calcination the fumed silica is conveyed to another cyclone (JC-8). Off gas from JC-8 is directed through the product vent filter (TF-13) and discharged through ROP Stack ID SV-2A.

6. Product Vent Filter Equipment Specifications

The major pieces of the product vent filter consist of the inlet/outlet fan, product filter vent, filter bags and vent stack. Specific design details of each of these pieces of equipment are presented in Table 6.1.

The inlet/outlet fan draws particulate-laden air into the product filter vent and through the filter bags. Particulate recovered from this process is reintroduced into the product conveying line and conveyed to JC-8 and off gas is discharged to the atmosphere through SV-2A.

TABLE 6.1
PRODUCT VENT FILTER EQUIPMENT SPECIFICATIONS

Equipment	Item #	Description
Inlet/Outlet Fan	GB-15	Centrifugal fan Aluminum Construction Capacity = 60,000 SCFH Pressure in = -15" WC Pressure out = 3" WC Horse Power = 10
Product Filter Vent	TF-13	Aluminum construction Design temperature = 200F Design pressure = +/- 40" WC Capacity = 60,000 SCFH
Filter Bags	Not Applicable	PTFE felt construction (102", 22 oz/yd^2) Design temperature. = Cont. 500F; Surge 525F Design pressure = 400 psi burst pressure Filtration efficiency >99.5% at 0.3 microns Differential Pressure (dirty) = 6 in H2O
Product Filter Vent Stack	SV-2A	FRP construction Outlet elevation above grade = 47' Diameter of outlet (internal) = 8.04" Design pressure = 150 psig Design temperature = 200 F Capacity = 60,000 SCFH

It is anticipated that the bags will periodically need to be replaced. Inspections of the bags are performed during maintenance shutdowns to better estimate the timing of the replacement. If it is determined that another bag is available that will better enhance process operation it will be used as a replacement. The facility has developed and implemented a comprehensive preventative maintenance program for GB-15 and also maintains a 'drop-in' spare. All maintenance and periodic inspections will be performed under the direct guidance of the Operations Manager for the facility. The Operations Manager, who reports to the Facility Manager, will ensure that appropriate inspections and repairs are made in a timely manner.

7. Product Vent Filter Process Control

The product vent filter will generally be automatically controlled through the use of process monitoring instrumentation, computerized process logic and controllers. All operators will be trained in how to monitor and control the automatic operation of the facility, along with use of manual controls.

Table 7.1 itemizes the key process controls used for the product filter vent, with a description of operation and response that are part of the operating procedure. The operating procedure for the product filter vent indicates the intended operator responses to presupposed alarm or upset conditions. The operating procedure will be made available for review, upon request.

TABLE 7.1
PRODUCT VENT FILTER PROCESS CONTROL

Equipment	Description
Differential Pressure	Will provide active differential pressure measurements across the product filter vent to determine differential pressure. An alarm will be based on high differential pressure, which corresponds to potential filter plugging. Operator response to a high differential pressure is detailed in Work Instruction JWAZ-Denser, which is available upon request. Instruments will receive timely repair, if warranted.

8. Product Vent Filter Instrumentation Specifications

The instrumentation critical to the operation of the product vent filter was described in Section 7. The process monitors employ analog instrumentation, used to control the variables during normal operation.

The following Table 8.1 lists the process controls referred to in Section 7 and further identifies the pre-startup design criteria. The alarm setpoints indicated for analog instrument signals will generally be defined through use of control logic software, and may be subject to change, so as to improve process reliability. The specifications for the instruments may change over time, as the plant gains additional operational experience, and enhances the design of the control scheme. Any changes will be identified in the operating procedures, and available for review, upon request.

The parameters listed in Table 8.1 will be monitored in the control room, and recorded electronically. The data being monitored will, at a minimum, be extracted once every 15 minutes and averaged to calculate an hourly average for the parameter. The hourly averages will be recorded electronically for a period of not less than 5 years from the date of generation and made readily available to AQD staff upon request.

TABLE 8.1
PRODUCT VENT FILTER INSTRUMENTATION SPECIFICATIONS

Process Parameter	Instrument Equipment Number	Instrument Range	Normal Operating Range	Alarm Setpoint
Differential Pressure	DPT 3027	0 to 24.88 mbar	0 - 14 mbar	*High* = 13.90 mbar *High/High* = 14.0 mbar

9. Historical Changes to the Malfunction Abatement Plan

Cabot submitted the original Operating and Preventive Maintenance Plan (O&PM Plan) on July 1, 1999. This plan will be referred to as "O&PM7199."

MDEQ (both Lansing and Saginaw Bay District staff personnel) reviewed O&PM7199 and sent an email listing 12 issues that needed to be resolved prior to approval.

Cabot submitted an amended O&PM Plan on July 30, 1999 that addressed each of the 12 issues raised by MDEQ-AQD staff. This plan will be referred to as "O&PM73099."

Saginaw Bay District staff verbally told Cabot that O&PM73099 was considered approved if Cabot resolved the issues that resulted from the review by MDEQ.

Cabot submitted an amended O&PM Plan on May 25, 2000 based upon the request of Saginaw Bay staff. This plan will be referred to as "O&PM52500." The reasoning of MDEQ for the revision was to remove information related to stack monitoring to a monitoring plan, and to make the O&PM plan fit the framework of a malfunction abatement plan under Rule 911.

Saginaw Bay District staff began review of O&PM52500, and issued an email on August 9, 2000 listing 7 issues that needed to be resolved prior to approval of O&PM52500 as a malfunction abatement plan.

On August 16, 2000 Saginaw Bay District staff were reassigned, and submission of the amended O&PM52500 was on hold.

On August 9, 2000 e-mail from J. Stark to K. Burley raising questions and comments on the O&PM Plan.

On November 28, 2000 and March 19, 2001 Saginaw Bay District staff met with Cabot to discuss several air permitting issues, including the status of the O&PM Plan.

On May 4, 2001 the amended O&PM52500was submitted to resolve staff issues raised upon review of O&PM52500. This submission was referred to as version "O&PM50401."

On June 26, 2001 e-mail from K. Burley to C. Cottick with written answers to questions 1 and 5 of J. Stark's e-mail (Aug 9, 2000).

On August 20, 2001 letter from M. Reed to P.Fraser approving the Malfunction Abatement Plan (MAP) (formerly the Operating and Preventive Maintenance Plan).

On August 24, 2001 Minor revisions to MAP, referenced as MAP082401, submitted to C.Cottick.

On May 8, 2006 Cabot added FT-4452 to Table 4.1 as a redundant means by which to measure recirculation flow. Verbal approval given by Mike Gruber II and documented change submitted to M. Reid for official approval.

On December 11, 2006 Cabot added the Product Vent Filter to the MAP per the request of Mike Gruber II.

On Feb. 28, 2007 Cabot removed the low differential pressure alarm and all references to it. Also, verbiage was added to 7.1 in support of this change.

On May 2017, Cabot updated the MAP to reflect current controls and maintenance strategies.
Section 1: Caustic Tower pH probe selection is updated. Grab samples are taken when a discrepancy occurs between the pH monitors.
Section 1: The upper limit for Caustic Tower pH is eliminated since there is no negative environmental consequence of high pH operation. The lower limit is maintained.
Section 2: The term "emergency generator" replaces the term "standby generator" throughout the MAP.
Section 2: Routine plant maintenance shutdown frequency is updated from "annual" to "12 – 18 months" throughout the MAP, based on operating history and reliability. The Caustic Tower packing replacement expected frequency of 3 years is removed.
Section 3, Table 3.1: Routine calibration checks of the pH monitors are conducted bi-weekly during plant operation. The DCS alarm setting for deviation between the pH probe readings is reduced from 0.5 to 0.3 pH units.
Section 3, Table 3.1: Tower Temperature is removed from the Process Controls as it varies with ambient conditions, and does not impact emissions at any anticipated process temperatures.
Section 3, Table 3.1: Pressure Relief device inspection frequency is updated to align with the maintenance shutdown schedule.
Section 4, Table 4.1: Normal operating ranges and alarm setpoints for pH and Tower Level are updated based on current operating practices. Tower Temperature is removed from the table.
Section 6, Table 6.1: Product Filter Vent and Filter Bag descriptions are updated for the current bags, including material of construction, and temperature, pressure, and differential pressure ratings.
Section 6, Table 6.1: Product Filter Vent Stack exit temperature and exit flow are removed as they vary with ambient conditions and normal operations and are not impactful to emissions.
Section 6: The Product Filter internal inspection frequency is aligned to the plant maintenance shutdown frequency. The filter bag replacement expected frequency of 3 years is removed.
Section 7, Table 7.1: The Differential Pressure description is updated to reflect current process understanding that bag failure is unlikely to cause high DP. Work instruction references in this table are updated.
Section 7, Table 7.1: Inlet Temperature and Inlet Pressure are removed from the Process Controls table as there is no expected impact on particulate removal efficiency at all anticipated process temperatures/pressures.
Section 8, Table 8.1: The Differential Pressure normal operating range and alarm setpoints are updated for the current filter bags.
Section 8, Table 8.1: The Inlet Temperature and Pressure instruments are removed from the table.

On May 2021, Cabot updated the MAP to reflect current controls and maintenance strategies. Section 8, Table 8.1: Normal operation range updated from Maximum of 15 mbar to 0 – 14 mbar and alarm setpoints updated to a High = 13.90 mbar and a High/High = 14.0 mbar.