Puite, Tammie (EGLE)

From: Dickman, Rob (EGLE)
Sent: Thursday, October 10, 2019 9:08 AM
To: Puite, Tammie (EGLE)
Subject: Fwd: B3692 – ROP Renewal Application
Attachments: File 1 - B3692_ROP Renewal Application Form.pdf; ATT00001.htm; File 2 - B3692 _ROP_MARK-UP.docx; ATT00002.htm; File 4 - B3692_Plans Referenced in the ROP.pdf; ATT00003.htm; File 3 - B3692_Supplemental Data.pdf; ATT00004.htm

FYI

Sent from my iPhone

Begin forwarded message:

From: "Megan Uhler" <muhler@ALL4INC.COM>
To: "EGLE-ROP" <EGLE-ROP@michigan.gov>
Cc: "Dickman, Rob (EGLE)" <DICKMANR@michigan.gov>, "Nixon, Shane (EGLE)" <NIXONS@michigan.gov>, "Kaltunas, Sara" <SKaltunas@packagingcorp.com>, "Walker, Dyllan" <DyllanWalker@packagingcorp.com>, "Dan Dix" <ddix@ALL4INC.COM>
Subject: B3692 – ROP Renewal Application

Good afternoon,

Attached for the Department's review is an electronic copy of the application to renew Renewable Operating Permit (ROP) No. MI-ROP-B3692-2015b for the Packaging Corporation of America (PCA) corrugating medium manufacturing facility located in Filer City, MI (Mill). All4 LLC (ALL4) is submitting this application on behalf of PCA.

A hard copy of this application has also been mailed via UPS for next day delivery to Mr. Nixon's attention.

Consistent with page 30 of the Department's "Renewal Application Instructions," the following electronic files are attached:

- File 1 – B3692_ROP Renewal Application Form
- File 2 – B3692_ROP_MARK-UP
- File 3 – B3692_Supplemental Data (i.e., a compilation of the entire application submittal as it is organized within the hardcopy binder)
- File 4 – Plans Referenced in the ROP

The Mill believes the attached application is complete, provides all information necessary for the Mill to receive an application shield, and provides all information necessary for EGLE to renew the facility's ROP.

Please feel free to contact Ms. Sara Kaltunas (PCA Environmental Manager) at (231) 723-9951 x465 or skaltunas@packagingcorp.com if you have any questions regarding this submittal.

Thank you,
Megan Uhler

Megan Uhler | Consulting Scientist
muhler@all4inc.com | 610.933.5246 x132 | Profile | LinkedIn

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// Your environmental compliance is clearly our business.

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)
B3692	***2621***	***32212***	***MI-ROP-B3692-2015b***	***N/A***

Source Name
Packaging Corporation of America – Filer City Mill

Street Address
2246 Udell St.

City	State	ZIP Code	County
Filer City	***MI***	***49634***	***Manistee***

Section/Town/Range (if address not available)
N/A

Source Description
Packaging Corporation of America Filer City Mill is a semichemical corrugating medium manufacturing 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)
Packaging Corporation of America	***N/A***

Mailing address (☐ check if same as source address)
2246 Udell St.

City	State	ZIP Code	County	Country
Filer City	***MI***	***49634***	***Manistee***	***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: B3692	Section Number (if applicable): N/A

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	
Sara Kaltunas			***Environmental Manager***	
Company Name & Mailing address (☒ check if same as source address)				
Packaging Corporation of America - 2246 Udell St.				
City	State	ZIP Code	County	Country
Filer City	***MI***	***49634***	***Manistee***	***USA***
Phone number		E-mail address		
(231) 723-9951 x465		***SKaltunas@packagingcorp.com***		

Contact 2 Name (optional)			Title	
Dyllan Walker			***Environmental Engineer***	
Company Name & Mailing address (☒ check if same as source address)				
Packaging Corporation of America - 2246 Udell St.				
City	State	ZIP Code	County	Country
Filer City	***MI***	***49634***	***Manistee***	***USA***
Phone number		E-mail address		
(231) 723-1434		***DyllanWalker@packagingcorp.com***		

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name			Title	
Andrew Richards			***Mill Manager***	
Company Name & Mailing address (☒ check if same as source address)				
Packaging Corporation of America - 2246 Udell St.				
City	State	ZIP Code	County	Country
Filer City	***MI***	***49634***	***Manistee***	***USA***
Phone number		E-mail address		
(231) 723-9951		***arichards@packagingcorp.com***		

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

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

SRN: B3692	Section Number (if applicable): N/A

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 *N/A*
☒ 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 *N/A*
☒ Criteria Pollutant/Hazardous Air Pollutant (HAP) Potential to Emit Calculations	☐ Cross-State Air Pollution Rule (CSAPR) Information *N/A*
☒ MAERS Forms (to report emissions not previously submitted)	☐ Confidential Information *N/A*
☐ Copies of all Consent Order/Consent Judgments that have not been incorporated into existing ROP *N/A*	☒ 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: ***PCA has included copies of all external documents that apply.***

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)
Andrew Richards, Mill 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.

Andrew Richards — **Signature of Responsible Official**

10/2/19 — **Date**

SRN: B3692	Section Number (if applicable): N/A

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 the MDEQ, one must be included with the ROP renewal application on an AI-001 Form. If the CAM Plan has been updated, include an updated copy. Is a CAM plan included with this application? If a CAM Plan is included, check the type of proposed monitoring included in the Plan: 1. Monitoring proposed by the source based on performance of the control device, or 2. Presumptively Acceptable Monitoring, if eligible	☒ Yes ☐ No ☒ Yes ☐ No ☒ ☐
C9.	Does the source have any plans such as a malfunction abatement plan, fugitive dust plan, operation/maintenance plan, or any other monitoring plan that is referenced in an existing ROP, Permit to Install requirement, or any other applicable requirement? If Yes, then a copy must be submitted as part of the ROP renewal application.	☒ Yes ☐ No
C10.	Are there any specific requirements that the source proposes to be identified in the ROP as non-applicable? If Yes, then a description of the requirement and justification must be submitted as part of the ROP renewal application on an AI-001 Form.	☒ Yes ☐ No

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

SRN: B3692	Section Number (if applicable): N/A

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:

Question D1: Please refer to Table 2-3 of the application narrative for a list of 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.

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

PART E: EXISTING ROP INFORMATION

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

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

Comments:

EUCOALHANDLING no longer exists now that the Mill has ceased firing coal. As part of the PTI Application dated December 2018 PCA proposed to rename the EUCOALHANDLING emissions unit "EUSOLIDFUELTRAN" (i.e., Solid Fuel Handling Equipment). Refer to Appendix B and the PTI Application dated December 2018 for more information.

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

PART F: PERMIT TO INSTALL (PTI) INFORMATION

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

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

Permit to Install Number	Emission Units/Flexible Group ID(s)	Description (*Include Process Equipment, Control Devices and Monitoring Devices*)	Date Emission Unit was Installed/ Modified/ Reconstructed
PTI No. 209-18	***EUBOILER1***	***Boiler No. 1 has a maximum heat input rating of 240 MMBtu/hr and is equipped with low NO_X burners and FGR. The boiler fires natural gas and/or biogas. NCG from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.***	***01/01/50 12/06/80 09/02/83 Pending***
PTI No. 209-18	***EUBOILER2***	***Boiler No. 2 has a maximum heat input rating of 186 MMBtu/hr and is equipped with low NO_X burners. The boiler fires natural gas and/or biogas.. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.***	***01/01/50 12/06/80 09/02/83 12/06/84 Pending***
PTI No. 209-18	***EUBOILER4A***	***Boiler No. 4A is a natural gas and biogas-fired Babcock and Wilcox Model No. FM120-97 boiler. The boiler's maximum heat capacity is 227 MMBtu/hr and is equipped with low NOx burners. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.***	***11/01/02 Pending***
PTI No. 209-18	***EUBOILER5***	***A BFB boiler with a heat input capacity of 302 MMBtu/hr. The boiler will burn wood, wood waste, primary clarifier residuals, paper recycling residuals, TDF, and natural gas.***	***Pending***

PTI No. 209-18	***EUSOLIDFUELTRAN***	***Existing enclosed wood and wood waste conveyors and new covered conveyors will transport solid fuels of wood and wood waste, TDF, paper recycling residuals, and primary clarifier residuals. The fuel streams will be blended while traveling along the new wood and wood waste conveyor before entering Building 4 and being deposited into a fuel storage bin.***	***Pending***
PTI No. 209-18	***EUSANDSILO***	***Sand silo used to store sand used in EUBOILER5.***	***Pending***
PTI No. 209-18	***EUWASHERS***	***Pulp washing system and LVHC collection system.***	***Pending***

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-Form F***

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: B3692	Section Number (if applicable): N/A

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-Part H***

EGLE

RENEWABLE OPERATING PERMIT APPLICATION
AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

	SRN: B3692	Section Number (if applicable): N/A

1. Additional Information ID
AI-Part C

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

Question C1: Please see Appendix E for copies of 2018 MAERS forms which reflect updated calculation methodologies for EUBOILER1, EUBOILER2, and EUBOILER4A. The updates were prepared for consistency with the calculation approaches utilized in the December 2018 PTI Application submittal.

Question C4: Please see Appendix B, the Mill's PTI Application Submittal dated December 2018, and the supplementary PTI Application submittal to Ms. Melissa Byrnes dated June 14, 2019. Within Appendix B, annual criteria pollutant PTE rates for sources added or modified since the last ROP renewal are listed as emissions limitations within the recently issued PTI. Pursuant to the September 26, 2019 conference call between Mr. Shane Nixon (EGLE), Ms. Sara Kaltunas (PCA), and Ms. Megan Uhler (ALL4 LLC) and the instructions to Question C4 herein, PCA understands that reference to the annual criteria pollutant PTE rates provided within these recent submittals combined with provision of the Mill's 2018 MAERS submittal for sources not added or modified since the last ROP renewal fulfills EGLE's request concerning criteria pollutant PTE rates for the Mill.

Question C5: Please see PCA's PTI application submittal dated December 2018 and the supplementary PTI Application information emailed to Ms. Melissa Byrnes of EGLE on April 5, 2019. Pursuant to the September 26, 2019 conference call between Mr. Shane Nixon (EGLE), Ms. Sara Kaltunas (PCA), and Ms. Megan Uhler (ALL4 LLC) and the instructions to Question C5 herein, annual HAP PTE rates for equipment added and modified since last ROP renewal were presented within the supplementary PTI Application information emailed to Ms. Melissa Byrnes of EGLE on April 5, 2019. Pursuant to the September 26, 2019 conference call, PCA understands that reference to the annual HAP PTE rates established within this recent submittal fulfills EGLE's request concerning HAP PTE rates for the Mill.

Question C8: Please see Appendix C for copies of the Mill's current CAM plans.

Question C10: PCA requests clarification within the ROP Section E Non-Applicable Requirements summary that EUCOPELAND+DISTANK is not a kraft recovery furnace or sulfite combustion unit, and therefore not subject to the PM standard for kraft recovery furnaces or sulfite combustion units under 40 CFR Part 63, Subpart MM.

EGLE

RENEWABLE OPERATING PERMIT APPLICATION
AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

	SRN: B3692	Section Number (if applicable): N/A

1. Additional Information ID
AI-Part F

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

Questions F2 and F3: PCA has provided a redline version of the current ROP in Appendix A which outlines all proposed changes being requested to the current ROP in order to incorporate the terms of PTI No. 209-18.

Question F4: A new shared stack being constructed during 2019 will serve EUBOILER1, EUBOILER2, and EUBOILER5.

EGLE

RENEWABLE OPERATING PERMIT APPLICATION
AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

	SRN: B3692	Section Number (if applicable): N/A

1. Additional Information ID
AI-Part H

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

Question H4: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to state or federal requirements.

Question H8: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to Emissions limits.

Question H9: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to material limits.

Question H10: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to process/operational restrictions.

Question H11: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to design/equipment parameters.

Question H12: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to testing/sampling requirements.

Question H13: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to monitoring/recordkeeping requirements.

Question H14: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to reporting requirements.

Question H15: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to stack/vent information.

Question H16: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to other changes to the ROP.

Renewable Operating Permit (ROP) Renewal Application for Packaging Corporation of America

Packaging Corporation of America – Filer City, MI

Submitted by:

Packaging Corporation of America
Filer City Mill
2246 Udell Street
Filer City, Michigan 49634

Submitted to:

Michigan Department of Environment, Great Lakes, and Energy
Cadillac District Office
Air Quality Division
120 W. Chapin Street
Cadillac, MI 49601-2158

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TABLE OF CONTENTS

Section Name **Page Number**

TABLE OF CONTENTS

Section Name **Page Number**

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

1. INTRODUCTION

Packaging Corporation of America (PCA) owns and operates a corrugating medium manufacturing facility in Filer City, Manistee County, Michigan (Filer City Mill or Mill). The Mill is a major source as defined by the Federal Operating Permit Program (40 CFR Part 70) and Michigan's Renewable Operating Permit (ROP) Applicability provisions (R 336.1211). In addition, the Mill is classified as a major source of hazardous air pollutants (HAP) as defined by the Clean Air Act (CAA).

The Mill currently operates pursuant to Michigan Department of Environment, Great Lakes, and Energy (EGLE) ROP No. MI-ROP-B3692-2015b, issued April 27, 2015, revised August 24, 2015 and June 1, 2016, and which expires on April 27, 2020.

In accordance with R 336.1210(9) and Section A of the permit, a renewal application must be submitted to EGLE for review at least six months, and not more than 18 months, before the current permit expires (i.e., between October 27, 2018 and October 27, 2019). This document represents the ROP Renewal Application for the PCA Filer City Mill.

This application includes the requisite information as well as the completed EGLE ROP renewal application forms necessary for the Mill to renew its operating permit and also incorporate the terms of recently issued Permit To Install (PTI) No. 209-18 dated August 16, 2019.

The information herein has been developed to meet the completeness and accuracy requirements of both the State and Federal programs.

1.1 APPLICATION ORGANIZATION

The Mill has prepared this application in accordance with EGLE requirements, and the application is organized in a report format. The application includes the following sections and appendices:

- **Section 2 – Mill Overview and Emissions Units:** provides an overview of the Mill's current configuration and operations, as well as information for each of the Mill's emissions units.

- **Section 3 – Applicable Requirements:** provides a regulatory review that summarizes Federal and Michigan air quality regulations applicable to, or potentially applicable to, the Mill.

- **Section 4 – Proposed Changes to Current Operating Permit:** provides proposed changes to the current ROP, including the incorporation of new or amended regulations and proposed changes to existing permit conditions.

- **Section 5 – Michigan ROP Application Contents:** provides an overview of the information required for a complete application by EGLE air quality regulations and summarizes how the ROP renewal requirements of 40 CFR Part 70 have been addressed in the renewal application.

- **Appendix A – Mark-Up Version of Current ROP:** contains proposed revisions to the current ROP.

- **Appendix B – Permit To Install No. 209-18:** includes a copy of recently issued PTI No. 209-18 dated August 16, 2019.

- **Appendix C – Environmental Plans Referenced in Current ROP:** contains a copy of each environmental plan referenced in the current ROP, including the Mill's Compliance Assurance Monitoring (CAM) Plans; Fugitive Dust Plan; Malfunction Abatement Plan; 40 CFR Part 60 Quality Assurance/Quality Control Plans; and 40 CFR Part 98 Greenhouse Gas Monitoring Plan.

- **Appendix D – ROP Renewal Application Form:** contains the EGLE ROP Renewal Application Form required for a complete ROP Renewal Application.

- **Appendix E – Updated 2018 Michigan Air Emission Reporting System (MAERS) Forms:** contains the EGLE MAERS forms required for a complete ROP Renewal Application. The forms have been included in order to update the Mill's MAERS natural gas combustion-related calculation methodologies to be consistent with those utilized in the December 2018 PTI Application submittal.

- **Appendix F – Original 2018 MAERS Submittal:** contains a copy of the Mill's original March 2019 MAERS submittal addressing Calendar Year 2018 emissions.

- **Appendix G – Other Supporting Documentation:** contains a copy of certain additional reference documents referred to within the application, including a copy of U.S. EPA's January 10, 2002 Applicability Determination concerning 40 CFR Part 63, Subpart S closed vent system inspection requirements.

2. MILL OVERVIEW AND EMISSIONS UNITS

This section of the application provides a brief overview of the Mill's background information and its current configuration and operations.

2.1 MILL LOCATION

The PCA Filer City Mill is located in Manistee County, MI along the shore of the Manistee Lake. Figure 2-1 shows the general location of the Filer City Mill on a section of the Filer City, Michigan, United States Geological Survey (USGS) quadrangle. The geographical coordinates for the approximate center of the processing area of the Mill are:

- Universal Transverse Mercator (UTM) Easting: 557,082 meters
- Universal Transverse Mercator (UTM) Northing: 4,895,916 meters
- UTM Zone: 16
- North American Datum (NAD): 1983
- Longitude (degrees, minutes, seconds): 86º 17' 7.62" W
- Latitude (degrees, minutes, seconds): 44º 12' 51.24" N

The Mill is in the Upper Michigan Intrastate Air Quality Control Region (AQCR) as identified in 40 CFR §81.197. Manistee County is in attainment or unclassifiable/attainment with respect to the National Ambient Air Quality Standards (NAAQS) for criteria pollutants as designated in 40 CFR §81.323 as of the date of this submittal.

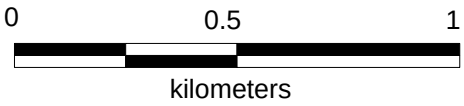
2.2 REGULATORY JURISDICTION

The Mill is under the jurisdiction of the following State and Federal agencies:

Michigan Department of Environment, Great Lakes, and Energy
Cadillac District Office
Air Quality Division
120 W. Chapin Street
Cadillac, MI 49601-2158

U.S. Environmental Protection Agency Region 5
Ralph Metcalfe Federal Building
Air and Radiation Division
77 West Jackson Blvd.
Chicago, IL 60604-3590

approximate quadrangle location



Based on USGS 1:24,0000 aerial image for Manistee, MI, 2014.

Figure 2-1
Mill Location Map

Packaging Corporation of America
Filer City, MI

2.3 CURRENT MILL PROCESS DESCRIPTION

The Mill produces corrugating medium via semi-chemical processes. Corrugating medium is used in the inner, fluted layer of corrugated box stock. The Filer City Mill does not manufacture corrugated box stock; it supplies the corrugated medium to the facilities where corrugated box stock is assembled.

The Mill process begins as logs are delivered to the Mill by truck. The logs are debarked and processed into wood chips which then pass through scalping screens and are transferred to chip storage piles or the chip storage silos. Purchased chips are also delivered by truck, stored in outside chip piles, and then combined with the processed chips in the chip silos. The chips are reclaimed from the chip piles and are then screened and stored in chip silos prior to being processed in the Mill's continuous digesters. The bark and screen rejects are collected, transferred to, and stored in a wood residue pile. As described further in Section 2.4, these bark and screen rejects will be fired in new Boiler No. 5 upon completion of that project.

Wood chips are transferred from PCA's chip storage bins and charged to two continuous tube-type digesters operating in parallel. Each digester tube has an internal screw that controls the rate at which the chips move through the tube. The digesters cook the wood chips in a cooking solution called white liquor. White liquor is a solution of sodium carbonate. During the cooking process, high-pressure steam is injected into the digesters resulting in increased temperature and pressure in the digester vessels. The white liquor combined with the elevated pressure and temperature in the digester causes fragmentation of the lignin in the chips. The lignin subsequently dissolves into the white liquor solution forming a black liquor solution.

Pressure in each digester "blows" the cooked chips out of the last tube, through defibrators, and then through blow lines to the blow tower. In the defibrators, the cooked chips pass between refiner plates (one rotating and one stationary) which mechanically reduce the chips to fiber bundles. This mechanical action is a necessary part of the pulping process; hence it is referred to as a semi-chemical process because it is also semi-mechanical.

Steam and other vapor from the blow tower pass through a cyclone separator to remove entrained pulp and liquid, and then pass through a direct-contact condenser. The non-condensable gases (NCG) leaving the blow tower are routed from the condenser to the low volume high concentration (LVHC) collection system. The LVHC system collects the NCGs and routes them to the Mill's power boilers where they are thermally oxidized in either Boiler No. 1, Boiler No. 2, or (as described further in Section 2.4) Boiler No. 4A. These three boilers currently produce steam for Mill operations. The capacities of the Mill's existing boilers are as follows:

- Boiler No. 1: 240 MMBtu/hr
- Boiler No. 2: 186 MMBtu/hr
- Boiler No. 4A: 227 MMBtu/hr

Pulp collected in the blow tower is washed with process water to rinse the spent cooking liquors (which contain lignin and other impurities from the chips) from the pulp. The spent cooking liquor collected in the washing process is called black liquor. The Filer City Mill currently utilizes two rotary pulp washers operating in series. Each washer is designed with a total enclosure system. Gases are collected from the washers and routed to Boilers No. 1 and/or 2 for destruction via the LVHC collection system.

The washed pulp, referred to as stock, is removed from the washers and stored in high-density stock chests. The stock is mixed with various additives and is then processed on the paper machines. The paper machines form the stock into a continuous web, which is then pressed, de-watered, dried, and wound into large rolls of finished product.

Recycled pulp is typically mixed with the virgin pulp stock prior to processing on the paper machines. The recycled pulp primarily comes from old corrugated container (OCC); however, a portion of the recycled pulp comes from paper machine rejects, trimmings, and broke (discarded or damaged corrugating medium) that are recycled back to the process. The OCC is processed into pulp by mixing it with water in a hydropulper. The recycled pulp is screened and thickened prior to being mixed with the virgin pulp.

In the semi-chemical process, the black liquor from the pulp washers is sent to the recovery area where it is processed back into white liquor and reused in the digesters. In the recovery area, the

weak black liquor is sent to multiple-effect evaporators (MEE) which drive off water and concentrate the solids content in the black liquor from approximately 6% to 10% solids to about 25% to 35% solids. The NCGs from the evaporator systems are collected and routed via the Mill's LVHC gas collection system into the flame zone of one of the Mill's power boilers for destruction.

The strong black liquor from the MEE systems is fired in the Copeland Reactor, where non-combustible chemicals are recovered for re-use in the pulping process. The black liquor is concentrated to approximately 50% solids in the Copeland Reactor's venturi scrubber immediately prior to firing, and then sprayed into the reactor above the fluidized bed. The organic material in the black liquor burns and the inorganic sodium forms sodium carbonate pellets that settle into the fluidized bed. The pellets are continuously drawn off to maintain proper bed height. Exhaust gas from the reactor passes through a set of two cyclones arranged in parallel, through a venturi scrubber with demister pad, two wet electrostatic precipitators (WESP) arranged in parallel (which serve as protective equipment to prevent fouling of the regenerative thermal oxidizer (RTO) ceramic saddle bed and finally through the RTO. As previously stated, the venturi scrubber uses the black liquor from the MEE systems as the scrubbing fluid, and the black liquor is concentrated to approximately 50% by evaporation via the hot flue gas.

The sodium carbonate pellets that are drawn off from the Copeland Reactor are normally dissolved in evaporator condensate or "weak wash" in the Dissolving Tank to make "green liquor" (so called because of its greenish color). Green liquor is transferred to the green liquor clarifier where suspended solids (i.e., insoluble impurities) are allowed to settle and are removed. The clarified green liquor then becomes white liquor for pulping. The dissolving tank is vented along with the Copeland Reactor exhaust gases to the venturi scrubber with demister, WESPs, and RTO.

The Mill's existing power boilers are designated as Boiler No. 1, Boiler No. 2, and Boiler No. 4A. Table 2-1 provides a description of the various fuels fired in Boiler No. 1, Boiler No. 2, and Boiler No. 4A and also identifies the control devices/techniques the Mill uses to minimize emissions from each boiler. The boilers produce steam for process and heating use throughout the Mill. The steam is also used to drive two steam turbines which produce a portion of the Mill's electricity

requirements. Additional steam is purchased from the T.E.S. Filer City Station, as needed. Additional electricity is purchased from the local utility.

Table 2-1
Summary of Current Boiler Configurations

Boiler ID	Boiler Description[c]		Control Devices/Technology	Parameters Monitored
Boiler No. 1	**Rated Capacity:**	240 Million British thermal units per hour (MMBtu/hr)	Baghouse[a]	Opacity via Continuous Opacity Monitoring System (COMS)[b]
	Permitted Fuels:	Coal Natural Gas Biogas No. 6 Fuel Oil		
Boiler No. 2	**Rated Capacity:**	186 MMBtu/hr	Baghouse[a] Low-NO_X Burners	Opacity via COMS[b] NO_X via Continuous Emissions Monitoring System (CEMS)
	Permitted Fuels:	Coal Natural Gas Biogas No. 6 Fuel Oil		
Boiler No. 4A	**Rated Capacity:**	227 MMBtu/hr	Low-NO_X Burners	NO_X via CEMS
	Permitted Fuels:	Natural Gas Biogas		

(a) The baghouse shared by Boilers Nos. 1 and 2 is currently required to be operated when either coal or a mixture of coal with any other approved fuel is being fired. The baghouse is bypassed during other fuel firing scenarios.
(b) Opacity is currently required to be monitored during periods when either coal, No. 6 fuel oil, or mixtures of coal and/or No. 6 fuel oil with other approved fuels are fired.
(c) NCGs are also collected and routed to Boilers No. 1 and 2 for destruction via the LVHC system. NCGs are not fuel.

The wastewater treatment plant is operated by the Mill and treats process wastewater from the Mill prior to ultimately discharging to Lake Michigan. The wastewater treatment process includes primary and secondary clarifiers, and two activated sludge basins operated in parallel. Polished whitewater from the paper machines is biologically treated in the biogas system before being sent to the Mill's wastewater treatment plant. A byproduct of this biological treatment process is the

generation of methane-rich biogas that is scrubbed and then fired as fuel in Boiler No. 1, Boiler No. 2, and/or Boiler No. 4A.

2.4 FUTURE MILL CHANGES

PCA was recently issued PTI No. 209-18, which authorizes the following activities at the Mill:

- Installation of a new 302 MMBtu/hr bubbling fluidized bed (BFB) boiler (i.e., Boiler No. 5). Boiler No. 5 will be used to provide steam for power generation and for Mill operations. Boiler No. 5 will fire the following fuels:
    - Wood and wood waste [consisting of waste bark and fines generated by the Mill's existing Wood Chip Transport area (designated as EUWOODCHIPTRAN in the ROP) as well as additional wood waste that will be purchased for firing in Boiler No. 5 and will not require further processing]
    - Primary Clarifier Residuals
    - Paper Recycling Residuals
    - Tire Derived Fuel (TDF)
    - Natural gas

  Boiler No. 5 will exhaust to existing Stack SVSHARED125. The shared boiler stack has the following exhaust characteristics:
    - Minimum Height Above Ground: 199 feet (ft)
    - Minimum Internal Diameter at Release Height: 12 ft
    - Discharge Orientation: Vertical
    - Maximum Exhaust Volume Flow Rate: 191,300 actual cubic feet per minute (ACFM)
    - Maximum Exhaust Gas Temperature: 355 degrees Fahrenheit
    - Rain Protection Device Description: Not Applicable
    - Location of Stack Testing Ports: A minimum of 0.3 duct diameters upstream of the nearest flow disturbance (i.e., stack exit) and a minimum of 2 duct diameters downstream of the nearest flow disturbance (i.e., contraction, bend, damper, etc.). The stack testing port will be after the Boiler No. 5 baghouse but prior to the shared stack exit.

- Installation/repurposing of the existing baghouse shared by Boilers Nos. 1 and 2 on new Boiler No. 5 for control of particulate matter (PM) emissions.
- Installation of a new COMS on new Boiler No. 5.
- Installation of a new NO_X CEMS on new Boiler No. 5.
- Installation of a new CO CEMS on new Boiler No. 5.
- Installation of a new sand silo (to be designated as EUSANDSILO in the ROP), to store the sand used in new Boiler No. 5.
- Installation of new low-NO_X burners and Flue Gas Recirculation (FGR) on existing Boiler No. 1.
- Elimination of the Boilers Nos. 1 and 2 COMS. Because Boilers Nos. 1 and 2 will permanently cease firing of coal and No. 6 fuel oil as part of the project authorized by PTI No. 209-18, and Boilers Nos. 1 and 2 are not required to operate their respective COMS unless firing coal or mixtures of coal with other approved fuels, the COMS at Boilers Nos. 1 and 2 will no longer be necessary and will be decommissioned as part of the project authorized by PTI No. 209-18.
- Utilization of Boiler No. 4A as an additional back-up LVHC NCG control device.
- Modification of the existing coal handling equipment (designated as EUCOALHANDLING in the current ROP), to facilitate supply of solid fuel to proposed Boiler No. 5. As part of this project, the EUCOALHANDLING emissions unit is being renamed EUSOLIDFUELTRAN (i.e., Solid Fuel Handling equipment). References to, and requirements for, the historic EUCOALHANDLING emissions unit should be removed from the ROP. Physical changes to the Mill's EUSOLIDFUELTRAN equipment will be as follows:
    - Wood and Wood Waste – The existing hogged bark pile, which currently receives discharge from the existing bark hog (i.e., wood waste), will also begin receiving purchased wood waste that is delivered from incoming delivery trucks. The combined internal and purchased wood waste will be loaded into a new metering bin before being conveyed upon an existing enclosed bark conveyor belt, and then

conveyed upon a new covered conveyor belt extension, which is being installed as part of the authorized PTI No. 209-18 project.

- TDF – A new TDF storage pile will receive purchased TDF that is delivered from incoming trucks. TDF will be loaded from the storage pile into a new metering bin before being conveyed along two new enclosed screw conveyors, and then conveyed upon a new covered conveyor belt, which is being installed as part of the authorized PTI No. 209-18 project.
- Primary Clarifier Residuals – Primary clarifier residuals that have been dewatered by the Mill's existing Vincent screw presses will be transported from the presses via a new covered screw conveyor(s). A new screw conveyor will unload primary clarifier residuals onto the new TDF conveyor belt where it will be mixed with TDF and subsequently combined with wood and wood waste on the new covered wood and wood waste conveyor. As a result of using primary clarifier residuals as fuel, existing truck traffic relating to the transport of primary clarifier residuals to landfill will cease.
- Blended Fuel – The wood and wood waste, TDF, and primary clarifier fuel streams will be blended as a homogenous mixture while travelling along the new wood and wood waste conveyor before entering Building 4, where it will be deposited into a new fuel storage bin before being supplied to Boiler No. 5.

As mentioned above, Boilers Nos. 1 and 2 have permanently ceased firing coal and No. 6 fuel oil. PCA will also cease selling wood waste to the neighboring T.E.S. Filer City Station cogeneration plant as fuel used in the T.E.S. Filer City Station power boilers. Following completion of the authorized PTI No. 209-18 project, purchased natural gas will be supplied to Boiler No. 5 in addition to Boilers Nos. 1, 2, and 4A. Biogas will continue to be fired in Boilers Nos. 2 and 4A.

Following completion of the authorized PTI No. 209-18 project, NCGs from the LVHC system will be routed primarily to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A serving as backups in the event Boiler No. 1 is offline and unable to receive NCGs.

Table 2-2 summarizes the fuels that PCA is planning to fire in each boiler, the control devices/technologies that will be used to minimize emissions to atmosphere, and the parameters that will be monitored following completion of the authorized PTI No. 209-18 project.

Table 2-2
Summary of Future Boiler Configurations

Boiler ID	Boiler Description		Control Devices/Technology	Parameters Monitored
Boiler No. 1	**Rated Capacity:**	240 MMBtu/hr	New Low-NO_X Burners and new FGR	None
	Permitted Fuels[(a)]:	Natural Gas Biogas		
Boiler No. 2	**Rated Capacity:**	186 MMBtu/hr	Existing Low-NO_X Burners	NO_X via existing CEMS
	Permitted Fuels[(a)]:	Natural Gas Biogas		
Boiler No. 4A	**Rated Capacity:**	227 MMBtu/hr	Existing Low-NO_X Burners	NO_X via existing CEMS
	Permitted Fuels[(a)]:	Natural Gas Biogas		
Proposed Boiler No. 5	**Rated Capacity:**	302 MMBtu/hr	Repurposed Baghouse	NO_X and CO via new CEMS New COMS
	Permitted Fuels:	Wood and Wood Waste Primary Clarifier Residuals Tire Derived Fuel Natural Gas		

(a) Following completion of the proposed project, NCGs from the LVHC system will be routed to either Boiler No. 1, Boiler No. 2, or Boiler No. 4A for destruction. NCGs from the LVHC system will be routed primarily to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A serving as limited backups in the event Boiler No. 1 is offline and unable to receive NCGs.

2.5 SIGNIFICANT EMISSIONS UNITS

PCA's approach to identifying emissions units at the Mill is based on the definition of an emissions unit provided in 40 CFR Part 70 regulations. That is:

> "Any part or activity of a stationary source that emits or has the potential to emit any regulated air pollutant or any pollutant listed under 112(b) of the Act."

Where appropriate, PCA has identified operationally integrated and interdependent processes or pieces of equipment that fit the definition above. The operationally integrated emissions unit approach is also consistent with guidance provided by the U.S. EPA and EGLE. The approach considers whether equipment or processes had separate applicable requirements as defined by 40 CFR Part 70 regulations and EGLE rules that covered the emissions unit identified.

In general, the approach used to identify emissions units follows the steps listed below:

- **Step 1:** PCA identified as emissions units all equipment or processes that are regulated by Federal New Source Performance Standards (NSPS), Federal National Emissions Standards for Hazardous Air Pollutants (NESHAPs), or by EGLE regulations.
- **Step 2:** When an emissions unit could not be identified in Step 1, PCA combined equipment or processes into an emissions unit consisting of the smallest grouping of equipment that can be commonly controlled by a single control device or work practice, and/or which have been regulated by NSPS, NESHAP, or EGLE regulations.
- **Step 3:** As a final step, PCA combined equipment or processes into an emissions unit consisting of equipment that are functionally dependent.

Table 2-3 provides a list of the "significant" emissions units that will exist at the Filer City Mill following completion of the authorized PTI No. 209-18 project. Information for each of these units, as required in the ROP Renewal Application, has been provided in the forms included in Appendices D and E of this permit renewal application.

Table 2-3
List of Significant Emissions Units

Source ID	Flexible Group ID	Source Description
EUBOILER1	FGBIOGASSYSTEM	Boiler No. 1 has a maximum heat input rating of 240 MMBtu/hr and is equipped with low NO_X burners and FGR. The boiler fires natural gas and/or biogas. NCG from the LVHC system will be primarily routed to Boiler No. 1 for

Table 2-3
List of Significant Emissions Units

Source ID	Flexible Group ID	Source Description
		destruction, with Boiler No. 2 and Boiler No. 4A as backup.
EUBOILER2	FGBIOGASSYSTEM	Boiler No. 2 has a maximum heat input rating of 186 MMBtu/hr and is equipped with low NOx burners. The boiler fires natural gas and/or biogas. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.
EUBOILER4A	FGBIOGASSYSTEM	Boiler No. 4A is a natural gas and biogas-fired Babcock and Wilcox Model No. FM120-97 boiler. The boiler's maximum heat capacity is 227 MMBtu/hr and is equipped with low NOx burners. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.
EUBOILER5	N/A	A BFB boiler with a heat input capacity of 302 MMBtu/hr. The boiler will burn wood, wood waste, primary clarifier residuals, paper recycling residuals, TDF, and natural gas.
EUSOLIDFUELTRAN	N/A	Existing enclosed wood and wood waste conveyors and new covered conveyors will transport solid fuels of wood and wood waste, TDF, paper recycling residuals, and primary clarifier residuals. The fuel streams will be blended while traveling along the new wood and wood waste conveyor before entering Building 4 and being deposited into a fuel storage bin.
EUSANDSILO	N/A	Sand silo used to store sand used in EUBOILER5.

Table 2-3
List of Significant Emissions Units

Source ID	Flexible Group ID	Source Description
EUWOODCHIPTRAN	N/A	Wood chip transport equipment; wood chip storage bins; conveyors and bucket elevators; screw conveyors and pneumatic transfer equipment; and five cyclones.
EUCOPELAND+DISTANK	N/A	Fluidized bed reactor which recovers sodium carbonate from the spent pulping liquor. The exhaust is controlled by a venturi scrubber and RTO.
EUWASHERS	N/A	Pulp washing system and LVHC system.
EUSODA-ASH	N/A	Soda ash silo and baghouse.
EUFLYASH	N/A	Fly ash silo and baghouse serving EUBOILER5.
EUPELLET	N/A	Sodium carbonate pellet storage silo and baghouse.
EUEVAPLTV	FGMACT_SUBPART_S	Long tube vertical (LTV) evaporator set, associated equipment, and LVHC. Volatiles collected by the LVHC are ducted to EUBOILER1 and/or EUBOILER2 and/or EUBOIELR4A for destruction.
EUEVAPFC	FGMACT_SUBPART_S	Forced circulation (FC) evaporator set, associated equipment, and LVHC. Volatiles collected by the LVHC are ducted to EUBOILER1 and/or EUBOILER2 and/or EUBOILER4A for destruction.
EUDIGESTERS	FGMACT_SUBPART_S	Continuous digesters Nos. 1 and 2, defibrators Nos. 1 and 2, blow tower, cyclone separator, condenser, and LVHC. Volatiles collected by the LVHC are ducted to EUBOILER1 and/or EUBOILER2 and/or EUBOILER4A for destruction.
EUBIOGASFLARE	FGBIOGASSYSTEM	Biogas flare used to combust biogas during upsets or malfunctions with

Table 2-3
List of Significant Emissions Units

Source ID	Flexible Group ID	Source Description
		the biogas generation system or boilers.
EUBIOGASSYSTEM	FGBIOGASSYSTEM	Biogas generation system consisting of a pre-acidification tank, recycle/rapid mix tank, bioreactors, biogas holder, sludge tank, feed tanks, biogas collection system with scrubber, and sludge system.
EUPULPTANKS	FGRULE290	Pulp storage tanks.
EURECYCLE200	FGRULE290	200 ton per day recycle paper pulping system.
EUBLTANKS	FGRULE290	Black liquor storage tanks.
EURECYCLE300	FGRULE290	300 ton per day recycle paper pulping system.
EUWHITEWATER	FGRULE290	Three whitewater storage vessels that have a capacity of greater than 40,000 gallons.
EUPROCESSCHEM	FGRULE290	Five process chemical storage vessels that have a capacity of greater than 40,000 gallons each.
EURICE12994	FGRICE1	Lift Station (CAT) – Emergency, compression-ignition, 225 horsepower stationary reciprocating internal combustion engine.
EURICE12974	FGRICE1	Fire Pump (Cummins) – Emergency, compression-ignition, 208 horsepower stationary reciprocating internal combustion engine.
EUPAPERMACH1	FGPAPERMACH	Paper Machine No. 1
EUPAPERMACH2	FGPAPERMACH	Paper Machine No. 2
EUPAPERMACH3	FGPAPERMACH	Paper Machine No. 3

2.6 INSIGNIFICANT EMISSIONS UNITS

R 336.1212(2) of the EGLE air quality regulations identifies a list of insignificant activities exempt from Title V permitting which need not be included in an administratively complete application for an ROP. R 336.1212(3) of the EGLE air quality regulations identifies a list of processes or

process equipment which need not be included in an administratively complete application for an ROP unless the process or process equipment is subject to applicable requirements that include a process-specific emissions limitation or standard. Upon request, a list of the insignificant activities and process or process equipment which are present at the Mill, but which are not subject to applicable requirements that include a process-specific emissions limitation or standard, can be provided.

R 336.1212(4) of the EGLE air quality regulations identifies a list of insignificant activities that must be listed in an administratively complete application. Table 2-4 contains the list of these insignificant activities present at the Filer City Mill that must be listed pursuant to Rule 212(4). Pursuant to R 336.1212(4), such equipment is not listed in the ROP renewal application forms.

Table 2-4
List of Insignificant Activities

Exempt Emission Unit ID	Description of Exempt Emission Unit	Rule 212(4) Exemption	Rule 201 Exemption
EUWTPHEATER (Propane-fired boiler for secondary treatment plant)	1.26 MMBtu Columbia WL-90 propane-fired steam boiler.	R 336.1212(4)(c)	R 336.1282(2)(b)
EUGENERAC (Biogas Flare-Generac)	54,643 BTU/hr, 16 kW propane-fired Generac emergency generator.	R 336.1212(4)(e)	R 336.1285(2)(g)
EUPROPANETKS (Propane Storage Tanks)	Five propane storage vessels each less than 1,000-gallon capacity.	R 336.1212(4)(d)	R 336.1284(2)(b)
EUGASOLINETK	1,000-gallon gasoline storage vessel located at a gasoline dispensing facility dispensing less than 20,000 gallons of gasoline per day.	R 336.1212(4)(d)	R 336.1284(2)(g)(i)
EUDIESELTKS	Six diesel storage vessels each less than 8,000-gallon capacity. Vessels are stored as specified in ASTM-D-975.	R 336.1212(4)(d)	R 336.1284(2)(i)
EU284PULPTANKS	27 pulp tanks, for storage or transfer operations, that have a capacity of less than 40,000 gallons each. Pulp is a non-carcinogenic liquid with a true vapor pressure under 1.5 psia at actual storage conditions.	R 336.1212(4)(d)	R 336.1284(2)(i)

Table 2-4
List of Insignificant Activities

Exempt Emission Unit ID	Description of Exempt Emission Unit	Rule 212(4) Exemption	Rule 201 Exemption
EUPROCESSCHEM	10 process chemical storage vessels that have a capacity of less than 40,000 gallons each. The process chemicals stored in these vessels are noncarcinogenic liquids with a true vapor pressure under 1.5 psia at actual conditions.	R 336.1212(4)(d)	R 336.1284(2)(i)
EUCHEMICALS	Approximately 80 tanks or totes of purchased chemicals that have a capacity of less than 40,000 gallons each. The purchased chemicals stored in these vessels are noncarcinogenic liquids with a true vapor pressure under 1.5 psia at actual conditions and no known	R 336.1212(4)(d)	R 336.1284(2)(i)
EUPORTABLEICE	Approximately five (5) portable gasoline-fired electric generators for miscellaneous uses around the mill used irregularly on an as-needed basis. All engines have a rated power output of less than 10,000,000 BTU/hour output (3,929 HP). (Actual capacity of largest generator = 61,066 BTU/Hr (24 HP).	R 336.1212(4)(e)	R 336.1285(2)(g)

Table 2-4
List of Insignificant Activities

Exempt Emission Unit ID	Description of Exempt Emission Unit	Rule 212(4) Exemption	Rule 201 Exemption
EUANNEXHEATER	Natural gas-fired steam boiler (100,000 BTU/hr)	R 336.1212(4)(c)	R 336.1282(2)(b)
EUPORTABLEPROPANEHEATERS	Five portable propane heaters used as-needed throughout the Mill. (350,000 BTU/hr)	R 336.1212(4)(c)	R 336.1282(2)(b)
EUPROPANEHEATERS	Four propane heaters installed at the secondary treatment plant for emergency use. (100,000 BTU/hr)	R 336.1212(4)(c)	R 336.1282(2)(b)

Table 2-4
List of Insignificant Activities

Exempt Emission Unit ID	Description of Exempt Emission Unit	Rule 212(4) Exemption	Rule 201 Exemption
EUAIRCOMPRESSORS	3 portable diesel air compressors (185 cfm, approximately 40 HP)	R 336.1212(4)(e)	R 336.1285(2)(g)

3. APPLICABLE REQUIREMENTS

PCA has reviewed the Federal and State of Michigan air quality regulations for potentially applicable new requirements that have become effective during the term of the Mill's current ROP. The following sections address those air regulations that have not been addressed by the Mill's existing ROP.

3.1 FEDERAL AIR QUALITY REGULATIONS

For the purpose of this application, potentially applicable new Federal regulations include the following:

- New Source Review (NSR)
- New Source Performance Standards (NSPS)
- National Emission Standards for Hazardous Air Pollutants (NESHAP)
- Prevention of Significant Deterioration (PSD) and Title V Greenhouse Gas (GHG) Tailoring Rule (GHG Tailoring Rule)
- Compliance Assurance Monitoring (CAM)

A discussion of each specific Federal requirement is provided in the following subsections.

3.1.1 New Source Review

The Federal NSR program is codified in 40 CFR §§51.165, 51.166, 52.21, 52.24, and 40 CFR Part 51, Appendix S. NSR requirements potentially apply to new major stationary sources and major modifications to major stationary sources. Within the NSR program, major stationary sources may need to be evaluated for Nonattainment New Source Review (NNSR) in areas designated as nonattainment with the National Ambient Air Quality Standards (NAAQS) or Prevention of Significant Deterioration (PSD) in areas designated as in attainment or unclassifiable with the NAAQS.

PCA is a major source with respect to the NSR requirements; however, PCA is not proposing to construct any new major stationary sources or to modify existing major stationary sources as part of this ROP Renewal Application. Therefore, NSR permitting is not triggered by this ROP Renewal Application.

3.1.2 New Source Performance Standards

U.S. EPA has promulgated standards of performance for new, modified, or reconstructed sources of air pollution (New Source Performance Standards, NSPS) at 40 CFR Part 60. The Filer City Mill has emissions units subject to 40 CFR Part 60, Subpart A (General Provisions) and Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units).

Following completion of the construction activities approved pursuant to PTI No. 209-18, the Mill's boilers will be subject to new and/or updated Subpart Db requirements. As outlined in PTI No. 209-18, Subpart Db will apply as follows:

- Boiler No. 1: The completed project will not impact the non-applicability of 40 CFR Part 60, Subpart Db to Boiler No. 1.
- Boiler No. 2: The 40 CFR §60.44b(a)(1)(ii) NO_X emissions standard (0.20 lb/MMBtu) applies now that Boiler No. 2 is limited to firing natural gas and biogas.
- Boiler No. 4A: The completed project will not impact the existing applicability of 40 CFR Part 60, Subpart Db to Boiler No. 4A. Boiler No. 4A will continue to comply with the 40 CFR Part 60 Subpart Db requirements that are currently cited in the ROP.
- Boiler No. 5: New Boiler No. 5 will comply with the following NO_X, and opacity standards pursuant to 40 CFR Part 60, Subpart Db, as detailed in Table 3-1:

Table 3-1
Boiler No. 5 NSPS Emissions Limitations Summary

Pollutant	Limit	Units	Citation	Averaging Period	Notes
40 CFR Part 60, Subpart Db					
Opacity	20	%	40 CFR §60.43b(f)	6-minute average, except for one 6-minute period per hour of not more than 27% opacity	-
NO_X	0.30	lb/MMBtu	40 CFR §60.44b(d)	-	While firing natural gas and mixture of other permitted fuels
NO_X	0.20	lb/MMBtu	40 CFR §60.44b(a)(1)(ii)	-	During periods of natural gas firing only

3.1.3 National Emission Standards for Hazardous Air Pollutants

National Emission Standards for Hazardous Air Pollutants (NESHAP) promulgated prior to the Clean Air Act Amendments (CAAA) of 1990, found at 40 CFR Part 61, apply to specific compounds emitted from specific processes. The Mill has historically not been subject to 40 CFR Part 61 requirements; however, certain provisions of 40 CFR Part 61, Subpart E (National Emission Standard for Mercury) will be applicable to the Mill following completion of the proposed project. 40 CFR Part 61 Subpart E is applicable to stationary sources which incinerate or dry wastewater treatment plant sludge, in addition to other specific mercury processing operations. Because new Boiler No. 5 will fire primary clarifier residuals, the provisions of 40 CFR Part 61 Subpart E will apply to proposed Boiler No. 5 following completion of the authorized PTI No. 209-18 project. Specifically, the Mill will comply with either:

- The 40 CFR §61.52(b) emissions standard of 3.2 kilograms (kg) (i.e., 7.1 pounds) of mercury per 24-hour period when firing primary clarifier residuals in proposed Boiler No. 5, or
- The 40 CFR §61.54 option to sample primary clarifier residuals within 90 days of startup of Boiler No. 5.

NESHAP promulgated under 40 CFR Part 63, also referred to as Maximum Achievable Control Technology (MACT) standards, apply to specific source categories that are considered area sources or major sources of HAP. A major source of HAP is defined as a source with the facility-wide potential to emit a single HAP of 10 tons per year or more, or with a facility-wide potential to emit total HAP of 25 tons per year or more. The Filer City Mill has the facility-wide potential to emit HAP at a quantity greater than the major source HAP threshold; therefore, the Filer City Mill is a major source of HAP. The Filer City Mill is currently subject to the following 40 CFR Part 63 subparts:

- Subpart A (General Provisions)
- Subpart S (National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry)
- Subpart MM (National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills)
- Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines)
- Subpart DDDDD (National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters) (i.e., the "Major Source Boiler MACT" rule).

A discussion of each specific subpart is provided below.

The applicability of 40 CFR Part 63, Subpart A (General Provisions) has changed slightly based upon U.S. EPA's recent amendments to 40 CFR Part 63, Subpart MM and the applicable requirements incurred by the Mill pursuant to 40 CFR Part 63, Subpart DDDDD following installation of Boiler No. 5 and modification of Boilers Nos. 1 and 2. PCA has accounted for these minor changes within the Appendix A ROP Mark-Up (where applicable).

The applicability of 40 CFR Part 63, Subpart S (National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry) has not changed. The Mill will continue to comply with the 40 CFR Part 63, Subpart S requirements that are currently cited in the ROP.

The applicability of 40 CFR Part 63, Subpart MM (National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills) has changed due to U.S. EPA's October 2017 amendments to this rule. The revisions and amendments to Subpart MM took effect on October 11, 2017. As required, the Mill will comply with the 40 CFR Part 63, Subpart MM amendments within two years of the effective date of the rule (i.e., by October 11, 2019). The Mill will also complete the required HAP performance testing by October 13, 2020. PCA has accounted for the specific changes in Subpart MM applicability within the Appendix A ROP Mark-Up (where applicable).

The applicability of 40 CFR Part 63, Subpart ZZZZ (National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines) has not substantively changed. The Mill has stationary source internal combustion engines (ICE) that are subject to 40 CFR Part 63, Subpart ZZZZ. On May 1, 2015, the D.C. Circuit Court issued a decision which vacated portions of 40 CFR Part 63, Subpart ZZZZ. The paragraphs that were vacated specified circumstances in which emergency backup engines may operate for a limited number of hours per year in two situations: (1) emergency demand response when the Reliability Coordinator has declared an Energy Emergency Alert Level 2, and (2) when there is a deviation of voltage or frequency of 5% or greater below standard voltage or frequency. U.S. EPA received a stay of the decision until May 1, 2016, which meant on May 2, 2016, the stay expired. Since the expiration date of the stay, an emergency backup engine may not operate in the circumstances described above for any number of hours per year unless the emergency backup engine is in compliance with the emissions standards and other applicable requirements for a non-emergency engine. The Mill does operate emergency and non-emergency engines, but does not operate them in the circumstances described in the preceding discussion. Therefore, the Mill complies with the vacatur, as applicable, and there are no proposed changes to the Appendix A ROP Mark-Up with respect to Subpart ZZZZ.

The applicability of 40 CFR Part 63, Subpart DDDDD (Major Source Boiler MACT) has changed. Following completion of the construction activities approved pursuant to PTI No. 209-18, the Mill will be subject to new and/or updated Subpart DDDDD requirements. As outlined in PTI No. 209-18, Subpart DDDDD will apply as follows:

- Boilers Nos. 1, 2, and 4A: The characterization of Boilers Nos. 1, 2, and 4 as "units designed to burn gas 1 fuel" has not changed; however, PCA has proposed inclusion of more detailed Subpart DDDDD requirements as part of this application within the Appendix A ROP Mark-Up.
- Boiler No. 5: Upon startup, Boiler No. 5 will meet the applicability criteria pursuant to 40 CFR §63.7485, §63.7490(a)(2), and §63.7490(b) and be characterized as a "fluidized bed unit designed to burn biomass/bio-based solids." As such, it will be subject to the emissions limitations and operating limitations of 40 CFR Part 63 Subpart DDDDD, as detailed in Table 3-2:

Table 3-2
Boiler No. 5 40 CFR Part 63, Subpart DDDDD Emissions Limitations Summary

Pollutant	Limit	Units	Citation	Averaging Period	Notes
CO	230	ppmvd @ 3% O_2	Table 1 - (9)(a)	3-Run Average	
	0.22	lb/MMBtu steam output	Table 1 - (9)(a)	3-Run Average	Alternative Limit
	2.6	lb/MWh	Table 1 - (9)(a)	3-Run Average	Alternative Limit
Filterable PM	9.80E-03	lb/MMBtu heat input	Table 1 - (9)(b)	-	-
	1.20E-02	lb/MMBtu steam output	Table 1 - (9)(b)	-	Alternative Limit
	1.40E-01	lb/MWh	Table 1 - (9)(b)	-	Alternative Limit
HCl	2.20E-02	lb/MMBtu heat input	Table 1 - (1)(a)	-	-
	2.50E-02	lb/MMBtu steam output	Table 1 - (1)(a)	-	Alternative Limit
	2.80E-01	lb/MWh	Table 1 - (1)(a)	-	Alternative Limit
Hg	8.00E-07	lb/MMBtu heat input	Table 1 - (1)(b)	-	-
	8.70E-07	lb/MMBtu steam output	Table 1 - (1)(b)	-	Alternative Limit
	1.10E-05	lb/MWh	Table 1 - (1)(b)	-	Alternative Limit

Table 3-2
Boiler No. 5 40 CFR Part 63, Subpart DDDDD Emissions Limitations Summary

Pollutant	Limit	Units	Citation	Averaging Period	Notes
Opacity	10	%	Table 4 - (3)(a)	Daily Block Average	-
	The highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM emissions limitation.		Table 4 - (3)(a)	Daily Block Average	Alternative Limit

Detailed Subpart DDDDD emissions limitations, and monitoring, testing, recordkeeping, and reporting requirements for Boiler No. 5 are included within the Appendix A ROP Mark-Up.

3.1.4 Compliance Assurance Monitoring

U.S. EPA promulgated the Compliance Assurance Monitoring (CAM) rule at 40 CFR 64 (Part 64) on October 22, 1997 with an effective date of November 21, 1997. U.S. EPA developed the regulation as a means for demonstrating continuous compliance with applicable requirements for certain emissions units located at major stationary sources subject to Title V permitting. In developing the CAM rule, U.S. EPA focused on emissions units equipped with control devices that are subject to an emissions limit that would otherwise not be achievable without the use of a control device. The goal of the regulation is to provide reasonable assurance that pollution control equipment is operating properly, thus assuring that air emissions are maintained in compliance with established emissions limits. The basic U.S. EPA approach to CAM is to establish monitoring for the purpose of:

- Documenting continued operation of the control device and operation of the emission unit and control device(s) within specified performance indicator ranges (such as outlet emissions, control device operating parameters, and process parameters) that are designed to provide a reasonable assurance of compliance with applicable requirements;
- Identifying any excursions from these ranges; and
- Responding to excursions to minimize the likelihood of excess emissions.

3.1.4.1 CAM Applicability Determination

§64.2 of the CAM rule specifies the criteria for determining applicability with the CAM rule; the applicability requirements for 40 CFR Part 64 are detailed in Table 3-3. If an emissions unit satisfies ***all*** of the applicability requirements listed in Table 3-3, the emissions unit is subject to CAM. Otherwise, Part 64 does not apply to the emissions unit.

Table 3-3
CAM Applicability Requirements Summary

Part 64 Reference	Requirement
§64.2(a)	Unit is located at major source that is required to obtain a Title V Permit.
§64.2(a)(1)	Unit is subject to an emission limitation or standard for an applicable pollutant.
§64.2(a)(2)	Unit uses a control device to achieve compliance with this applicable limitation or standard (See §64.1 for definition of control device).
§64.2(a)(3)	Potential pre-control emissions of the applicable pollutant from the unit is at least 100 percent of major source threshold amount (i.e., greater than 100 ton/yr).
§64.2(b)	Unit is not otherwise exempt.

§64.2(b) lists several specific exemptions to the CAM rule. Certain emissions units are exempt from CAM applicability if such units are subject to emissions limitations or standards for the applicable pollutant. A summary of exemptions is provided in Table 3-4.

Table 3-4
Summary of CAM Rule Exemptions

40 CFR 64 Reference	Exempted Emission Limitations or Standards[(a)]
§64.2(b)(1)(i)	NSPS or NESHAP originally proposed after 11/15/90.
§64.2(b)(1)(ii)	Stratospheric ozone protection requirements.
§64.2(b)(1)(iii)	Acid Rain Program requirements.
§64.2(b)(1)(iv)	Emission limitations, standards, or other requirements that apply solely under an approved emission trading program.
§64.2(b)(1)(v)	Emissions cap that meets requirements of §70.4(b)(12).

Table 3-4
Summary of CAM Rule Exemptions

40 CFR 64 Reference	Exempted Emission Limitations or Standards[(a)]
§64.2(b)(1)(vi)	Emission limitations or standards for which a Title V permit specifies a continuous compliance determination method that does not use an assumed control factor. CEMS which are used to determine compliance with an emission limitation or standard on a continuous basis, consistent with the averaging period established for the emission limitation or standard and provide data in units of the standard. For example: NO_X CEMS specified in Part 60, Subpart Dc, Standards of Performance for Small-Industrial-Commercial-Institutional Steam Generating Units.
§64.2 (b) (2)	Backup utility power units that: • are owned by a municipality; • are exempt from all monitoring requirements in Part 75; • are operated solely for providing electricity during peak periods or emergency situations; and • for which average actual emissions for the previous 3 years are less than 50 percent of the major source cutoff and are expected to remain so.

(a) If nonexempt emission limitations or standards apply to the emissions unit, the unit is not exempt.

EUBOILER1, EUBOILER2, EUCOPELAND+DISTANK, EUFLYASH, and EUSODA-ASH are currently cited within the ROP as being subject to CAM for PM. However, following completion of the construction activities authorized by PTI No. 209-18, the baghouse for EUBOILER1 and EUBOILER2 will be removed and repurposed to control emissions from new Boiler No. 5. EUBOILER1 and EUBOILER2 were only required to operate the baghouse when firing coal and No. 6 Fuel Oil. EUBOILER1 and EUBOILER2 have ceased firing of coal and No. 6 Fuel Oil and are therefore no longer required to operate the baghouse. Because EUBOILER1 and EUBOILER 2 will no longer operate a control device, the general applicability of 40 CFR §64.2(a)(2) is no longer satisfied, and CAM no longer applies to the historic baghouse operation associated with EUBOILER1 and EUBOILER2. PCA will perform engineering testing on EUBOILER1 to determine whether FGR is required to demonstrate compliance with the applicable NO_X emissions limits. If the results of engineering testing confirm that FGR is required to demonstrate

compliance, Part 64 will apply to EUBOILER1's FGR and PCA will prepare a CAM plan for this equipment.

PCA has also updated the CAM plan for EUCOPELAND+DISTANK, and has prepared a new CAM plan for the proposed new Boiler No. 5. For EGLE's reference, a copy of each CAM plan is included in Appendix C.

3.2 STATE OF MICHIGAN REGULATIONS

Potentially applicable State of Michigan air regulations are defined as follows:

- R 336.1224 – T-BACT Requirement for New and Modified Sources of Air Toxics; Exemptions
- R 336.1225 – Health-Based Screening Level Requirements for New or Modified Sources of Air Toxics
- R 336.1290 – Permit to Install Exemptions; Emission Units with Limited Emissions
- R 336.1301 – Standards for Density of Emissions
- R 336.1331 – Emission of Particulate Matter
- R 336.1370 – Collected Air Contaminants
- R 336.1371 – Fugitive Dust Control Program Other Than Areas Listed in Table 36
- R 336.1372 – Fugitive Dust Control Program; Required Activities; Typical Control Methods
- R 336.1401 – Emissions of Sulfur Dioxide from Power Plants
- R 336.1402 – Emissions of SO_2 from Fuel-Burning Equipment at a Stationary Source Other Than Power Plants
- R 336.1602 – Existing Sources of Volatile Organic Compound Emissions Generally
- R 336.1702 – New Sources of Volatile Organic Compound Emissions Generally
- R 336.1801 – Emissions of Oxides of Nitrogen from Non-SIP Call Stationary Sources

- R 336.1901 – Emission Limitations and Prohibitions - Miscellaneous
- R 336.2101 – Continuous Emission Monitoring, Fossil Fuel-fired Steam Generators
- R 336.2501 – Emission Limits and Prohibitions - Mercury

A discussion of each specific State of Michigan requirement is presented in the following subsections. The detail provided in each of these subsections is to address newly applicable requirements as a result of PTI No. 209-18. There are no other potentially applicable State of Michigan regulatory programs that have either (1) not been addressed by the Facility's existing Permit, or (2) been promulgated or taken effect since the most recent issuance of the Facility's ROP.

3.2.1 R 336.1224 – T-BACT Requirement for New and Modified Sources of Air Toxics; Exemptions

R 336.1224 requires that any proposed new or modified emissions unit for which a PTI application is required and which emits toxic air contaminants (TAC) shall not cause or allow the emission of TAC from the new or modified emissions unit in excess of the maximum allowable emissions rate based on the application of best available control technology for TAC (T-BACT). R 336.1224(2)(a) states that a T-BACT analysis is not required for any emissions unit subject to a standard promulgated under Section 112(d) of the Clean Air Act. Since proposed Boiler No. 5 and existing Boiler Nos. 1, 2, and 4A are regulated by 40 CFR 63 Subpart DDDDD, a T-BACT analysis was not required as part of the December 2018 PTI Application submittal. Therefore, the ROP does not need to be updated to reflect R 336.1224 requirements upon renewal.

3.2.2 R 336.1225 – Health-Based Screening Level Requirements for New or Modified Sources of Air Toxics

R 336.1225 requires each new or modified emissions unit required to obtain a PTI and which emits a TAC to ensure that the emissions of TAC do not result in concentration levels that EGLE has established. An air quality modeling analysis was used as part of the December 2018 PTI Application submittal to demonstrate that the TAC emissions associated with the project do not exceed an applicable EGLE Initial Threshold Screening Level (ITSL) or Initial Risk Screening

Levels (IRSL). However, ongoing requirements under this rule are not triggered. Therefore, the ROP does not need to be updated to reflect R 336.1225 requirements upon renewal.

3.2.3 R 336.1290 – Permit to Install Exemptions; Emission Units with Limited Emissions

R 336.1290, which applies to the FG-RULE 290 Flexible Group, was amended in 2016.
The Appendix A ROP Mark-Up requests that the amended provisions of R 336.1290 be incorporated upon renewal for the FG-RULE 290 Flexible Group.

3.2.4 R 336.1301 – Standards for Density of Emissions

Pursuant to R 336.1301(1), a 6-minute average opacity from Boiler No. 5 cannot exceed 20%, except for one 6-minute average per hour of not more than 27% opacity. PCA will comply with this requirement. The Appendix A ROP Mark-Up requests that this requirement be incorporated upon renewal for Boiler No. 5.

3.2.5 R 336.1331 – Emission of Particulate Matter

Pursuant to Table 31 of R 336.1331, emissions of filterable PM cannot exceed 0.50 pounds of PM per 1,000 pounds of exhaust gas (0.50 lb/1,000 lb gas) corrected to 50% excess air when firing wood, when the heat input of wood fuel is greater than 75% of total heat input. Boiler No. 5 will comply with this emissions limit when firing wood. Pursuant to R 336.1331, PCA will comply with an emissions limitation of 9.80E-03 lb PM/MMBtu during periods of combination fuel firing for consistency with the boiler's future requirements under 40 CFR Part 63 Subpart DDDDD.

Pursuant to R 336.1331(1)(c), emissions of particulate matter from the Boilers Nos. 1 and 2 currently cannot exceed 0.1 lb/1,000 lb exhaust gas, corrected to 50% excess air for Boilers No. 1 and 2. Because the currently applicable PM emissions limit under Table 31 applies to units firing coal, the PM limit no longer applies now that Boilers Nos. 1 and 2 ceased firing coal and now fire strictly natural gas and biogas. Neither Boiler No. 1 nor Boiler No. 2 are subject to R 336.1331 because they no longer meet any of the categories of sources affected by this rule.

Boiler No. 4A was historically not subject to R 336.1331. This rule remains non-applicable to Boiler No. 4A because Boiler No. 4A does not meet any of the categories of sources affected by this rule.

Pursuant to Table 31 of R 336.1331(1)(a), emissions of particulate matter from the Solid Fuel Transport equipment cannot exceed 0.1 lb/1,000 lb exhaust gas. PCA will comply with this requirement.

Pursuant to Table 31 of R 336.1331(1)(a), emissions of particulate matter from the proposed new Sand Silo cannot exceed 0.1 lb/1,000 lb exhaust gas. PCA will comply with this requirement.

The Appendix A ROP Mark-Up requests that the R 336.1331 requirements above be incorporated upon renewal for Boiler No. 5, Sand Silo, and the Solid Fuel Transport equipment.

3.2.6 R 336.1370 – Collected Air Contaminants

R 336.1370 includes requirements regarding the removal of collected air contaminants from air pollution control equipment. PCA will ensure that any collected air contaminants will be removed from the Boiler No. 5 baghouse as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants will be performed in a manner to minimize the introduction of contaminants to the outer air. Boilers No. 1 and 2 will no longer be subject to R 336.1370 once their shared baghouse is retooled for service at Boiler No. 5. The Appendix A ROP Mark-Up requests that the R 336.1370 requirements be incorporated upon renewal for Boiler No. 5 and removed upon renewal for Boilers No. 1 and 2.

3.2.7 R 336.1371 – Fugitive Dust Control Program Other Than Areas Listed in Table 36

R 336.1371 includes requirements for a fugitive dust control program, if required by the Department. The Mill maintains an existing, approved program of fugitive dust control for facility-wide material storage piles, material handling equipment, plant roadways, and the plant yard. A copy of the Mill's current Fugitive Dust Control Program is included in Appendix C.

3.2.8 R 336.1372 – Fugitive Dust Control Program; Required Activities; Typical Control Methods

R 336.1372 includes required activities and typical control methods that may be included in a fugitive dust control program. As stated previously, a copy of the Mill's current Fugitive Dust Control Program is included in Appendix C.

3.2.9 R 336.1401 – Emissions of Sulfur Dioxide from Power Plants

R 336.1401 specifies SO_2 emissions limits for solid and liquid-fueled boilers located at power plants. Per Rule 401a(a), a power plant is a "single structure devoted to steam or electrical generation, or both, and may contain multiple boilers." Based on the Mill's steam-generating capacity of not more than 500,000 pounds of steam per hour, Boiler No. 5 will be subject to a 2.5 lb SO_2/MMBtu emissions limitation.

Boilers Nos. 1 and 2 were historically subject to this rule during periods of coal or No. 6 fuel oil firing. However, those requirements no longer apply now that Boilers Nos. 1 and 2 ceased coal and No. 6 fuel oil firing and only fire natural gas and biogas. There are no other SO_2 emissions limits under R 336.1401 that will apply to Boilers Nos. 1 and 2.

Boiler No. 4A is currently not subject to R 336.1401, and its serving as a back-up NCG incineration device does not trigger the requirements of R 336.1401 because Boiler No. 4A does not meet any of the categories of sources affected by this rule.

The Appendix A ROP Mark-Up requests that the R 336.1401 requirements discussed herein be incorporated upon renewal for Boiler No. 5 and removed upon renewal for Boilers No. 1 and 2.

3.2.10 R 336.1402 – Emissions of SO_2 from Fuel-Burning Equipment at a Stationary Source Other Than Power Plants

R 336.1402 applies to fuel oil and coal-fired sources other than those located at power plants. The rule does not apply to either Boiler No. 5, Boiler No. 1, Boiler No. 2, or Boiler No. 4A because the boilers meet the definition of "power plant" and are subject to R 336.1401.

3.2.11 R 336.1602 – Existing Sources of Volatile Organic Compound Emissions Generally

R 336.1602 requires certain existing sources to limit emissions of volatile organic compounds (VOC). The Mill does not operate any processes or process equipment identified in R 336.1602 as defined by this rule. This rule continues to not apply.

3.2.12 R 336.1702 – New Sources of Volatile Organic Compound Emissions Generally

R 336.1702 requires new sources of VOC to emit no more than the lowest maximum allowable emissions rate of the following:

- The maximum allowable emissions rate listed by the department on its own initiative or based upon the application of the best available control technology.
- The maximum allowable emissions rate specified by Federal NSPS.
- The maximum allowable emissions rate specified as a condition of a permit to install or a permit to operate.
- The maximum allowable emissions rate specified in R 336.1601-1661 would be applicable to the new source except for the date that the process or process equipment was placed into operation or for which an application for a permit to install was made to the Department.

Pursuant to R 336.1702(c) and PTI No. 209-18 dated August 16, 2019, Boiler No. 5 will comply with a 14.77 tons VOC per year emissions limitation as the lowest maximum allowable emissions rate of VOC that will be emitted from this new source. The emissions limit reflects PCA's use of low-VOC containing fuels (i.e., TDF, primary clarifier residuals, and natural gas) for more than 50% of the heat input (annual average) supplied to proposed Boiler No. 5. The Appendix A ROP Mark-Up requests that the R 336.1702 requirements herein be incorporated upon renewal for Boiler No. 5.

3.2.13 R 336.1801 – Emissions of Oxides of Nitrogen from Non-SIP Call Stationary Sources

R 336.1801 generally applies to electricity generating utility units (EGUs). However, certain non-EGUs may also be subject to this rule. The boilers at the Mill are not subject to R 336.1801 since

Manistee County is not within Michigan's fine grid zone. Therefore, the boilers do not meet the definition of "non-EGU."

3.2.14 R 336.1901 – Emission Limitations and Prohibitions - Miscellaneous

R 336.1901 specifies that a person 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.
(b) Unreasonable interference with the comfortable enjoyment of life and property.

PCA continues to comply with the provisions of R 336.1901 by complying with the Federal and State regulations identified in the existing ROP and those proposed in this renewal application.

3.2.15 R 336.2101 – Continuous Emission Monitoring, Fossil Fuel-fired Steam Generators

R 336.2101 requires continuous emissions monitoring for fossil fuel-fired steam generators with rated capacities of 250 MMBtu/hr or greater. Based on R 336.2101, a fossil fuel-fired steam generator is exempt from this rule if a 40 CFR Part 60 NSPS applies. Boiler No. 5 is subject to 40 CFR Part 60 Subpart Db and will operate and maintain a NO_X CEMS and COMS in accordance with Federal and State regulations. The Appendix A ROP Mark-Up requests that the R 336.2101 requirements herein be incorporated upon renewal for Boiler No. 5.

3.2.16 R 336.2501 – Emission Limitations and Prohibitions - Mercury

The provisions of R 336.2501 through 2514 apply to Electric Generating Units (EGUs). The Mill does not meet the R 336.2501(o) definition of "EGU"; therefore, R 336.2501 does not apply.

3.3 REQUEST FOR PERMIT APPLICATION SHIELD AND PERMIT SHIELD

Under Federal and State regulations, a facility can request that it be protected during the ROP review process and after an ROP is issued. To protect the facility during the ROP review process,

a permit application shield is requested. After an ROP is issued, a facility may request a permit shield. The Mill is requesting a permit application shield and a permit shield as described in the subsequent subsections.

3.3.1 Formal Request for a Permit Application Shield

This document contains the required information and permit application forms for PCA to renew its current ROP. The information contained herein has been developed to meet the completeness and accuracy requirements of both the State and Federal air permitting programs. The application has also been carefully presented to facilitate the application review process and development of the ROP. Pursuant to EGLE Rule 336.1213(6), PCA hereby requests that a permit application shield be granted to the Filer City Mill, as this renewal application is being submitted no later than six months prior to the permit's expiration date (i.e., October 27, 2019) and no earlier than 18 months prior to the permit's expiration date (i.e., October 27, 2018), as required by R 336.1210(9). Section 503(d) of the Clean Air Act, as amended in 1990 ("CAAA"), and R 336.1213(6) stipulate that the application shield provided by R 336.1210(1) shall continue to apply to a stationary source, consistent with the provisions of R 336.1210, until the EGLE takes final action on the renewable operating permit.

In submitting this application, PCA affirms its understanding that once EGLE determines that a complete and timely application has been filed, the Mill will not be subject to any related enforcement actions for operating without a permit during the period in which the permit application is under review. It is anticipated that a permit application shield would only apply if EGLE were unable to complete its review of the ROP renewal application prior to the expiration of the current ROP.

3.3.2 Formal Request for a Permit Shield

This is a formal request for a permit shield. The Federal Title V Operating Permit regulations include provisions for major sources covered under the program to request and obtain a permit shield. Section 504(f) of the CAAA defines the permit shield provision, whereby the permitting

authority is empowered to grant an applicant compliance with a Federal operating permit and other applicable provisions of the CAAA as long as:

- The applicable requirements of these provisions have been identified in the permit; or
- The permitting authority determines in the course of acting on the permit that other provisions of the act are not applicable. The permit must include a list or summary of these provisions.

40 CFR §70.6(f) provides that operating permits may include a statement indicating that a source which is in compliance with permit conditions shall be considered to be in compliance with applicable requirements, provided that these requirements are included and specifically identified in the permit, or that other specific requirements are identified as not applicable. The operating permit must explicitly state the existence of the permit shield.

Similarly, Michigan R 336.1210(1) provides that each permit issued under this rule shall include a permit shield provision, which shall state that compliance with the terms and conditions of the permit shall be deemed compliance with the applicable requirements identified and addressed in the permit as of the date of permit issuance. The applicant may also request a determination identifying specific requirements or class of requirements that do not apply to the source or to one or more emissions units within the source, provided the applicant identifies the specific requirements for determination.

PCA hereby requests a permit shield stating that compliance with the conditions of the permit shall be deemed compliance with applicable requirements specifically identified in the permit.

The ROP contains a list of non-applicable requirements identified by the Mill and incorporated into Section E of the permit. During the Mill's review of existing ROP conditions, additional non-applicability determinations were identified. PCA has included a list in Table 3-5 of these non-applicable requirements and requests that Section E of the permit include an explicit statement indicating that such requirements are not applicable and be included as part of the Mill's permit shield.

Table 3-5
Summary of Non-Applicable Requirements

Emissions Unit	Regulatory Citations	Justification
EUBOILER1	40 CFR 60 Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units)	EUBOILER1 was installed prior to the applicability date of the regulation (June 19, 1984) and has not been modified since the promulgation date. Future modifications to the boiler may make EUBOILER1 subject to the regulation.
Miscellaneous Storage Tanks Storing VOC-containing Liquids	40 CFR Part 60, Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984)	The Mill does not maintain any storage tanks containing VOCs that meet both the size requirement and the installation date requirement that would subject them to 40 CFR Part 60 Subpart Kb.
EUBOILER2, EUBOILER4A, EUBOILER5	40 CFR Part 60, Subpart D (Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971)	Per §60.40, a boiler is not subject to 40 CFR Part 60, Subpart D if already covered under 40 CFR Part 60, Subpart Db. Therefore, because the boilers are already subject to 40 CFR Part 60, Subpart Db, the boilers are not also subject to 40 CFR Part 60, Subpart D.
EUBOILER2, EUBOILER4A, EUBOILER5	40 CFR Part 60, Subpart Da (Standards of Performance for Electric Utility Steam Generating Units)	Per §60.40b, a boiler is not subject to 40 CFR Part 60, Subpart Db if already covered under 40 CFR Part 60, Subpart Da. Therefore, because the boilers are already subject to 40 CFR Part 60, Subpart Db, the boilers are not also subject to 40 CFR Part 60, Subpart Da.
EUBOILER1, EUBOILER2, EUBOILER4A, and EUBOILER5	40 CFR Part 60, Subpart Dc (Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units)	Per §60.40c, a boiler must have a maximum design heat input capacity between 10 MMBtu/hr and 100 MMBtu/hr to be covered under 40 CFR Part 60, Subpart Dc. The maximum design heat input capacity of each of the four boilers is greater than the 100 MMBtu/hr Subpart Dc threshold. Therefore, the boilers are not subject to 40 CFR Part 60, Subpart Dc.

Table 3-5
Summary of Non-Applicable Requirements

Emissions Unit	Regulatory Citations	Justification
EUCOPELAND+ DISTANK	40 CFR 63.862(a) (NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills)	The EUCOPELAND+DISTANK is a semi-chemical combustion boiler and, as such, is not subject to the PM standards for kraft recovery furnaces or sulfite combustion units. This unit is subject to the gaseous HAP standard at 40 CFR 63.862(c)(2).
Mill	40 CFR Part 60, Subpart JJJJ (Standards of Performance for Stationary Spark Ignition Internal Combustion Engines)	The Mill does not currently include stationary spark-ignition internal combustion engines with a maximum engine power greater than 500 HP that were constructed on or after June 12, 2006 and does not include any stationary spark-ignition internal combustion engines with a maximum engine power less than 500 HP that were constructed on or after July 1, 2008.
Mill	40 CFR Part 60, Subpart IIII (Standards of Performance for Stationary Compression Ignition Internal Combustion Engines)	The Mill does not currently include stationary compression-ignition internal combustion engines which have post-2005 model years.
Mill	40 CFR Part 68 (Risk Management Program)	The Mill does not presently operate processes that contain or process chemicals that meet the minimum threshold quantities to subject the Mill to the rule.
Mill	40 CFR Part 98 (Mandatory Reporting of Greenhouse Gases)	Per §II.S of the preamble to 40 CFR Part 98, the definition of "applicable requirement" with regard to Title V permits found in 40 CFR §70.1 and §71.2 does not include a monitoring rule, such as 40 CFR Part 98, that is promulgated under the CAA sections 114(a)(1) and 208; therefore, there are no Title V requirements associated with 40 CFR Part 98.

4. PROPOSED CHANGES TO CURRENT OPERATING PERMIT

As part of the TVOP renewal application process, the Mill has performed a review of the existing ROP and is proposing the following updates. The Mill has provided a redline version of the current ROP in Appendix A containing the proposed changes requested to the current ROP.

4.1 INCORPORATION OF PTI NO. 209-18

As discussed throughout this document, PCA was recently issued PTI No. 209-18, which generally approves the following:

- Installation of new bubbling Boiler No. 5 which will be equipped with a baghouse, NOx CEMS, carbon monoxide (CO) CEMS, and COMS. Boiler No. 5 will be operated as the primary boiler at the Mill, with Boilers Nos. 1, 2, and 4A utilized for additional steam demand.
- Installation of a new sand silo that will store sand used in Boiler No. 5.
- Remove of coal- and oil- firing capabilities from Boiler No. 1 and Boiler No. 2.
- Installation of a low-NOx burners and FGR on existing Boiler No. 1.
- Utilization of existing Boiler No. 4A as an additional back-up LVHC NCG incineration device.
- Changes to the existing solid fuel handling equipment and paved roadways at the Mill to accommodate the new Boiler No. 5 fuel supply.

PCA has proposed numerous revisions which reflect the terms of PTI No. 209-18 within the Appendix A ROP Mark-Up.

4.2 40 CFR PART 63, SUBPART MM

As discussed in Section 3.1.3, U.S. EPA published revisions and amendments to 40 CFR Part 63, Subpart MM on October 11, 2017, which affects the Mill's testing, monitoring, recordkeeping, and reporting requirements for EUCOPELAND+DISTANK. These amendments were published on October 11, 2017, and the Mill will comply with the revisions by October 11, 2019 (as required

by the rule). The Mill will complete the amended rule's required HAP performance testing by October 13, 2020. PCA is requesting that the applicable Subpart MM amendments be incorporated into the ROP. The Mill has reviewed the current ROP for 40 CFR Part 63, Subpart MM-related conditions and has developed proposed revisions to incorporate the published amendments. PCA has proposed numerous revisions which reflect U.S. EPA's October 2017 40 CFR Part 63, Subpart MM amendments within the Appendix A ROP Mark-Up.

4.3 40 CFR PART 63, SUBPART DDDDD (BOILER MACT)

As discussed in Section 3.1.3, U.S. EPA published the final rule of 40 CFR Part 63, Subpart DDDDD on November 20, 2015. This rule affects the Mill's general recordkeeping and reporting process for Boiler No. 1, Boiler No. 2, Boiler No. 4A, and Boiler No. 5. The Mill currently complies with the requirements of Boiler MACT; however, the specific requirements of Boiler MACT had not been incorporated into the Mill's ROP previously because the final rule was published after the ROP was last renewed. Therefore, the Mill is requesting that the applicable requirements of 40 CFR Part 63, Subpart DDDDD be incorporated into the ROP for Boiler No. 1, Boiler No. 2, Boiler No. 4A, and Boiler No. 5. PCA's proposed revisions with respect to 40 CFR Part 63, Subpart DDDD are included within the Appendix A ROP Mark-Up.

4.4 OTHER PROPOSED CONDITIONS TO BE MODIFIED OR REMOVED

The Mill has reviewed the existing ROP for technical accuracy and proposes the following additional changes:

- Removal of references to the WESPs as control devices for the EUCOPELAND + DISTANK. The WESPs are still in operation, however, they are not considered pollution control devices by PCA. The WESPs serve as protective equipment to prevent fouling of the RTO ceramic saddle bed. The RTO was installed to comply with VOC destruction requirements.
- PCA requests removal of the reference to the two cyclones as pollution control equipment on the EUCOPELAND+DISTANK. The two cyclones cannot be bypassed and serve as part of the process, cycling pellets. The cyclones are not considered control equipment.
- Clarification that EUBOILER2 was modified on October 24, 1997 (when it was equipped with low-NOx burners).

- Incorporation of 40 CFR Part 82, Subpart G (Significant New Alternatives Policy Program) and Subpart H (Halon Emissions Reduction) as applicable requirements.

- Removal of obsolete requirements, such as those referencing initial performance testing, initial requirements to provide an updated MAP, or project emissions tracking obligations which have already been fulfilled.

5. MICHIGAN ROP APPLICATION CONTENTS

The ROP Renewal Application Form has been included as Appendix D. The ROP Renewal Application Form is followed by three additional "AI-001" supplemental pages in order to provide additional detail and clarifications regarding selections made on the main ROP Renewal Application Form.

PCA is including revised Michigan Air Emissions Reporting System (MAERS) forms for Boiler No. 1, Boiler No. 2, and Boiler No. 4A as part of this ROP renewal application. The forms have been included in order to update the Mill's MAERS calculation methodologies to be consistent with those utilized in the December 2018 PTI Application submittal. The Mill has not identified other changes from the recent MAERS submittal that are required to be updated as part of this ROP renewal application. The revised 2018 MAERS forms for Boiler No. 1, Boiler No. 2, and Boiler No. 4A are provided as Appendix E.

APPENDIX A –
MARK-UP VERSION OF CURRENT ROP

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

EFFECTIVE DATE: ~~April 27, 2015~~TBD

REVISION DATES: August 24, 2015, June 1, 2016

ISSUED TO:

Packaging Corporation of America – Filer City Mill

State Registration Number (SRN): B3692

LOCATED AT:

2246 Udell Street, Filer City, Manistee County, Michigan

RENEWABLE OPERATING PERMIT

Permit Number: MI-ROP-B3692-2015b

Expiration Date: ~~April 27, 2020~~TBD

Administratively Complete ROP Renewal Application Due Between:
~~October 27, 2018~~TBD and ~~October 27, 2019~~TBD

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

SOURCE-WIDE PERMIT TO INSTALL

Permit Number: MI-PTI-B3692-~~2015b~~2020

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

Michigan Department of ~~Environmental Quality~~Environment, Great Lakes, and Energy

_____

~~Janis Ransom~~Shane Nixon, Cadillac District Supervisor

Commented [PCA1]: PCA requests administrative update of this reference.

Commented [PCA2]: PCA requests administrative update of this reference.

Commented [PCA3]: PCA requests administrative update of this reference.

Commented [PCA4]: PCA requests administrative update of this reference.

TABLE OF CONTENTS

AUTHORITY AND ENFORCEABILITY

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

Commented [PCA5]: PCA requests administrate update of this reference.

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 will be identified for each ROP term or condition. All terms and conditions that are included in a PTI, are streamlined or subsumed, or is state only enforceable will be noted as such.

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

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

A. GENERAL CONDITIONS

Permit Enforceability

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

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

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

General Provisions

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

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

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

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

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

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

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

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

Equipment & Design

9. Any collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2).[2] **(R 336.1370)**

10. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**

Emission Limits

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

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

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

Testing/Sampling

13. The department may require the owner or operator of any source of an air contaminant to conduct acceptable performance tests, at the owner's or operator's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001(1).[2] **(R 336.2001)**

14. Any required performance testing shall be conducted in accordance with Rule 1001(2), Rule 1001(3) and Rule 1003. **(R 336.2001(2), R 336.2001(3), R 336.2003(1))**

15. Any required test results shall be submitted to the Air Quality Division (AQD) in the format prescribed by the applicable reference test method within 60 days following the last date of the test. **(R 336.2001(5))**

Monitoring/Recordkeeping

16. Records of any periodic emission or parametric monitoring required in this ROP shall include the following information specified in Rule 213(3)(b)(i), where appropriate. **(R 336.1213(3)(b))**
    a. The date, location, time, and method of sampling or measurements.
    b. The dates the analyses of the samples were performed.
    c. The company or entity that performed the analyses of the samples.
    d. The analytical techniques or methods used.
    e. The results of the analyses.
    f. The related process operating conditions or parameters that existed at the time of sampling or measurement.

17. All required monitoring data, support information and all reports, including reports of all instances of deviation from permit requirements, shall be kept and furnished to the department upon request for a period of not less than 5 years from the date of the monitoring sample, measurement, report or application. Support information includes all calibration and maintenance records and all original strip-chart recordings, or other original data records, for continuous monitoring instrumentation and copies of all reports required by the ROP. **(R 336.1213(1)(e), R 336.1213(3)(b)(ii))**

Certification & Reporting

18. Except for the alternate certification schedule provided in Rule 213(3)(c)(iii)(B), any document required to be submitted to the department as a term or condition of this ROP shall contain an original certification by a Responsible Official which states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. **(R 336.1213(3)(c))**

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

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

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

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

23. 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(~~98~~))**

Commented [PCA6]: PCA requests update of this regulatory citation to reflect the current rule.

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.

38. If the permittee is subject to 40 CFR Part 82, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart G, Significant New Alternatives Policy Program. The term "substitute" or "alternative" is defined in Subpart G as "any chemical, product substitute, or alternative manufacturing process, whether existing or new, intended for use as a replacement for a class I or II compound." Under Subpart G, the permittee may not use a substitute which the permittee knows or has reason to know was manufactured, processed, or imported in violation of the regulations of Subpart G, or knows or has reason to know was manufactured, processed, or imported in violation of any use restriction in the acceptability determination, after the effective date of any rulemaking imposing such restrictions. The permittee may not use a substitute without adhering to any use restrictions set by the acceptability decision, after the effective date of any rulemaking imposing such restrictions, and the permittee may not use a substitute after the effective date of any rulemaking adding such substitute to the list of unacceptable substitutes.

~~37.~~39. If the permittee is subject to 40 CFR Part 82, the permittee is subject to all the applicable requirements as specified in 40 CFR Part 82, Subpart H, Halon Emissions Reduction. The permittee, while testing, maintaining, servicing, repairing, or disposing of halon-containing equipment or using such equipment for technician training may not knowingly vent or otherwise release into the environment any halons in such equipment, except for de minimis releases associated with good faith attempts to recycle or recover halon, and the exceptions provided at 40 CFR §82.270(b)(2) through (6). Technicians employed by the permittee which test, maintain, service, repair, or dispose of halon-containing equipment shall be trained regarding halon emissions reduction. The permittee shall not dispose of halon-containing equipment except by sending it for halon recovery to a manufacturer, a fire equipment dealer, or a recycler operating in accordance with NFPA 10 and NFPA 12A standards. The permittee shall not dispose of halon except by sending it for recycling to a recycler operating in accordance with NFPA 10 and 12A standards, or by arranging for its destruction using a controlled process as allowed by 40 CFR §82.270(e). The permittee shall not allow a halon release from halon-containing equipment to occur as a result of failure to maintain such equipment.

Commented [PCA7]: PCA requests incorporation of 40 CFR Part 82, Subparts G and H.

Risk Management Plan

40. 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 Part 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).

41. 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.

42. 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.

43. 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

44. 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)

45. 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))**

46. 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)**

47. The terms and conditions of a PTI shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by the PTI. If a new owner or operator submits a written request to the department pursuant to Rule 219 and the department approves the request, this PTI will be amended to reflect the change of ownership or operational control. The request must include all of the information required by Subrules (1)(a), (b) and (c) of Rule 219. The written request shall be sent to the appropriate AQD District Supervisor, ~~MDEQ~~EGLE.[2] **(R 336.1219)**

48. If the installation, reconstruction, relocation, or modification of the equipment for which PTI terms and conditions have been approved has not commenced within 18 months of the original PTI issuance date, or has been interrupted for 18 months, the applicable terms and conditions from that PTI, as incorporated into the ROP, shall become void unless otherwise authorized by the department. Furthermore, the person to whom that PTI was issued, or the designated authorized agent, shall notify the department via the Supervisor, Permit Section, ~~MDEQ~~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))**

Commented [PCA8]: PCA requests administrative update of this reference.

Commented [PCA9]: PCA requests administrative update of this reference.

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
NA	NA	NA	NA	NA	NA

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall implement and maintain a Source-wide Malfunction Abatement Plan (MAP) approved by the District Supervisor. If the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall revise the MAP within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment and add-on air pollution control device during similar malfunction events, and a program for corrective action for such events. **(R 336.1910, R 336.1911)**

2. The permittee shall maintain a program of fugitive dust control for all material storage piles, all material handling equipment, all plant roadways, and the plant yard as approved by the AQD. Changes to the program may be made upon approval by the AQD. **(MCL 324.5524)**

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))**

NA

VII. REPORTING

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

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

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

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).

C. EMISSION UNIT CONDITIONS

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

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

EMISSION UNIT SUMMARY TABLE

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

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
~~EUCOALHANDLING~~	~~Coal handling system with fabric filters on two transfer points.~~	~~01/01/50~~ 08/11/88	NA
EUBOILER1	Boiler No. 1 has a maximum heat input rating of 240 MMBtu/hr and is equipped with low NO_X burners and flue gas recirculation (FGR). The boiler ~~is permitted to burn coal, fires~~ natural gas~~,~~ and/or biogas~~, and No. 6 fuel oil~~. Non-Condensable Gas (NCG) from the Low-Volume _ _High-Concentration _ _(LVHC) system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup. ~~The exhaust is controlled by a baghouse when burning coal and can bypass the baghouse when both EUBOILER1 and EUBOILER2 are not firing coal.~~	01/01/50 12/06/80 ~~09/02/83~~ TBD	FGBIOGASSYSTEM
EUBOILER2	Boiler No. 2 has a maximum heat input rating of 186 MMBtu/hr and is equipped with low NO_X burners. The boiler ~~is permitted to burn coal, fires~~ natural gas~~,~~ and/or biogas~~, and No. 6 fuel oil~~. NCGs from the LVHC system will be primarily ~~routed to Boiler No. 1 for destruction, with~~ Boiler No. 2 and Boiler No. 4A as backup. ~~The exhaust is controlled by a baghouse when burning coal and can bypass the baghouse when both EUBOILER1 and EUBOILER2 are not firing coal.~~	01/01/50 12/06/80 09/02/83 ~~12/06/84~~ 10/24/97 TBD	FGBIOGASSYSTEM
EUBOILER4A	Boiler No. 4A is a ~~Natural~~natural gas and biogas-fired Babcock and Wilcox Model No. FM120-97 boiler. The boiler's maximum heat capacity is 227 MMBtu/hr and is equipped with low NO_x burners. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.	11/01/02	FGBIOGASSYSTEM

Commented [PCA10]: PCA requests removal of the EUCOALHANDLING Emission Unit ID for consistency with Permit To Install (PTI) No. 209-18, issued August 16, 2019.

Commented [PCA11]: PCA requests update of the EUBOILER1 Emission Unit Description for consistency with PTI No. 209-18.

Commented [PCA12]: PCA requests update of the EUBOILER2 Emission Unit Description for consistency with PTI No. 209-18.

Commented [PCA13]: PCA requests inclusion of the historic EUBOILER2 low-NOx burners installation date.

Commented [PCA14]: PCA requests update of the EUBOILER4A Emission Unit Description for consistency with PTI No. 209-18.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EUBOILER5	A bubbling fluidized bed (BFB) boiler with a heat input capacity of 302 MMBtu/hr. The boiler will burn wood, wood waste, ~~primary clarifier residuals, paper recycling~~ residuals, tire derived fuel (TDF), and natural gas.	TBD	NA
EUSOLIDFUELTRAN	Existing enclosed wood and wood waste conveyors and new covered conveyors will transport solid fuels of wood and wood waste, TDF, paper recycling residuals, and primary clarifier residuals. The fuel streams will be blended while traveling along the new wood and wood waste conveyor before entering Building 4 and being deposited into a fuel storage bin.	01/01/50 8/11/88 TBD	NA
EUSANDSILO	Sand silo used to store sand used in Boiler No. 5 (EUBOILER5).	NA	NA
EUWOODCHIPTRAN	Wood chip transport equipment; wood chip storage bins; conveyors and bucket elevators; screw conveyors and pneumatic transfer equipment; and five cyclones.	01/01/74 01/01/78	NA
EUCOPELAND+DISTANK	Fluidized bed reactor which recovers sodium carbonate from the spent pulping liquor. The exhaust is controlled by a venturi scrubber, ~~wet electrostatic precipitator~~ and regenerative thermal oxidizer.	10/15/76 01/01/81	NA
EUWASHERS	Pulp washing system and low volume/high concentration (LVHC) collection system.	03/01/04	NA
EUSODA-ASH	Soda ash silo and baghouse.	01/01/53	NA
EUFLYASH	Fly ash silo and baghouse.	01/01/80	NA
EUPELLET	Sodium carbonate pellet storage silo and baghouse.	01/01/76	NA
EUEVAPLTV	Long tube vertical (LTV) evaporator set, associated equipment, and LVHC collection system. Any volatiles collected by the LVHC system are ducted to EUBOILER1 and/or EUBOILER2 and/or EUBOILER4A for destruction.	01/01/57	FGMACT_SUBPART_S
EUEVAPFC	Forced circulation (FC) evaporator set, associated equipment, and LVHC collection system. Any volatiles collected by the LVHC system are ducted to EUBOILER1 and/or EUBOILER2 and/or EUBOILER4A for destruction.	01/01/64	FGMACT_SUBPART_S

Commented [PCA15]: PCA requests incorporation of new EUBOILER5, per PTI No. 209-18.

Commented [PCA16]: PCA requests incorporation of new EUSOLIDFUELTRAN, per PTI No. 209-18.

Commented [PCA17]: PCA requests incorporation of new EUSANDSILO, per PTI No. 209-18.

Commented [PCA18]: PCA requests removal of the reference to the wet electrostatic precipitators (WESPs) on the EUCOPELAND+DISTANK. The WESPs serve as protective equipment to prevent fouling of the RTO ceramic saddle bed, and the RTO was installed to comply with VOC destruction requirements.

Commented [PCA19]: PCA requests reference to EUBOILER4A, per PTI No. 209-18.

Commented [PCA20]: PCA requests reference to EUBOILER4A, per PTI No. 209-18.

Commented [PCA21]: PCA requests administrative update of this language for clarity.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date/ Modification Date	Flexible Group ID
EUDIGESTERS	Continuous digesters No. 1 and No. 2; defibrators No. 1 and No. 2; blow tower; cyclone separator; condenser; and LVHC. Any volatiles collected by the LVHC are ducted to EUBOILER1 and/or EUBOILER2 and/or EUBOILER4A for destruction.	01/01/53	FGMACT_SUBPART_S
EUBIOGASFLARE	Biogas flare used to combust biogas during upsets or malfunctions with the biogas generation system or boilers.	01/01/08	FGBIOGASSYSTEM
EUBIOGASSYSTEM	Biogas generation system consisting of a pre-acidification tank, recycle/rapid mix tank, bioreactors, biogas holder, sludge tank, feed tanks, biogas collection system with scrubber, and sludge system.	01/01/08	FGBIOGASSYSTEM
EUPULPTANKS	Pulp storage tanks.	01/01/57	FGRULE290
EURECYCLE200	200 ton per day recycle paper pulping system.	01/01/85	FGRULE290
EUBLTANKS	Black liquor storage tanks.	01/01/57	FGRULE290
EURECYCLE300	300 ton per day recycle paper pulping system.	01/01/94	FGRULE290
EUWHITEWATER	Three whitewater storage vessels that have a capacity of greater than 40,000 gallons.	<1956	FGRULE290
EUPROCESSCHEM	Five process chemical storage vessels that have a capacity of greater than 40,000 gallons each.	<1956	FGRULE290
EURICE12994	Lift Station (CAT) – Emergency, compression-ignition, 225 horsepower, stationary reciprocating internal combustion engine.	09/01/92	FGRICE1
EURICE12974	Fire Pump (Cummins) – Emergency, compression-ignition, 208 horsepower stationary reciprocating internal combustion engine	08/01/93	FGRICE1
EUPAPERMACH1	Paper machine No. 1.	<1967	FGPAPERMACH
EUPAPERMACH2	Paper machine No. 2	<1967	FGPAPERMACH
EUPAPERMACH3	Paper machine No. 3	<1967	FGPAPERMACH

Commented [PCA22]: PCA requests reference to EUBOILER4A, per PTI No. 209-18.

EUCOALHANDLING
EMISSION UNIT CONDITIONS

Commented [PCA23]: PCA requests removal of EUCOALHANDLING, per PTI No. 209-18. The Mill has permanently ceased firing of coal in EUBOILER1 and EUBOILER2, and will not be firing this fuel in any of its other combustion sources going forward.

DESCRIPTION

All coal handling equipment consisting of conveyors and coal storage bin to bring coal to the boilers.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Three fabric filters

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.10 pounds per 1,000 pounds of exhaust gases[2]	NA	EUCOALHANDLING	SC V.1	R 336.1331(1)(a)

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUCOALHANDLING unless the fabric filters are installed and operating properly. **(R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. All coal handling and storage shall be totally enclosed or equipped with dust suppression or bag filter control equipment.[2] **(R 336.1910, R 324.5524)**

V. TESTING/SAMPLING

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

1. The permittee shall perform and document a non-certified visible emission observation once per week from each fabric filter exhaust point while the equipment is handling coal. If any visible emissions are observed PCA will correct and document the problem causing visible emissions within two (2) hours, re-perform the non-certified visible emission observation and document that visible emissions are no longer present while the equipment is handling coal. If visible emissions are still present additional actions shall be implemented to identify and correct the problem causing the visible emissions and these actions shall be documented. This process shall be repeated until the cause of visible emissions has been eliminated. **(R 336.1213(3)(a))**

VI. MONITORING/RECORDKEEPING

1. Records of the non-certified visible emissions observations and the USEPA Method 9 observations that are performed, the reason for the visible emissions, and any corrective actions taken shall be kept on file in a format acceptable to the AQD. **(R 336.1213(3)(a))**

VII. REPORTING

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

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

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

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

EUBOILER1
EMISSION UNIT CONDITIONS

Commented [PCA24]: Except where noted, PCA requests update of the following EUBOILER1 Emission Unit Conditions in order to incorporate the conditions of PTI No. 209-18, which approves the following changes to EUBOILER1:
- Installation of low-NOx burners and FGR.
- Removal of coal and No. 6 Fuel Oil as permitted fuels.
- Removal of the requirement to operate the baghouse, since the baghouse was only historically required during times when coal and/or No. 6 Fuel Oil were fired.
- Designation of EUBOILER1 as the primary incineration device for LVHC NCGs.

DESCRIPTION

Boiler No. 1 has a maximum heat input rating of 240 MMBtu/hr and is equipped with low NO_X burners and flue gas recirculation (FGR). ~~boiler capable of firing coal.~~The boiler fires natural gas and/or~~,~~ biogas~~, and No. 6 fuel oil~~. Non-Condensable Gas (NCG) from the Low-Volume High-Concentration (LVHC) system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.

Flexible Group ID: FGBIOGASSYSTEM

POLLUTION CONTROL EQUIPMENT

Low NO_X burners and FGR to control NO_X emissions.~~Baghouse (when firing coal)~~

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
~~PM~~	~~0.10 pounds per 1,000 pounds of exhaust gases, corrected to 50% excess air[2]~~	~~Test Protocol* When firing coal or No. 6 fuel oil~~	~~EUBOILER1~~	~~SC V.1 SC VI.2 SC VI.5~~	~~R 336.1331(1)(c)~~
~~SO_2~~	~~1.67 pounds per million BTU heat input[2]~~	~~Per 24 hour period when firing coal~~	~~EUBOILER1~~	~~SC VI.1~~	~~R 336.1401(1)~~
~~SO_2~~	~~1.11 pounds per million BTU heat input[2]~~	~~Per 24 hour period, when firing No. 6 fuel oil~~	~~EUBOILER1~~	~~SC VI.1~~	~~R 336.1401(1)~~
1. NO_X	32.34 pph[2]	Hourly	EUBOILER1	SC V.1	R 336.1213(2)
2. NO_X	120.4 tpy[2]	12-month rolling time period as determined at the end of each month	EUBOILER1	SC VI.2, VI.5	R 336.1213(2)
3. CO	15.04 pph[2]	Hourly	EUBOILER1	SC V.1	R 336.1213(2)
4. CO	72.2 tpy[2]	12-month rolling time period as determined at the end of each month	EUBOILER1	SC VI.2, VI.6	R 336.1213(2)

~~* Test protocol shall specify averaging time.~~

II. MATERIAL LIMIT(S)

~~Material~~	~~Limit~~	~~Time Period/Operating Scenario~~	~~Equipment~~	~~Monitoring/ Testing Method~~	~~Underlying Applicable Requirements~~
~~1. Coal~~	~~1.0% sulfur[2]~~	~~Calculated on a basis of 12,000 BTU per pound~~	~~EUBOILER1~~	~~SC V.2~~	~~R 336.1401(1)~~

~~Material~~	~~Limit~~	~~Time Period/Operating Scenario~~	~~Equipment~~	~~Monitoring/ Testing Method~~	~~Underlying Applicable Requirements~~
~~2. No. 6 fuel oil~~	~~1.0% sulfur[2]~~	~~Calculated on a basis of 18,000 BTU per pound~~	~~EUBOILER1~~	~~SC V.2~~	~~**R 336.1401(1)**~~

1. The permittee shall burn only natural gas and/or biogas fuels in EUBOILER1. The gas shall not have a total sulfur content greater than 0.0006 lb/MMBtu of gas based on a 12-month rolling time period. **(R 336.1213)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

~~1. Coal feed to EUBOILER1 shall cease immediately, consistent with safe operating procedures, upon initiation of the baghouse bypass. Coal feeding shall not restart until the baghouse is back on-line and functioning properly.[2] **(R 336.1910)**~~

~~2. The permittee shall not fire EUBOILER1 with coal or a mixture of coal with any other approved fuel unless the baghouse is installed and operating properly. **(R 336.1910)**~~

~~3. The permittee shall maintain the differential pressure across the baghouse within the normal operating range identified in Source-Wide MAP. The normal operating range shall be determined during the most recent stack test. **(R 336.1910, R 336.1911)**~~

1. The malfunction abatement plan (MAP) described in Rule 911(2) shall be implemented, maintained, and shall specify, at a minimum, the following:

   a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
   c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

   If 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 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 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. **(R 336.1910, R 336.1911, R 336.1213(3)(b))**

2. The permittee shall operate EUBOILER1 in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(40 CFR 63.7500(a)(3))**

3. The permittee shall comply with the applicable work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD at all times EUBOILER1 is operating, except for the periods noted in 40 CFR 63.7500(f). **(40 CFR 63.7505(a))**

4. The permittee shall conduct a tune-up for EUBOILER1 as specified in 40 CFR 63.7540. **(40 CFR 63.7500(a)(1); 40 CFR 63.7515(d); Table 3, Item 1 to 40 CFR Part 63, Subpart DDDDD; 40 CFR 63.7540)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

~~1. The permittee shall install and maintain the baghouse with a differential pressure gauge. **(R 336.1910)**~~

Commented [PCA25]: Note: The initial MAP requirements of PTI No. 209-18 are expected to be obsolete by the time the ROP is issued and have therefore not been included.

~~2. The permittee shall install, calibrate and maintain a COM to monitor the visible emissions from EUBOILER1 on a continuous basis when firing coal or No. 6 fuel oil or mixtures of these fuels with any other fuels. **(R 336.1213(3)(b))**~~

~~3. The span value of the COMS shall be between 60% and 80%. **(R 336.1213(3))**~~

~~4. The procedures under 40 CFR 60.13 and Performance Specification 1 of Appendix B to Part 60 shall be followed for installation, evaluation, and operation of the COM. **(R 336.1213(3)(b), R 336.2150(1)(a))**~~

1. The maximum design heat input capacity for EUBOILER1 shall not exceed 240 MMBtu/hr (HHV) on a fuel heat input basis. **(R 336.1213(2))**

2. The permittee shall not operate EUBOILER1 unless the low NO_X burners and flue gas recirculation system are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EUBOILER1 as required in SC III.1. **(R 336.1910)**

3. The permittee shall install, calibrate, maintain, and operate, in a satisfactory manner, a device to monitor and record the daily fuel usage rate for EUBOILER1 on a continuous basis. **(R 336.1213(3)(a))**

V. TESTING/SAMPLING

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

~~1. The permittee shall conduct PM performance tests once every five years if either coal or oil is fired for more than 60 consecutive days during that five year period or if coal or oil is fired for less than 60 consecutive days on three separate occasions. Performance testing shall be conducted in a manner acceptable to the AQD. **(R 336.1213(3)(a))**~~

~~2. The permittee shall conduct an analysis of the coal and No. 6 fuel oil, in a manner acceptable to the AQD, to determine the sulfur content and higher heating value. The analysis shall be performed for each shipment received. The AQD may require more frequent analyses. As an alternative, the permittee may obtain fuel receipts from the fuel supplier that certify the sulfur content and higher heating value of the fuel.[2] **(R 336.1213(3)(a), R 336.1401(2))**~~

~~3. The permittee shall perform an annual audit of the COMS using the procedures set forth in USEPA Publication 450/4-92-10, "*Performance Audits Procedures for Opacity Monitors*", or a procedure acceptable to the AQD. The annual COMS audit is not required if either coal or oil is fired during the year. The annual COMS audit is required to be conducted within 60 days of resuming either coal or oil firing if more than one year has passed since the last COMS audit. **(R 336.2157, R 336.1213(3)(b))**~~

1. The permittee shall verify NO_X and CO emissions rates, from EUBOILER1 at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. The permittee shall verify NO_X and CO emission. The permittee shall complete the testing once every five years for NO_X and CO, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
NO_X	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(3)(a), R 336.2001, R 336.2003, R 336.2004)**

Commented [PCA26]: Note: PCA has limited the frequency of incorporated testing requirements to once every five years. The initial testing requirements of PTI No. 209-18 are expected to be obsolete by the time the ROP is issued.

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 sulfur content, higher heating value of each shipment of coal, and No. 6 fuel oil; and use this data to calculate and record 24 hour period SO2 emissions when firing coal or No. 6 fuel oil. **(R 336.1213(3)(b))**~~

~~2. The permittee shall continuously monitor and record once per day the differential pressure across the baghouse when firing coal or No. 6 fuel oil or mixtures of these fuels with any other fuels and shall take appropriate actions as described in the Source Wide MAP if the differential pressure is outside the proper operating range specified in the MAP. **(R 336.1213(3), R 336.1910)**~~

~~3. The permittee shall properly maintain the monitoring systems, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**~~

~~4. The permittee shall use the COMS recorded opacity as an indicator of the proper functioning of the baghouse. The appropriate range of opacity defining proper function of the baghouse is 0 – 20% opacity. **(40 CFR 64.6(c)(1)(i) and (ii))**~~

~~5. The permittee shall continuously monitor and record opacity. Six-minute average values shall be based on 36 or more equally spaced instantaneous opacity measurements per six-minute period. The COMS shall be calibrated in accordance with 40 CFR Part 60, Subpart A. **(40CFR 60.13(h), 40 CFR 64.6(c)(1)(iii), R 336.1213(3))**~~

~~6. To assure compliance with the particulate matter emission limits listed in SC I.1, when firing coal or a mixture of coal with any other approved fuel, an excursion for particulate matter shall be two consecutive one hour block average opacity values greater than 8%. This condition does not affect compliance with R 336.1331. **(40 CFR 64.6(c)(2))**~~

~~7. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance, or control activities shall not be used for purposes of 40 CFR Part 64 compliance, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, in frequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**~~

~~8. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation, as expeditiously as practicable, in accordance with good air pollution practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). In response to an excursion of more than 8% opacity, based on two consecutive 1-hour block averages, the permittee shall take action as prescribed in the Source Wide MAP. **(40 CFR 64.7(d))**~~

~~9. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan, any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, records of monitoring maintenance, or corrective actions. **(40 CFR 64.9(b)(1))**~~

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 1213(3)(a) & (b), 40 CFR Part 63 Subpart DDDDD)**

Commented [PCA27]: PCA requests removal of obsolete CAM references.

Note: As described further within the application narrative, PCA intends to conduct internal engineering tests to confirm whether FGR is required to meet the applicable NOX emissions limits on EUBOILER1. If it is determined that FGR is required to demonstrate compliance, Part 64 will apply and PCA will develop a new CAM Plan and proposed Part 64 permit conditions for this equipment.

Commented [PCA28]: PCA requests removal of obsolete CAM references.

2. The permittee shall monitor and record, in a satisfactory manner, the natural gas and biogas usage rates from EUBOILER1, in cubic feet, on a daily, monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1213(3)(a) & (b))**

3. The permittee shall maintain records of the notifications, energy assessments, and tune-ups in accordance with 40 CFR 63.7555 for EUBOILER1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 63.7555)**

4. The permittee shall monitor and maintain records of the hours NCGs are combusted in EUBOILER1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1213(3)(a) & (b))**

5. The permittee shall calculate monthly and 12-month rolling NO_X emissions, according to Appendix 7, using natural gas and biogas fuel throughput data, and emission factors from the most recent performance stack testing. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1213(3)(a) & (b))**

6. The permittee shall calculate and maintain records of the monthly and 12-month rolling CO emissions, according to Appendix 7, using natural gas and biogas fuel throughput data, and emission factors from the most recent performance stack testing. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1213(3)(a) & (b))**

7. The permittee shall keep, in a satisfactory manner, gas samples or records of the fuel receipts from the fuel supplier that certify that the natural gas and biogas meets the sulfur concentration as specified in SC II.1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1213(3)(b))**

See Appendix 7

VII. REPORTING

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

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

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

4. The Permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, which are postmarked at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. All stack testing protocols must be approved by the AQD prior to testing. **(R 336.2001(3))**

5. The Permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. **(R 336.2001(4))**

6. The Permittee shall submit two complete test reports of the test results in a format acceptable to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, which are postmarked within 60 days following the last test date. **(R 336.2001(5))**

~~6.~~7. The permittee shall submit 40 CFR Part 63, Subpart DDDDD reports pursuant to 40 CFR 63.7500. **(40 CFR 63.7500)**

~~7. When firing coal or oil in EUBOILER1 the permittee shall submit, on a quarterly basis, excess emission reports for any excess visible emissions which occurred during the reporting period. The reports shall be postmarked no later than 30 days following the end of each calendar quarter. Excess visible emissions are defined as all six minute periods during which the average opacity exceeds the opacity standards under R 336.1301(1)(a). **(R 336.1213(3))**~~

~~8. Each semiannual report of Compliance Assurance Monitoring (CAM) monitoring and deviations shall include summary information on the number, duration, and cause of excursions and/or exceedances; and the corrective actions taken. If there were no excursions and/or exceedances in the reporting period, then this report shall include a statement that there were no excursions and/or exceedances. **(40 CFR 64.9(a)(2)(i))**~~

~~9. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**~~

~~10. The permittee shall report the results of the COMS annual audit to the AQD District Supervisor no later than 30 days following the audit. **(R 336.1213(3), R 336.2156)**~~

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. ~~SV917~~ SVSHARED1_2_5	144[2]	~~193[2]~~199	~~**R 336.1331**~~ **R 336.1213(2)**

IX. OTHER REQUIREMENT(S)

~~1. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions; modifying the frequency of conducting monitoring and collecting data; or the monitoring of additional parameters. **(40 CFR 64.7(e))**~~

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

~~3.~~1. The permittee shall comply with the applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters, as specified in 40 CFR Part 63, Subparts A and DDDDD as they apply to EUBOILER1. ~~by January 31, 2016~~. **(40 CFR Part 63, Subparts A and DDDDD)**

Commented [PCA29]: PCA requests removal of this obsolete reference to the historic 40 CFR Part 63, Subpart DDDDD compliance date.

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).

EUBOILER2
EMISSION UNIT CONDITIONS

Commented [PCA30]: Except where noted, PCA requests update of the following EUBOILER2 Emission Unit Conditions in order to incorporate the conditions of PTI No. 209-18, which approves the following changes to EUBOILER2:
- Removal of coal and No. 6 Fuel Oil as permitted fuels.
- Removal of the requirement to operate the baghouse, since the baghouse was only historically required during times when coal and/or No. 6 Fuel Oil were fired.
- Designation of EUBOILER2 as a backup incineration device for LVHC NCGs.

DESCRIPTION

Boiler No. 2 has a maximum heat input rating of 186 MMBtu/hr and is equipped with low NO_X burners. The boiler ~~capable of firing coal,~~fires natural gas~~,~~ and/or biogas~~, and No. 6 fuel oil.~~. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.

Flexible Group ID: FGBIOGASSYSTEM

POLLUTION CONTROL EQUIPMENT

~~Baghouse (when firing coal)~~Low NO_X burners to control NO_X emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
~~PM~~	~~0.051 pound per million BTU heat input[a]~~	~~Test protocol* Firing coal only or firing coal and other fuels where the annual capacity factor for the other fuels is 10% or less.~~	~~EUBOILER2~~	~~SC V.1 SC VI.9~~	~~40 CFR 60.43b(a)(1)~~
~~PM~~	~~0.10 pounds per 1,000 pounds of exhaust gases, corrected to 50% excess air[2]~~	~~Test protocol*~~	~~EUBOILER2~~	~~SC V.1 SC VI.11 SC VI.9~~	~~R 336.1331(1)(c)~~
~~Visible emissions~~	~~20% opacity, 6 minute average, except for one 6 minute period per hour of not more than 27% opacity[2]~~	~~When firing coal or No. 6 oil or mixtures of these fuels with any other fuel.~~	~~EUBOILER2~~	~~SC VI.5~~	~~R 336.1301(1)(a) 40 CFR 60.43b(f)~~
~~SO_2~~	~~1.67 pounds per million BTU heat input[2]~~	~~Per 24 hour period, when firing coal.~~	~~EUBOILER2~~	~~SC VI.1~~	~~R 336.1401(1)~~
~~SO_2~~	~~1.11 pounds per million BTU heat input[2]~~	~~Per 24 hour period, when firing No. 6 fuel oil.~~	~~EUBOILER2~~	~~SC VI.1~~	~~R 336.1401(1)~~
1. NO_x	0.20 pounds per million BTU heat input	~~Based upon a 30 day rolling average basis, when firing natural gas.~~30-day rolling average basis	EUBOILER2	SC V.1, VI.2, VI.5, VI.6, VI.7, VI.8 ~~SC VI.10~~	**40 CFR 60.44b(a)(1)(ii) 40 CFR 60.44b(i)**
~~NO_x~~	~~0.70 pounds per million BTU heat input~~	~~Based upon a 30 day rolling average basis, when firing coal~~	~~EUBOILER2~~	~~SC VI.10~~	~~40 CFR 60.44b(b) 40 CFR 60.44b(i)~~

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
~~NO_x~~	~~0.40 pounds per million BTU heat input~~	~~Based upon a 30 day rolling average basis, when firing No. 6 fuel oil~~	~~EUBOILER2~~	~~SC VI.10~~	~~40 CFR 60.44b(a) 40 CFR 60.44b(i)~~
~~NO_x~~	~~Lb/MMBtu calculated emission limit using the equation in Appendix 7~~	~~Based upon a 30 day rolling average basis, when firing a mixture of approved fuels.~~	~~EUBOILER2~~	~~SC VI.10~~	~~40 CFR 60.44b(c) 40 CFR 60.44b(i)~~
2. NO_X	23.13 pph[2]	24-hour rolling operating hours basis	EUBOILER2	SC V.1, VI.2, VI.5, VI.6, VI.8, VI.9	**R 336.1213(2)**
3. NO_X	15.2 tpy[2]	12-month rolling time period as determined at the end of each month	EUBOILER2	SC VI.2, VI.5, VI.6, VI.8, VI.10	**R 336.1213(2)**
4. CO	15.04 pph[2]	Hourly	EUBOILER2	SC V.2, VI.10	**R 336.1213(2)**
5. CO	9.88 tpy[2]	12-month rolling time period as determined at the end of each month	EUBOILER2	SC VI.5, VI.11	**R 336.1213(2)**

~~* Test protocol shall specify averaging time~~
~~[a] This limit does not apply during periods of startup, shutdown, or malfunction.~~ **~~(40 CFR 60.43b(g))~~**

II. MATERIAL LIMIT(S)

~~Material~~	~~Limit~~	~~Time Period/Operating Scenario~~	~~Equipment~~	~~Monitoring/ Testing Method~~	~~Underlying Applicable Requirements~~
~~1. Coal~~	~~1.0% sulfur[2]~~	~~Calculated on a basis of 12,000 BTU per pound.~~	~~EUBOILER2~~	~~SC V.2~~	~~R 336.1401(1)~~
~~2. No. 6 fuel oil~~	~~1.0% sulfur[2]~~	~~Calculated on a basis of 18,000 BTU per pound.~~	~~EUBOILER2~~	~~SC V.2~~	~~R 336.1401(1)~~

1. The permittee shall burn only natural gas and/or biogas fuels in EUBOILER2. The gas shall not have a total sulfur content greater than 0.0006 lb/MMBtu of gas based on a 12-month rolling time period. **(40 CFR 60 Subpart Db)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

~~1. Coal feed to EUBOILER2 shall cease immediately, consistent with safe operating procedures, upon initiation of the baghouse bypass. Coal feeding shall not restart until the baghouse is back on-line and functioning properly.[2] (R 336.1910)~~

~~2. The permittee shall not fire EUBOILER2 with coal unless the baghouse is installed and operating properly. (R 336.1910)~~

1. The malfunction abatement plan (MAP) described in Rule 911(2) shall be implemented, maintained, and shall specify, at a minimum, the following:
   a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.

Commented [PCA31]: Note: The initial MAP requirements of PTI No. 209-18 are expected to be obsolete by the time the ROP is issued and have therefore not been included.

b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.

c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If 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 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 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. **(R 336.1910, R 336.1911)**

2. The permittee shall operate EUBOILER2 in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(R 336.1912, 40 CFR 63.7500(a)(3))**

3. The permittee shall comply with the applicable work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD at all times EUBOILER2 is operating, except for the periods noted in 40 CFR 63.7500(f). **(40 CFR 63.7505(a))**

~~3.~~4. The permittee shall conduct a tune-up of EUBOILER2 as specified in 40 CFR 63.7540. **(40 CFR 63.7500(a)(1); 40 CFR 63.7515(d); Table 3, Item 3 to 40 CFR Part 63, Subpart DDDDD; 40 CFR 63.7540)**

~~4. The permittee shall maintain the differential pressure across the baghouse, when firing coal, within the normal operating range identified in the Source-Wide MAP. The normal operating range shall be determined during the most recent stack test. **(R 336.1910, R 336.1911)**~~

~~a. The NO_x and O_2 continuous emission monitor (CEM)/parametric emission monitor (PEM) and the COMS shall be operated and data recorded during all periods of operation of EUBOILER2 except for CEM//PEM/COMS breakdowns and repairs. Data shall be recorded during calibration checks, and zero and span adjustments. A certified PEM can only be used while firing natural gas and/or biogas otherwise a certified CEM shall be used to monitor NOx emissions. **(40 CFR 60.48b(c), R 336.1213(3)(b), 40 CFR 60.48b(g))**~~

IV. DESIGN/EQUIPMENT PARAMETER(S)

~~1. The permittee shall install and maintain the baghouse with a differential pressure gauge. **(R 336.1910)**~~

~~2. The permittee shall install, calibrate, and maintain a COMS to monitor the visible emissions from EUBOILER2 on a continuous basis when firing coal or No. 6 fuel oil or mixtures of these fuels with any other fuels **(R 336.1213(3)(b), 40 CFR 60.48b(a), and 60.49b(f))**~~

~~3. The span value of the COM shall be between 60% and 80%. **(40 CFR 60.48b(e)(1))**~~

~~4. The procedures under 40 CFR 60.13 and Performance Specification 1 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation, and operation of the COM. **(R 336.1213(3)(b), R 336.2150(1)(a), 40 CFR 60.13, 40CFR 60.48b(e))**~~

1. The maximum design heat input capacity for EUBOILER2 shall not exceed 186 MMBtu/hr (HHV) on a fuel heat input basis. **(R 336.1213(2))**

2. The permittee shall not operate EUBOILER2 unless the low NO_x burners are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EUBOILER2 as required in SC III.1. **(R 336.1910)**

3. The permittee shall install, calibrate, maintain, and operate, in a satisfactory manner, a device to monitor and record the daily fuel usage rate for EUBOILER2 on a continuous basis. **(R 336.1213(3)(a) & (b), 40 CFR 60.49b(d))**

2.4. If the permittee chooses the compliance method specified in SC VI.2 for EUBOILER2, the permittee shall install, calibrate, maintain, and operate in a satisfactory manner, a device to monitor and record the NO_X emissions from EUBOILER2 on a continuous basis. Monitoring systems are to be operated and data recorded during all periods of operation including startup, shutdown, malfunction or emergency conditions, except for continuous monitor system breakdowns, repairs, calibration checks, and zero span adjustments. **(R 336.1213(3)(a) & (b), 40 CFR 60.48b(c))**

5. The permittee shall install, calibrate, and maintain a CEM or PEM to monitor and record NO_x emissions from EUBOILER2 on a continuous basis. **(R 336.1213(3)(b), 40 CFR 60.48b(b)(1), 40 CFR 60.48b(g))**

6. The permittee shall install, calibrate, and maintain a CEM or PEM to continuously monitor the O_2 percentage from EUBOILER2. **(R 336.1213(3)(b), 40 CFR 60.48b(g))**

7. The span value of the NO_x CEM shall be 500 ppm, or shall be determined according to section 2.1.2 in appendix A to 40 CFR Part 75. **(40 CFR 60.48b(e)(2))**

8. The procedures under 40 CFR 60.13 and Performance Specification 2 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation, and operation of the NO_x CEM. **(R 336.1213(3)(b), R 336.21501250(1)(b), 40 CFR 60.13, 40 CFR 60.48b(e))**

9. The procedures under 40 CFR 60.13 and Performance Specification 3 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation, and operation of the O_2 CEM. **(R 336.1213(3)(b), R 336.21501250(1)(d), 40 CFR 60.13, 40 CFR 60.48b(e))**

10. The procedures under 40 CFR 60.13 and Performance Specification 16 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation, and operation of the NOx and O_2 PEM. **(R 336.1213(3)(b), 40 CFR 60.13)**

V. TESTING/SAMPLING

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

1. The permittee shall conduct PM performance tests once every five years, if either coal or oil is fired for more than 60 consecutive days during that five year period, or if coal or oil is fired for less than 60 consecutive days on three separate occasions. Performance testing shall be conducted in a manner acceptable to the AQD, for verification of the PM emission rates to demonstrate compliance with the limit in SC I.1 and SC I.2. **(R 336.1213(3)(a))**

2. The permittee shall conduct an analysis of the coal and No. 6 fuel oil, in a manner acceptable to the AQD, to determine the sulfur content and higher heating value. The analysis shall be performed for each shipment received. The AQD may require more frequent analysis. As an alternative, the permittee may obtain and maintain fuel receipts from the fuel supplier that certify the sulfur content and higher heating value of the fuel.[2] **(R 336.1213(3)(a), R 336.1401(2))**

1. The permittee shall perform the Quality Assurance Procedures of the NO_x CEM as set forth in Appendix F to 40 CFR Part 60 each calendar quarter. **(R 336.1213(3), 40 CFR 60.13(a), 40 CFR 60.48b(e))**

2. The permittee shall verify CO emission rates, from EUBOILER2 at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. The permittee shall complete the testing once every five years for CO, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD

Commented [PCA32]: PCA requests the relocation of these conditions to Section VI, Monitoring.

Commented [PCA33]: PCA requests correction of the typographical error in this regulatory citation.

Commented [PCA34]: PCA requests correction of the typographical error in this regulatory citation.

Commented [PCA35]: Note: PCA has limited the frequency of incorporated testing requirements to once every five years. The initial testing requirements of PTI No. 209-18 are expected to be obsolete by the time the ROP is issued.

Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.2001, R 336.2003, R 336.2004)**

~~1. The permittee shall perform an annual audit of the COMS using the procedures set forth in USEPA Publication 450/4-92-10, "*Performance Audits Procedures for Opacity Monitors*", or a procedure acceptable to the AQD. The annual COMS audit is not required if either coal or oil is fired during the year. The annual COMS audit is required to be conducted within 60 days of resuming either coal or oil firing if more than one year has passed since the last COMS audit. **(R 336.2157, R 336.1213(3)(b))**~~

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(40 CFR Part 60 Subpart Db, 40 CFR Part 63, Subpart DDDDD)**

~~1. The permittee shall maintain records of the sulfur content and higher heating value of each shipment of coal and No. 6 fuel oil; and use this data to calculate and record 24 hour period SO2 emissions when firing coal or No. 6 fuel oil. **(R 336.1213(3)(b))**~~

2. Except as specified in SC VI.6, ~~The~~the Permittee shall continuously monitor and record, in a satisfactory manner, the NOx emissions and the O2, or CO2, ~~from~~emissions from EUBOILER2. The permittee shall operate each CEMS to meet the timelines, requirements, and reporting detailed in Appendix A and shall use the CEMS data for determining compliance with SC I.1, I.2, and I.3. **(R 336.1213(3), 40 CFR Part 60 Subpart Db)** ~~on a continuous basis in a manner and with instrumentation acceptable to the AQD. **(R 336.1213(3))**~~

~~3. The permittee shall properly maintain the monitoring systems, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b))**~~

Commented [PCA36]: PCA requests removal of obsolete CAM references.

4.3. When NO_x emission data are not obtained because of CEM/PEM breakdowns, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other AQD approved reference methods to provide emission data for a minimum of 75% of the operating hours in each operating day, in at least 22 out of 30 successive operating days. **(40 CFR 60.48b(f), ~~R 336.1213(3)(b)~~)**

~~5. The permittee shall use the COMS recorded opacity as an indicator of the proper functioning of the baghouse. The appropriate range of opacity defining proper function of the baghouse is 0 – 20% opacity. **(40 CFR 64.6(c)(1)(I and ii))**~~

Commented [PCA37]: PCA requests removal of obsolete CAM requirements.

~~6. The permittee shall continuously monitor and record opacity. Six-minute average values shall be based on 36 or more equally spaced instantaneous opacity measurements per six-minute period. The COMS shall be calibrated in accordance with 40 CFR Part 60, Subpart A. **(40 CFR 60.13(h), 40 CFR 64.6(c)(1)(iii), R 336.1213(3))**~~

~~7. To assure compliance with the particulate matter emission limits listed in SC I.1, when firing coal or a mixture of coal with any other approved fuel, an excursion for particulate matter shall be two consecutive one hour block average opacity values greater than 8%. This condition does not affect compliance with R 336.1331. **(40 CFR 64.6(c)(2))**~~

~~8. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks, required zero and span adjustments), the owner or operator shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of 40 CFR Part 64 compliance, including data averages and calculations or fulfilling a minimum data availability requirement, if~~

~~applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, in frequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**~~

~~9. Upon detecting an excursion or exceedance, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown, or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). In response to an excursion of more than 8% opacity based on two consecutive 1-hour block averages the permittee shall take action as prescribed in the Source Wide MAP. **(40 CFR 64.7(d))**~~

Commented [PCA38]: PCA requests removal of obsolete CAM requirements.

~~10. The permittee shall continuously monitor and record, once per day, the differential pressure across the baghouse when firing coal or a mixture of coal with any other approved fuel; and shall take appropriate actions as described in the Source Wide MAP if the differential pressure is outside the proper operating range specified in the MAP. **(R 336.1213(3)(b), R 336.1910))**~~

~~11. The permittee shall calculate the 30 day rolling average NO_x emission rate by using the one hour average NO_x emission rates measured by the NO_x CEM/PEM, expressed in pounds per MMBTU heat input. **(R 336.1213(3)(b), 40 CFR 60.48b(d))**~~

~~9.~~4. The permittee shall record and maintain records of the amounts of each fuel combusted during each day, and calculate the annual capacity factor individually for each fuel for the reporting period ~~coal, No. 6 fuel oil, and natural gas~~. The annual capacity factor is determined on a ~~12 month~~12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1213(3)(a) & (b), 40 CFR 60.49b(d)~~(1)~~)**

~~10.~~5. The permittee shall maintain records of the following information for each day EUBOILER2 is operated: **(R 336.1213(3)(b), 40 CFR 60.49b(g))**

a. Calendar date;
b. The average hourly NO_x emission rate measured or predicted;
c. The 30 day average NO_x emission rate calculated at the end of each steam generating unit operating day, from the measured or predicted hourly NO_x emission rates for the preceding 30 steam generating unit operating days;
d. Identification of the steam generating unit operating days when the calculated 30 day average NO_x emission rate are in excess of the NO_x emission limits under 40 CFR 60.44b and SC I.3 ~~I.6, I.7, I.8, and I.9~~ with the reasons for such excess emissions as well a description of corrective actions taken;
e. Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of the corrective actions taken;
f. Identification of the time when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
g. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;
h. Identification of the times when the pollutant concentration exceeded full span of the CEM/PEM;
i. Description of any modifications to the CEM/PEM that could affect the ability of the CEM/PEM to comply with the applicable Performance Specification 2, 3, or 16;
j. Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, Appendix F, Procedure 1.

The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3)(b),40 CFR 60.49b(g))**

~~14. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan, any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, records of monitoring maintenance, or corrective actions. **(40 CFR 64.9(b)(1))**~~

Commented [PCA39]: PCA requests removal of obsolete CAM requirements.

6. As an alternative to the compliance method specified in SC VI.2, the permittee may demonstrate compliance by monitoring EUBOILER2 operating conditions and predicting NO_x emission rates in a satisfactory manner. The permittee shall submit a plan that identifies the operating conditions to be monitored and the records to be maintained. The permittee shall operate each Predictive Emission Monitoring System (PEMS) to meet the timelines, requirements, and reporting detailed in Appendix A and shall use the PEMS data for determining compliance with SC I.1, I.2, and I.3. (**R 336.1213(3)(a), 40 CFR Part 60, Subpart Db**)

7. The permittee shall keep, in a satisfactory manner, fuel samples or records of the fuel receipts from the fuel supplier that certify that the natural gas meets the definition of natural gas defined in 40 CFR 60.41b for the EUBOILER2. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1213(3)(b), 40 CFR Part 60 Subpart Db, 40 CFR 60.49b(r)(1))**

8. The permittee shall calculate the 30-day rolling average NO_X emission rate by using the one-hour average NO_X emission rates measured by the NO_X CEM/PEM, expressed in pounds per MMBTU heat input. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3)(a) & (b), 40 CFR 60.48b(d))**

9. The permittee shall calculate monthly and 12-month rolling NO_X emissions using natural gas and biogas fuel throughput data and NO_X CEMS or PEMS data. The Permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3)(a) & (b))**

10. The permittee shall calculate and maintain records of the 24-hour average CO emissions at the end of each operating day, to determine compliance with the hourly emissions, as described in Appendix 7. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3)(a) & (b))**

11. The permittee shall calculate and maintain records of the monthly and 12-month rolling CO emission using natural gas and biogas fuel throughput data, and emission factors from the most recent performance stack testing. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3)(a) & (b))**

12. The permittee shall monitor and maintain records of the hours that EUBOILER2 combusted NCGs. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3)(a) & (b))**

13. The permittee shall install, calibrate, and maintain a CEM or PEM to monitor and record NO_x emissions from EUBOILER2 on a continuous basis. **(R 336.1213(3)(b), 40 CFR 60.48b(b)(1), 40 CFR 60.48b(g))**

14. The permittee shall install, calibrate, and maintain a CEM or PEM to continuously monitor the O_2 percentage from EUBOILER2. **(R 336.1213(3)(b), 40 CFR 60.48b(g))**

15. The span value of the NO_x CEM shall be 500 ppm or shall be determined according to section 2.1.2 in Appendix A to 40 CFR Part 75. **(40 CFR 60.48b(e)(2))**

16. The procedures under 40 CFR 60.13 and Performance Specification 2 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation, and operation of the NO_x CEM. **(R 336.1213(3)(b), R 336.2150(1)(b), 40 CFR 60.13, 40 CFR 60.48b(e))**

17. The procedures under 40 CFR 60.13 and Performance Specification 3 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation, and operation of the O_2 CEM. **(R 336.1213(3)(b), R 336.2150(1)(d), 40 CFR 60.13, 40 CFR 60.48b(e))**

18. The procedures under 40 CFR 60.13 and Performance Specification 16 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation, and operation of the NO_X and O_2 PEM. **(R 336.1213(3)(b), 40 CFR 60.13)**

Commented [PCA40]: PCA requests correction of the typographical error in this regulatory citation.

Commented [PCA41]: PCA requests correction of the typographical error in this regulatory citation.

VII. REPORTING

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

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

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

4. The permittee shall submit, on a ~~quarterly~~ semi-annual basis, excess emission reports for any NO_x excess emission ~~and, when firing coal or oil, excess visible emission~~ which occurred during the reporting period. The reports shall be postmarked no later than 30 days following the end of each ~~calendar~~ 6-month reporting period~~quarter~~. NO_x excess emissions are defined as any calculated 30 day rolling average NO_x emission rate which exceeds the applicable emission limits in 40 CFR 60.44b and Conditions I. ~~6, I.7, I.8, and I.91, 1.2, and~~ 1.3. ~~Excess visible emissions are defined as all 6 minute periods during which the average opacity exceeds the opacity standards under 40 CFR 60.43b(f) and Condition I.3.~~ **(R 336.1213(3), 40 CFR 60.49b(h), 40 CFR 60.7(c))**

5. The permittee shall submit, on a ~~quarterly~~ semi-annual basis, reports containing the information in SC VI.5~~12~~. The reports shall be postmarked no later than 30 days following the end of each ~~calendar~~ 6-month reporting period~~quarter~~. **(40 CFR 60.49b(i), R 336.1213(3))**

6. The Permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, which are postmarked at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. All stack testing protocols must be approved by the AQD prior to testing. **(R 336.2001(3))**

7. The Permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. **(R 336.2001(4))**

8. The Permittee shall submit two complete test reports of the test results in a format acceptable to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, which are postmarked within 60 days following the last test date. **(R 336.2001(5))**

9. The permittee shall submit reports containing the information in SC VI.5. The reports shall be postmarked no later than 30 days following the end of each 6-month reporting period, unless the permittee has obtained approval from the AQD to submit reports electronically in accordance with 40 CFR 60.49b(v). The permittee has the option to submit on a more frequent basis. **(40 CFR 60.49b(i), (v), and (w))**

~~8.~~10. The permittee shall submit 40 CFR Part 63, Subpart DDDDD reports pursuant to 40 CR 63.7500. **(40 CFR 63.7550)**

12. The permittee shall submit the results of the Quality Assurance Procedures of the NO_X CEM/PEM to the AQD District Supervisor. The results shall be postmarked no later than 30 days following each calendar quarter. **(R 336.1213(3))**

13. No less than 30 days prior to installation of any new monitoring system, the permittee shall submit two copies of a Monitoring Plan to the AQD, for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required CEMS/PEMS. **(40 CFR 60.49b(c), R 336.1213(3))**

See Appendix 8

Commented [PCA42]: PCA requests correction of SC VII.4 and 5 to clarify that Excess Emissions Reports are required to be submitted on a semi-annual basis – as compared to the results of completed Quality Assurance Procedures which (per SC VII.12) are required to be submitted quarterly.

Consistent with PTI No. 209-18 and 40 CFR 60.49b(w), "The reporting period for the reports required under (Subpart Db) is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period."

Commented [PCA43]: PCA requests clarification that this requirement would also apply in the event of a new CEMS installation.

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVSHARED1_2_5~~SV917~~	144[2]	199~~193~~[2]	~~**R 336.1331**~~ **R 336.1213(2)**

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units as specified in 40 CFR Part 60, Subparts A and Db as they apply to EUBOILER2. **(40 CFR Part 60, Subparts A and Db)**

~~2. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**~~

~~3. The permittee shall comply with all applicable requirements of 40 CFR Part 64. **(40 CFR Part 64)**~~

Commented [PCA44]: PCA requests removal of obsolete CAM requirements.

~~4.~~2. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers, and Process Heaters, as specified in 40 CFR Part 63, Subparts A and DDDDD as they apply to EUBOILER2~~ by January 31, 2016.~~ **(40 CFR Part 63, Subparts A and DDDDD)**

Commented [PCA45]: PCA requests removal of this obsolete reference to the historic 40 CFR Part 63, Subpart DDDDD compliance date.

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).

EUBOILER4A
EMISSION UNIT CONDITIONS

Commented [PCA46]: PCA requests update of the EUBOILER4A Emission Unit Conditions to incorporate conditions of PTI No. 209-18, which permits EUBOILER4A to serve as a backup incineration device for LVHC NCGs

DESCRIPTION

Boiler No. 4A is a ~~Natural~~natural gas and/or biogas fired Babcock and Wilcox Model FM-120-97 boiler~~ with a~~. The boiler's maximum ~~rated heat capacity of~~ heat input rating is 227 million BTU per hour, and the boiler is equipped with low NO_X burners. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.

Flexible Group ID: FGBIOGASSYSTEM

POLLUTION CONTROL EQUIPMENT

Low NO_x burners to control NO_X emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO_x	0.17 pound per MMBtu heat input[2,a]	30 day rolling average.	EUBOILER4A	SC V.2 SC VI.1, VI.2, VI.4, VI.5	R 336.1213(2)R ~~336.1205(3)~~
2. CO	22.7 pounds per hour[2]	Based upon a 24 hour rolling average.	EUBOILER4A	SC V.1 SC VI.65	R 336.1213(2) ~~R 336.1205(3)~~

[a] In accordance with Rule 213(2) and Rule 213(6), compliance with this streamlined nitrogen oxides emissions limit shall be considered compliance with the nitrogen oxides emissions limit established by **R 336.1205(3)** and also compliance with the nitrogen oxides emissions limit in 40 CFR 60.44b(a), an additional applicable requirement that has been subsumed within this condition.

Commented [PCA47]: PCA requests clarification that the measured averaging period is a 24-hour rolling average.

II. MATERIAL LIMIT(S)

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

1. The permittee shall burn only natural gas and/or biogas in EUBOILER4A.[2] **(R 336.1213(2))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

~~1. The permittee shall burn only natural gas and/or biogas in EUBOILER4A.[2] (R 336.1205(3)) (R 336.1213(2))~~

Commented [PCA48]: PCA requests removal of this redundant condition. (see "Material Limits")

~~2. The NO_x and O_2 CEM/PEM shall be operated, and data recorded during all periods of operation of EUBOILER4A except for CEM/PEM breakdowns and repairs. Data shall be recorded during calibration checks, and zero and span adjustments. A certified PEM can only be used when firing natural gas and/or biogas otherwise a certified CEM shall be used to monitor NOx emissions. (40 CFR 60.48b(c), R 336.1213(3)(b), 40 CFR 60.48b(g))~~

Commented [PCA49]: PCA requests the relocation of this condition to Section VI, Monitoring/Recordkeeping.

1. The malfunction abatement plan (MAP) described in Rule 911(2) shall be implemented, maintained, and shall specify, at a minimum, the following:

Commented [PCA50]: Note: The initial MAP requirements of PTI No. 209-18 are expected to be obsolete by the time the ROP is issued and have therefore not been included.

~~The permittee shall submit a malfunction abatement plan (MAP) for EUBOILER4A as described in Rule 911(2), within 180 days after trial operation. The MAP shall be implemented, maintained, and shall specify, at a minimum, the following:~~

a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.

b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.

c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If 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 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 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. **(R 336.1910, R 336.1911)**

3. The permittee shall operate EUBOILER4A in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(40 CFR 63.7500(a)(3))**

4. The permittee shall comply with the applicable work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD at all times EUBOILER4A is operating, except for the periods noted in 40 CFR 63.7500(f). **(40 CFR 63.7505(a))**

~~3.~~5. The permittee shall conduct a tune-up of EUBOILER4A as specified in 40 CFR 63.7540. **(40 CFR 63.7500(a)(1); 40 CFR 63.7515(d); Table 3, Item 1 to 40 CFR Part 63, Subpart DDDDD; 40 CFR 63.7540)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

~~1. The permittee shall install, calibrate and maintain a CEM or PEM to monitor and record NO_x emissions from EUBOILER4A on a continuous basis.[2] **(40 CFR 60.48b(b)(1), R 336.1213(3)(b), 40 CFR 60.48b(g))**~~

~~2. The permittee shall install, calibrate and maintain a CEM or PEM to continuously monitor the O_2 percentage from EUBOILER4A. **(R 336.1213(3)(b), 40 CFR 60.48b(b)(1), 40 CFR 60.48b(g))**~~

1. The maximum design heat input capacity for EUBOILER4A shall not exceed 227 MMBtu/hr (HHV) on a fuel heat input basis. **(R 336.1213(2))**

2. The permittee shall not operate EUBOILER4A unless the low NO_X burners are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EUBOILER4A as required in SC III.3 **(R 336.1910).**

3. The permittee shall install, calibrate, maintain, and operate, in a satisfactory manner, a device to monitor and record the daily fuel usage rate for EUBOILER4A on a continuous basis. **(40 CFR 60.49b(d))**

4. If the permittee chooses the compliance method specified in SC VI.2 for EUBOILER4A, the permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the NO_X emissions, and O_2 or CO_2 content of the exhaust gas from EUBOILER4A on a continuous basis. **(R 336.1205(1)(a), 40 CFR 60.48b(c) & (d))**

~~3.~~5. If the permittee chooses the compliance method specified in SC VI.2 for EUBOILER4A, ~~The~~ the span value of the NOx CEM shall be 500 ppm or shall be determined according to section 2.1.2 in ~~appendix~~ Appendix A to 40 CFR Part 75. **(40 CFR 60.48b(e)(2), 40 CFR 60.13, R 336.2154))**

6. If the permittee chooses the compliance method specified in SC VI.2 for EUBOILER4A, ~~The~~ the procedures under 40 CFR 60.13 and Performance Specification 2 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation, and operation of the NO_x CEM. **(R 336.1213(3)(b), R 336.2150(1)(b), 40 CFR 60.13, 40 CFR 60.48b(e))**

7. If the permittee chooses the compliance method specified in SC VI.2 for EUBOILER4A,~~The~~ the procedures under 40 CFR 60.13 and Performance Specification 3 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation, and operation of the O_2 CEM. **(R 336.1213(3)(b), R 336.2150(1)(d), 40 CFR 60.13)**

8. If the permittee chooses the compliance method specified in SC VI.2 for EUBOILER4A,~~The~~ the procedures under 40 CFR 60.13 and Performance Specification 16 of Appendix B to 40 CFR Part 60 shall be followed for installation, evaluation, and operation of the NO_X and O_2 PEM. **(R 336.1213(3)(b), 40 CFR 60.13)**

V. TESTING/SAMPLING

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

~~1. The permittee shall conduct performance tests while firing only natural gas, in a manner acceptable to the AQD, for verification of the CO emission rates. The performance tests shall be conducted every five years.[2] **(R 336.1213(3)(a), R 336.2001)**~~

1. The permittee shall verify CO emission rates, from EUBOILER4A at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of the three test runs per the method requirements. The permittee shall complete the testing once every five years for CO, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA method listed:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1213(3)(a), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(d))**

2. The permittee shall perform the Quality Assurance Procedures of the NO_x CEM/PEM as set forth in Appendix F to 40 CFR Part 60 each calendar quarter. **(R 336.1213(3), 40 CFR 60.13(a), 40 CFR 60.48b(e))**

VI. MONITORING/RECORDKEEPING

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

1. The Permittee shall monitor and record the NO_X emissions from EUBOILER4A on a continuous basis in a manner and with instrumentation acceptable to the AQD. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3), 40 CFR 60.48b(c) & (d))**

2. The permittee shall calculate the 30 day rolling average NO_x emission rate by using one~~-~~hour average NO_x emission rates measured by the NO_x CEM/PEM expressed in pounds per MMBTU heat input. **(R 336.1213(3)(b), 40 CFR 60.48b(d))**

3. When NO_x emission data from EUBOILER4A are not obtained because of CEM/PEM breakdowns, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other AQD approved reference methods to provide emission data for a minimum of 75% of the operating hours in each operating day, in at least 22 out of 30 successive operating days. **(40 CFR 60.48b(f), R 336.1213(3)(b))**

4. The permittee shall record and maintain records of the amounts of each fuel combusted, in EUBOILER4A, during each day and calculate the annual capacity factor individually for ~~natural gas and biogas~~each fuel for the reporting period. The annual capacity factor is determined on a 12 month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request **(40 CFR 60.49b(d)(1), R 336.1213(3)(b))**

5. The permittee shall maintain records of the following information for each day EUBOILER4A is operated.[2] **(R 336.1213(3)(b), 40 CFR 60.49b(g))**
   a. Calendar date;
   ~~b. The 24 hour average CO emission rate calculated at the end of each operating day;~~
   ~~c.~~b. The average hourly NO_x emission rate measured or predicted;
   ~~d.~~c. The 30 day average NO_x emission rate calculated at the end of each operating day from the measured or predicted hourly NO_x emission rates for the preceding 30 operating days;
   ~~e.~~d. Identification of the operating days when the calculated 30 day average NO_x emission rate are in excess of the NO_x emission limits under 40 CFR 60.44b and SC I.1 with the reasons for such excess emissions as well a description of corrective actions taken;
   ~~f.~~e. Identification of the operating days for which NO_x emission data have not been obtained, including reasons for not obtaining sufficient data and a description of the corrective actions taken;
   ~~g.~~f. Identification of the time when emission data have been excluded from the calculation of average NO_x emission rates and the reasons for excluding data;
   ~~h.~~g. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;
   ~~i.~~h. Identification of the times when the NO_x emission concentration exceeded full span of the CEM/PEM;
   ~~j.~~i. Description of any modifications to the CEM/PEM that could affect the ability of the CEM to comply with the applicable Performance Specification 2, 3, or 16;
   j. Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, Appendix F, Procedure 1.
   The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.49b(g))**

6. The permittee shall calculate and maintain records of the 24-hour average CO emissions at the end of each operating day as described in Appendix 7. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3)(a) & (b))**

7. The permittee shall monitor and maintain records of the hours that EUBOILER4A combusted NCGs in backup service to EUBOILER1 and EUBOILER2. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3)(a) & (b))**

8. The NO_x and O_2 CEM/PEM shall be operated, and data recorded during all periods of operation of EUBOILER4A except for CEM/PEM breakdowns and repairs. Data shall be recorded during calibration checks, and zero and span adjustments. A certified PEM can only be used when firing natural gas and/or biogas otherwise a certified CEM shall be used to monitor NOx emissions. **(40 CFR 60.48b(c), R 336.1213(3)(b), 40 CFR 60.48b(g))**

VII. REPORTING

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

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

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

4. The Permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, which are postmarked at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. All stack testing protocols must be approved by the AQD prior to testing. **(R 336.2001(3))**

5. The Permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. **(R 336.2001(4)**)

6. The Permittee shall submit two complete test reports of the test results in a format acceptable to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, which are postmarked within 60 days following the last test date. **(R 336.2001(5))**

7. The permittee shall submit, on a ~~quarterly~~ semiannual basis, excess emission reports for any NO_x excess emission which occurred during the reporting period. The reports shall be postmarked no later than 30 days following the end of each ~~quarterly~~ semiannual period. NO_x excess emissions are defined as any calculated 30 day rolling average NO_x emission rate which exceeds the applicable emission limits in 40 CFR 60.44b and SC I.1. **(R 336.1213(3), 40 CFR 60.49b(h), 40 CFR 60.7(c))**

8. The permittee shall submit, on a ~~quarterly~~ semiannual basis, reports containing the information in SC VI.5. The reports shall be postmarked no later than 30 days following the end of each ~~calendar quarter~~semiannual period. **(40 CFR 60.49b(i), R 336.1213(3))**

9. The permittee shall submit the results of the Quality Assurance Procedures of the NO_x CEM/PEM to the AQD Technical Programs Unit. The results must be postmarked no later than 30 days following each calendar quarter. **(R 336.1213(3))**

10. No less than 30 days prior to installation of any new monitoring system, the permittee shall submit two copies of a Monitoring Plan to the AQD, for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required CEMS/PEMS. **(40 CFR 60.49b(c), R 336.1213(3))**

~~10.~~11. The permittee shall submit notifications pursuant to 40 CFR 63.7545 and 63.7550. **(40 CFR Part 63 Subpart DDDDD)**

See Appendix 8

Commented [PCA51]: PCA requests correction of SC VII.4 and 5 to clarify that Excess Emissions Reports are required to be submitted on a semi-annual basis – as compared to the results of completed Quality Assurance Procedures which (per SC VII.9) are required to be submitted quarterly.

Consistent with PTI No. 209-18 and 40 CFR 60.49b(w), "The reporting period for the reports required under (Subpart Db) is each 6 month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period."

Commented [PCA52]: PCA requests clarification that this requirement would also apply in the event of a new CEMS installation.

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOILER4A	72~~69~~[2]	92~~116~~[2]	~~R 336.1205~~ R 336.1213(2)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units as specified in 40 CFR Part 60, Subparts A and Db, as they apply to EUBOILER4A.[2]
(40 CFR Part 60, Subparts A and Db)

2. The permittee shall comply with the applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters as they apply to EUBOILER4A. ~~by the compliance date(s) specified in the Standards.~~ **(40 CFR Part 63, Subparts DDDDD and A)**

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

EUBOILER5
EMISSION UNIT CONDITIONS

Commented [PCA53]: PCA requests the incorporation of new EUBOILER5 Emission Unit Conditions to reflect PTI No. 209-18, which provided for the construction of EUBOILER5.

DESCRIPTION

A bubbling fluidized bed (BFB) boiler with a heat input capacity of 302 MMBtu/hr. The boiler is permitted to burn wood, wood waste, primary clarifier residuals, paper recycling residuals, tire derived fuel (TDF), and natural gas.

Flexible Group ID: N/A

POLLUTION CONTROL EQUIPMENT

A baghouse to control particulates

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO_X (While firing Natural gas & mixture of other permitted fuels.	0.30 lb/MMBtu	30-day rolling average	EUBOILER5	SC V.3, VI.2, VI.3, VI.4, VI.11, VI.12	40 CFR 60.44b(d)
2. NO_X (While firing natural gas only)	0.20 lb/MMBtu	30-day rolling average	EUBOILER5	SC V.3, VI.2, VI.3, VI.4, VI.11, VI.12	40 CFR 60.44b(a)(1)(ii)
3. NO_X	99.7 pph	24-hour rolling operating hours basis	EUBOILER5	SC V.3, VI.2, VI.3, VI.4, VI.12	R 336.1213(2)
4. NO_X	349.70 tpy	12-month rolling time period as determined at the end of the month	EUBOILER5	SC VI.9, VI.10, VI.12	R 336.1213(2)
5. CO	310 ppmvd corrected to 3% O2	30-day rolling average	EUBOILER5	SC V.4, VI.5, VI.6, VI.12	40 CFR 63.7500, Table 1, Item 9a to 40 CFR Part 63, Subpart DDDDD
6. CO	51.9 pph	24-hour rolling operating hours basis	EUBOILER5	SC V.4, VI.5, VI.6, VI.12	R 336.1213(2)
7. CO	126.45 tpy	12-month rolling time period as determined at the end of the month	EUBOILER5	SC VI.9, VI.10, VI.12	R 336.1213(2)
8. PM	9.80E-03 lb/MMBtu	Hourly	EUBOILER5	SC V.2, VI.7, VI.8, VI.12	40 CFR 63.7500, Table 1, Item 9b to 40 CFR Part 63 Subpart DDDDD

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
9. PM (During periods of firing wood, when the heat input of wood is greater than 75% of total heat input)	0.50 lb/1,000 lb exhaust gas, corrected to 50% excess air	Hourly	EUBOILER5	SC V.2, VI.8, VI.13	R 336.1331 (Table 31)
10. PM_{10}	8.06 pph	Hourly	EUBOILER5	SC V.1, VI.10, VI.13	R 336.1213(2)
11. PM_{10}	21.10 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC V.1, VI.11, VI.13	R 336.1213(2)
12. $PM_{2.5}$	7.76 pph	Hourly	EUBOILER5	SC V.1, VI.10, VI.13	R 336.1213(2)
13. $PM_{2.5}$	19.86 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC V.1, VI.11, VI.13	R 336.1213(2)
14. SO_2	121.05 pph	Hourly	EUBOILER5	SC V.1, VI.11	R 336.1213(2)
15. SO_2	357.72 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC VI.1, VI.11, VI.13	R 336.1213(2)
16. VOC	14.77 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC V.3, VI.11	R 336.1702(a)
17. HCl	2.20E-02 lb/MMBtu	Hourly	EUBOILER5	SC V.2, VI.13	40 CFR 63.7500, Table 1, Item 9b to 40 CFR Part 63, Subpart DDDDD
18. Hg (During periods of firing primary clarifier residuals)	3.2 kg/24-hr period (7.1 lbs/24-hr period)[a]	24-hours	EUBOILER5	SC V.2, VI.13	40 CFR 61.52(b)
19. Hg	8.00E-07 lb/MMBtu heat input	Hourly	EUBOILER5	SC V.2, VI.13	40 CFR 63.7500, Table 1, Item 1b to 40 CFR Part 63, Subpart DDDDD

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
20. Visible Emissions	20%, except for one 6-minute period per hour of not more than 27% opacity	6-minute average	EUBOILER5	SC VI.7, VI.8, VI.13	40 CFR 60.43b(f), R 336.1301(1)
21. Visible Emissions	10%, or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM emissions limitation	Daily Block Average[b]	EUBOILER5	SC VI.7, VI.8, VI.13	40 CFR 63.7500, Table 4, Item 3a to 40 CFR Part 63, Subpart DDDDD

[a]In accordance with 40 CFR Part 61, Subpart E, the permittee shall comply by either 1) 40 CFR 61.52(b) emissions standard of 3.2 kilograms (kg) (7.1 pounds) of mercury per 24-hour period when firing primary clarifier residuals in proposed EUBOILER5, or 2) 40 CFR 61.54 option to sample primary clarifier residuals within 90 days of startup of EUBOILER5. The Mill is subject to a more stringent mercury emissions standard under 40 CFR Part 63, Subpart DDDDD.

[b]Daily block average – the arithmetic mean of all valid emission concentrations or parameter levels recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight), except for periods of startup and shutdown or downtime.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. TDF	1 ton/hr	24-hr block average	EUBOILER5	SC VI.9, VI.13	R 336.1213(2)

2. The permittee shall burn only wood and wood waste, primary clarifier residuals, paper recycling materials, tire derived fuel, or natural gas in EUBOILER5. **(R 336.1213(2))**

III. PROCESS/OPERATIONAL RESTRICTIONS

1. The malfunction abatement plan (MAP) shall be implemented, maintained, and shall specify, at a minimum, the following:
   a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.

Commented [PCA54]: Note: The initial MAP requirements of PTI No. 209-18 are expected to be obsolete by the time the ROP is issued and have therefore not been included.

c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If 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 60 days after such event occurs. The permittee shall also amend the MAP within 60 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 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. **(R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for EUBOILER5 shall not exceed 302 MMBTU/hr (HHV) on a fuel heat input basis. **(R 336.1213(2))**

2. The permittee shall install, maintain, and operate the baghouse for EUBOILER5 in a satisfactory manner. Satisfactory manner includes operating and maintaining the baghouse in accordance with an approved MAP for EUBOILER5 as required in SC III.1. **(R 336.1910, 40 CFR 63.7500, 40 CFR 63.7525)**

3. The permittee shall not operate EUBOILER5 firing wood and wood waste, primary clarifier residuals, paper recycling residuals, or TDF, unless the associated baghouse is installed and operating properly. The permittee shall maintain the differential pressure across the baghouse within the recommended range in accordance with an approved MAP for EUBOILER5 as required in SC III.1. **(R 336.1910)**

4. The permittee shall operate EUBOILER5 in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(R 336.1912, 40 CFR 63.7500(a)(3))**

5. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor and record NOx emissions, CO emissions, and visible emissions from EUBOILER5 on a continuous basis. Monitoring systems are to be operated and data recorded during all periods of operation including startup, shutdown, malfunction or emergency conditions, except for continuous monitor system breakdowns, repairs, calibration checks, and zero span adjustments. **(R 336.1213(3)(a) & (b), 40 CFR 60.48b(a), (b) & (c), 40 CFR 63.7525)**

V. TESTING/SAMPLING

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

1. The permittee shall verify SO_2, PM_{10}, and $PM_{2.5}$ emission rates, from EUBOILER5 at maximum routine operating conditions firing TDF, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. In addition, the permittee shall determine the total sulfur content of all fuels burned during the testing. The permittee shall complete the testing once every five years for SO_2, PM_{10}, $PM_{2.5}$, and total sulfur content of the fuels, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method
SO_2	40 CFR Part 60, Appendix A
PM_{10}	40 CFR Part 60, Appendix A
$PM_{2.5}$	40 CFR Part 60, Appendix A
Total sulfur content of all fuels burned	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District

Commented [PCA55]: Note: PCA has limited the frequency of incorporated testing requirements to once every five years. The initial testing requirements of PTI No. 209-18 are expected to be obsolete by the time the ROP is issued.

Office within 60 days following the last date of the test. **(R 336.1213(3)(a), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804)**

2. The permittee shall conduct performance testing for filterable PM, and either performance testing or fuel analyses to demonstrate initial compliance Hg and HCl emissions limits for EUBOILER5. The compliance demonstration shall be performed in accordance with 40 Subpart DDDDD requirements. Performance tests (if elected) shall be conducted according to 40 CFR 63.7510(a), where 40 CFR 63.7510(a) specifies the methods by which the performance testing, associated fuel analysis, and continuous monitoring system (CMS) performance evaluations are to be conducted and its operating limits established. Fuel analyses (if elected) shall be performed according to 40 CFR 63.7510(b), where 40 CFR 63.7510(b) specifies the methods by which the fuel analysis shall be conducted, and its associated operating limits are to be established. 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. The report must also verify that the operating limits for EUBOILER5 have not changed or provide documentation of revised operating limits established according to 40 CFR 63.7530 and Table 7 to 40 CFR Part 63, Subpart DDDDD. **(40 CFR 63.7510, 40 CFR 63.7515(1))**

3. The permittee shall verify VOC emission rates, from EUBOILER5 at maximum routine operating conditions firing TDF, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. The permittee shall complete the testing once every five years thereafter for VOC, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
VOC, as propane	Method 25A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test **(R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

4. The Permittee shall perform the Quality Assurance Procedures of the NOx CEM as set forth in Appendix F to 40 CFR Part 60 each calendar quarter. **(40 CFR 60.13(a), 40 CFR 60.48b(e))**

5. The Permittee shall conduct Performance Audits on the CO CEMS as set forth in Appendix F, Procedure 1 to 40 CFR Part 60 each calendar quarter. **(40 CFR 60.13(a), 40 CFR 63.7525(a)(2)(iii))**

6. The Permittee shall conduct Performance Audits on the COMS as set forth in Appendix F, Procedure 3 to 40 CFR Part 60 each calendar quarter. **(40 CFR 60.13(a), 40 CFR 60.48b(e), 40 CFR 63.7525(c)(5))**

7. The permittee shall conduct a performance evaluation of the CO CEMS according to 40 CFR 63.7525(a) to demonstrate initial compliance with 40 CFR Part 63, Subpart DDDDD. 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. **(40 CFR 63.7510(c))**

Commented [PCA56]: Note: PCA has limited the frequency of incorporated testing requirements to once every five years. The initial testing requirements of PTI No. 209-18 are expected to be obsolete by the time the ROP is issued

Commented [PCA57]: PCA requests clarification that the CO CEMS is also subject to quarterly QA procedures.

Commented [PCA58]: PCA requests clarification that the COMS is also subject to quarterly QA procedures.

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(40 CFR Part 60 Subpart Db, 40 CFR Part 63 Subpart DDDDD)**

2. Except as specified in SC VI.3, the permittee shall continuously monitor and record, in a satisfactory manner, the NO_X emissions and the O_2, or CO_2, emissions from EUBOILER5. The permittee shall operate each CEMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the CEMS data for determining compliance with SC 1.1, 1.2, 1.3 and 1.4. **(R 336.1213(3)(a) & (b), 40 CFR 60.48b(d))**

3. As an alternative to the compliance method specified in SC VI.2, the permittee may demonstrate compliance by

monitoring EUBOILER5 operating conditions and predicting NOx emission rates in a satisfactory manner. The permittee shall submit a plan that identifies the operating conditions to be monitored and the records to be maintained. The permittee shall operate each Predictive Emission Monitoring System (PEMS) to meet the timelines, requirements and reporting detailed in Appendix A and shall use the PEMS data for determining compliance with SC 1.1, 1.2, 1.3, and 1.4. **(R 336.1213(3)(a) & (b), 40 CFR 60.48b(d))**

4. When NO_X emission data are not obtained because of CEM or PEM breakdowns, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other AQD approved reference methods to provide emission data for a minimum of 75% of the operating hours in each operating day, in at least 22 out of 30 successive operating days. **(40 CFR 60.48b(f))**

5. The permittee shall continuously monitor and record, in a satisfactory manner, the CO emissions from EUBOILER5. The permittee shall operate the CEMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the CEMS data for determining compliance with SC I.5. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1213(3)(a) & {b), 40 CFR 63.7525)**

6. The CO emission data obtained from CEMS, for EUBOILER5, during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities may not be used in data averages and calculations used to report emissions or operating levels relative to demonstrating compliance with 40 CFR Part 63, Subpart DDDDD emission limits. **(R 336.1213(3)(a), 40 CFR 63.7535(c))**

7. The permittee shall monitor and record the opacity, from EUBOILER5 on a continuous basis in a manner and with instrumentation acceptable to the AQD. The permittee shall operate the COMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the COMS data for determining compliance with SC I.20 and I.21. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.43b(a), 40 CFR 63.7525(c))**

8. The permittee shall monitor and record the differential pressure across EUBOILER5 baghouse once per day and take appropriate action if the differential pressure is outside of the manufacturer's recommended range outlined in the MAP. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1910)**

9. The permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for each fuel fired in EUBOILER5. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.49b(d)(1))**

10. The permittee shall calculate and maintain records for EUBOILER5 of the 24-hour average PM_{10} and $PM_{2.5}$ emissions of each operating day, as described in Appendix 7, to determine compliance with the hourly emissions limit. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3)(a) & (b))**

11. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling NO_X, CO, PM_{10}, $PM_{2.5}$, VOC, and SO_2 mass emissions for EUBOILER5, as required in the emission limit table. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1213(3)(a) & (b), R 336.1702(a))**

12. The permittee shall maintain records of the following information for each day EUBOILER5 is operated:
    a. Calendar date;
    b. The average hourly NO_X, emission rate measured or predicted;
    c. The 30-day average NO_X emission rate calculated at the end of each steam generating unit operating day, from the measured hourly NO_X emission rates for the preceding 30 steam generating unit operating days;
    d. Identification of the steam generating unit operating days when the calculated 30-day average NO_X emission rate are in excess of the NO_X emission limits under 40 CFR 60.44b and SC I.1 and I.2 with the

reasons for such excess emissions as well a description of corrective actions taken;
e. Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of the corrective actions taken;
f. Identification of the time when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
g. Identification of the times when the pollutant concentration exceeded full span of the CEM/PEM;
h. Description of any modifications to the CEM/PEM that could affect the ability of the CEM/PEM to comply with the applicable Performance Specification 2, 3, or 16;
i. Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, j. Appendix F, Procedure 1.

The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.49b(g))**

13. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit for each unit in EUBOILER5. This information shall include, but shall not be limited to the following:
a. Compliance tests and any testing required under the special conditions of this permit;
b. Monitoring data;
c. Total sulfur content of all fuels burned during, as measured during testing specified in SC V.1;
d. Verification of heat input capacity;
e. Identification, type, and amount of fuel combusted on a calendar month basis;
f. All records required by 40 CFR 60.7;
g. Records of the duration of all dates and times the CEMS/PEMS are not in operation;
h. All calculations necessary to show compliance with the limits contained in this permit;
i. All records related to, or as required by, the MAP and the startup and shutdown plan.

All of the above information shall be stored in a format acceptable to the AQD District Supervisor and shall be consistent with the requirements of 40 CFR 60.7(f). **(R 336.1213(3)(a) & (b), R 336.1301, R 336.1331, R 336.1912, 40 CFR 60.7(f), 40 CFR 60.49(b), 40 CFR 63.7540)**

VII. REPORTING

1. The permittee shall report all periods when the NO_X, CO, COMS, and/or O2 monitoring system is out of control in the semi-annual report to the AQD District Supervisor. **(40 CFR 60.13(a), 40 CFR 60.48b(e), 40 CFR 63.7535(d))**

2. The permittee shall submit 40 CFR Part 63, Subpart DDDDD notifications pursuant to 40 CFR 63.7545, to the AQD District Supervisor. **(40 CFR 63.7545)**

3. The permittee shall submit 40 CFR Part 63, Subpart DDDDD reports pursuant to 40 CFR 63.7550, to the AQD District Supervisor. **(40 CFR 63.7550)**

4. The permittee shall submit excess emission reports for any NO_X excess emission which occurred during each 6-month period reporting period. The reports shall be postmarked no later than 30 days following the end of each reporting period, unless the permittee has obtained approval from the AQD to submit reports electronically in accordance with 40 CFR 60.49b(v). The permittee has the option to submit on a more frequent basis. NO_X excess emissions are defined as any calculated 30-day rolling average NO_X emission rate which exceeds the applicable emission limits in 40 CFR 60.44b and SC I.1 and I.2. **(R 336.1213(3)(c); 40 CFR 60.49b(h), (v), and (w); 40 CFR 60.7(c))**

5. The permittee shall submit reports containing the information in SC VI.10. The reports shall be postmarked no later than 30 days following the end of each 6-month reporting period, unless the permittee has obtained approval from the AQD to submit reports electronically in accordance with 40 CFR 60.49b(v). The permittee has the option to submit on a more frequent basis. **(40 CFR 60.49b(i))**

VIII.STACK/VENT RESTRICTION(S)

Commented [PCA59]: PCA requests incorporating that out-of-control periods for NO_X would also be included in a semi-annual report.

Commented [PCA60]: PCA requests incorporating that out-of-control periods for NO_X would also be included in a semi-annual report.

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)	Maximum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVSHARED1_2_5	144	199	R 336.1213(2)

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units as specified in 40 CFR Part 60, Subparts A and Db, as they apply to EUBOILER5. **(40 CFR Part 60, Subparts A and Db)**

2. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers, and Process Heaters, as specified in 40 CFR Part 63, Subparts A and DDDDD as they apply to EUBOILER5. **(40 CFR Part 63, Subparts A and DDDDD)**

3. Initial compliance with 40 CFR Part 63, Subpart DDDDD must be demonstrated within 180 days of initial startup. Initial startup is defined as the first time useful thermal energy is supplied by EUBOILER5. **(40 CFR 63.7510(1), 40 CFR 63.7555(d)(11))**

EUSOLIDFUELTRAN
EMISSION UNIT CONDITIONS

Commented [PCA61]: PCA requests incorporation of EUSOLIDFUELTRAN Emission Unit Conditions within the ROP to incorporate PTI No. 209-18, which provided for the construction of EUSOLIDFUELTRAN.

DESCRIPTION

Existing enclosed wood and wood waste conveyors and new covered conveyors will transport solid fuels of wood and wood waste, TDF, paper recycling residuals, and primary clarifier residuals. The fuel streams will be blended while traveling along the new wood and wood waste conveyor before entering Building 4 and being deposited into a fuel storage bin.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

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

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. All solid fuel handling and storage, for EUSOLIDFUELTRAN, shall be enclosed or covered. **(R 336.1910, R 324.5524)**

V. TESTING/SAMPLING

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

1. The permittee shall perform and document a non-certified visible emission observation once per week while the equipment is handling wood and wood waste, primary clarifier residuals, paper recycling residuals, or TDF. If any visible emissions are observed PCA will correct and document the problem causing visible emissions within two (2) hours, re-perform the non-certified visible emission observation and document that visible emissions are no longer present while the equipment is handling wood and wood waste, primary clarifier residuals, paper recycling residuals, or tire derived fuel. If visible emissions are still present additional actions shall be implemented to identify and correct the problem causing the visible emissions and these actions shall be documented. This process shall be repeated until the cause of visible emissions has been eliminated. **(R 336.1331(2))**

VI. MONITORING/RECORDKEEPING

1. The permittee shall keep records of the non-certified visible emissions observations that are performed, the reason for the visible emissions, and any corrective actions taken shall be kept on file in a format acceptable to the AQD District Supervisor. **(R 336.1331)**

VII. REPORTING

N/A

VIII.STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions /inches\	Minimum Height Above Ground /feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

EUWOODCHIPTRAN
EMISSION UNIT CONDITIONS

DESCRIPTION

Wood chip transport equipment, wood chip storage bins, conveyors and bucket elevators, screw conveyors and pneumatic transfer equipment.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Five cyclones

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.10 pounds per 1,000 pounds of exhaust gases	NA	EUWOODCHIPTRAN	SC V.1	**R 336.1331(1)(a)**

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUWOODCHIPTRAN unless the cyclones are installed and operating properly. **(R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

1. The permittee shall perform and document a non-certified visible emission observation once per week ~~from each fabric filter exhaust point~~ while the equipment is operating. If any visible emissions are observed PCA will correct and document the problem causing visible emissions within two (2) hours, re-perform the non-certified visible emission observation and document that visible emissions are no longer present while the equipment is operating. If visible emissions are still present additional actions shall be implemented to identify and correct the problem causing the visible emissions and these actions shall be documented. This process shall be repeated until the cause of visible emissions has been eliminated. **(R 336.1213(3)(a))**

Commented [PCA62]: PCA requests removal of this language. A fabric filter does not exist on EUWOODCHIPTRAN.

VI. MONITORING/RECORDKEEPING

1. Records of the non-certified visible emissions observations and the USEPA Method 9 observations that are performed, the reason for the visible emissions, and any corrective actions taken shall be kept on file in a format acceptable to the AQD. **(R 336.1213(3)(a))**

VII. REPORTING

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

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

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

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

EUCOPELAND+DISTANK
EMISSION UNIT CONDITIONS

DESCRIPTION

A fluidized bed reactor (Copeland Reactor) used to recover sodium carbonate from spent pulping liquor (black liquor).

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

~~Two cyclones~~, venturi scrubber, mist eliminator, ~~wet electrostatic precipitator (ESP)~~, and regenerative thermal oxidizer (RTO)

Commented [PCA63]: PCA requests removal of the reference to the two cyclones as pollution control equipment on the EUCOPELAND+DISTANK. The two cyclones cannot be bypassed and serve as part of the process, cycling pellets. The cyclones are not considered control equipment.

Commented [PCA64]: PCA requests to remove reference to the WESPs on the EUCOPELAND+DISTANK. The WESPs serve as protective equipment to prevent fouling of the RTO ceramic saddle bed, and the RTO was installed to comply with VOC destruction requirements. The WESP is not considered control equipment.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.20 pounds per 1,000 pounds of exhaust gases, corrected to 50% excess air[2]	NA	EUCOPELAND+DISTANK	SC V.1 SC VI.6	**R 336.1331(1)(a)**
2. Gaseous organic HAPs as measured by total hydrocarbons reported as carbon	≤ 2.97 pounds per ton of black liquor solids fired **OR** 90% reduction (prior to discharge of the gases to the atmosphere)[2]	NA	EUCOPELAND+DISTANK	SC V.3 SC VI.1	**40 CFR 63.862(c)(2)**

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUCOPELAND+DISTANK unless the ~~cyclones,~~ venturi scrubber, mist eliminator, and RTO are installed and operating properly. **(R 336.1910)**

Commented [PCA65]: PCA requests removal of the reference to the two cyclones as pollution control equipment on the EUCOPELAND+DISTANK. The two cyclones cannot be bypassed and serve as part of the process, cycling pellets. The cyclones are not considered control equipment.

2. The permittee shall not operate EUCOPELAND+DISTANK unless the differential pressure across the venturi scrubber is equal to or greater than 38 inches.[2] **(R 336.1910)**

3. The permittee shall not operate EUCOPELAND+DISTANK unless the average RTO temperature, (as measured in SC VI.1) is greater than or equal to the temperature established during the most recent performance test. (R 336.1910)

Commented [PCA66]: PCA requests clarification within the permit that operation of EUCOPELAND+DISTANK is dependent upon the average RTO temperature.

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install and maintain a device to measure the differential pressure across the throat of the venturi scrubber.[2] **(R 336.1910, 40 CFR 64.6(c)(ii))**

2. The permittee shall install and maintain a device to measure the RTO temperature using a temperature monitor accurate to within ±1% of the temperature being measured.[2] **(R 336.1910, 40 CFR 63.864(e)(11))**

V. TESTING/SAMPLING

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

1. The permittee shall conduct performance tests once every five years, in a manner acceptable to the AQD and without the wet electrostatic precipitator operating, for verification of the PM emission rates to demonstrate compliance with the limit in SC I.1.[2] **(R 336.1331, R 336.2001, R 336.2003, R 336.2004)**

2. The permittee shall conduct performance tests once every five years utilizing Method 25A and the Methods in 40 CFR 63.865(b)(5)(i-iv), in a manner acceptable to the AQD, for verification of the gaseous organic HAP emission rates or the percentage reduction in gaseous organic HAPs, to demonstrate compliance with the limits in SC I.2. The performance tests shall be conducted no later than 180 days after startup, where the duration of the prior EUCOPELAND+DISTANK shutdown exceeds six months. If EUCOPELAND+DISTANK is not shut down for six consecutive months during a five year period performance testing shall take place at least once every five years. **(40 CFR 63.865(d), 40 CFR 63.7(a)(3))**

3. HAP performance testing shall include establishing ~~RTO temperature operating ranges~~the minimum average RTO operating temperature. **(40 CFR 63.864(j))**

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall ~~monitor, and~~monitor and record the operating temperature of the RTO at least once every successive 15 minute period using the procedures in 40 CFR 63.8(c). The monitor must ~~compute, and~~compute and record the operating temperature at the point of incineration of effluent gases that are emitted using a temperature monitor accurate to within ± 1 percent of the temperature being measured. **(40 CFR 63.864(e)(11))**

2. The permittee shall implement corrective actions, if any ~~one hour~~one-hour average RTO temperature falls below the minimum temperature operating limit established during the most recent performance test. **(40 CFR 63.864(k)(1)(iv~~iii~~))**

3. The permittee is in violation of the limit contained in SC I.2, if any ~~three hour~~three-hour average RTO temperature falls below the minimum temperature operating limit established during the most recent performance test. **(40 CFR 63.864(k)(2)(iv))**

4. The permittee shall maintain records of any occurrence when corrective action is required under SC VI.2, and when a violation is noted under SC VI.3. **(40 CFR 63.866(b))**

5. In addition to the general records required by 40 CFR 63.10(b)(2), the permittee shall maintain records of the following information: **(40 CFR 63.866(c))**
   a. Records of the black liquor solids firing rate, in tons per day
   b. Records of parameter monitoring data required under 40 CFR 63.864 (operating temperature of the RTO) and SC VI.1, including any period when the operating parameter levels were inconsistent with the levels established during the most recent performance test, with a brief explanation of the cause of the ~~deviation~~monitoring exceedance, the time the ~~deviation~~ monitoring exceedance occurred, the time corrective action was initiated and completed, and the corrective action taken
   c. Records and documentation of supporting calculations for compliance determinations made under SC V.3
   ~~d.~~ Records of monitoring parameter operating limits ~~ranges~~ established for EUCOPELAND+DISTANK.

Commented [PCA67]: PCA requests administrative update of this condition to reflect U.S. EPA's October 11, 2017 amendments to 40 CFR Part 63, Subpart MM.

Commented [PCA68]: PCA requests clarification that the minimum average RTO operating temperature limit is determined during HAP performance testing events.

Commented [PCA69]: PCA requests update of this condition for consistency with U.S. EPA's October 11, 2017 amendments to 40 CFR Part 63, Subpart MM.

Commented [PCA70]: PCA requests update of this condition for consistency with U.S. EPA's October 11, 2017 amendments to 40 CFR Part 63, Subpart MM.

Commented [PCA71]: PCA requests update of this condition for consistency with U.S. EPA's October 11, 2017 amendments to 40 CFR Part 63, Subpart MM.

Commented [PCA72]: PCA requests update of this condition for consistency with U.S. EPA's October 11, 2017 amendments to 40 CFR Part 63, Subpart MM.

6. In the event the unit fails to meet an applicable standard including any emission limit in 40 CFR 63.862, or any CPMS operating limit in 40 CFR 63.864, record the number of failures. For each failure record the date, start time, and duration of each failure. **(40 CFR 63.866(d))**
   a. For each failure to meet an applicable emission limit in 40 CFR 63.862, record an estimate of the quantity of each regulated pollutant emitted over the emission limit and a description of the method used to estimate the emissions.
   b. For each failure to meet an operating limit in 40 CFR 63.864, maintain sufficient information to estimate the quantity of each regulated pollutant emitted over the emission limit. This information must be sufficient to provide a reliable emission estimate if requested by the Administrator.
   c. For each failure to meet an applicable emission limit in 40 CFR 63.862 or an operating limit in 40 CFR 63.864, record actions taken to minimize emissions in accordance with 40 CFR 63.860(d) and any corrective actions taken to return the unit to its normal or usual manner of operation.

Commented [PCA73]: PCA requests incorporation of this new requirement to reflect U.S. EPA's October 11, 2017 amendments to 40 CFR Part 63, Subpart MM.

7. The permittee shall keep CMS data quality assurance procedures consistent with the requirements in §63.8(d)(1) and (2) on record for the life of the affected source or until the affected source is no longer subject to the provisions of this part, to be made available for inspection, upon request, by the Administrator. If the performance evaluation plan in §63.8(d)(2) is revised, the owner or operator shall keep previous (i.e., superseded) versions of the performance evaluation plan on record to be made available for inspection, upon request, by the Administrator, for a period of 5 years after each revision to the plan. The program of corrective action should be included in the plan required under §63.8(d)(3).

Commented [PCA74]: PCA requests incorporation of this new requirement to reflect U.S. EPA's October 11, 2017 amendments to 40 CFR Part 63, Subpart MM.

~~6.~~8. At a minimum, the permittee shall monitor, and record the differential pressure across the venturi scrubber once every 15 minutes in a manner and with instrumentation acceptable to the AQD. **(40 CFR 64.6(c)(1)(iii), R 336.1213(3))**

~~7.~~9. The permittee shall use the differential pressure across the venturi scrubber as an indicator of proper functioning of the scrubber and to assure compliance with the PM limit in SC I.1. The appropriate range of differential pressure is 38 inches or greater, and an excursion for PM shall be a one hour average differential pressure across the venturi scrubber less than 38 inches. This condition does not affect compliance with R 336.1331. **(40 CFR 64.6(c)(1)(i and ii), 40 CFR 64.6(c)(2))**

10. In response to an excursion as defined in SC VI.7, the owner or operator shall restore operation of the pollutant-specific emissions unit (including the control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). **(40 CFR 64.7(d))**

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

12. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities ~~(including, as applicable, calibration checks, and required zero and span adjustments),~~ the owner or operator shall conduct all venturi scrubber differential pressure monitoring in continuous operation (or shall collect data at all required intervals) at all times that the EUCOPELAND+DISTANK is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for 40 CFR Part 64 compliance, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, in frequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**

Commented [PCA75]: PCA requests removal of this language which does not apply to the Filer City, Mill.

13. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan, any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, records of monitoring maintenance, or corrective actions. (40 CFR 64.9(b)(1))

VII. REPORTING

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

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

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

4. The Permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, which are postmarked at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. All stack testing protocols must be approved by the AQD prior to testing. **(40 CFR 63.7(b)(1), R 336.2001(3))**

5. The Permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. **(R 336.2001(4)**)

6. The Permittee shall submit two complete test reports of the test results in a format acceptable to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, which are postmarked within 60 days following the last test date. For performance testing conducted pursuant to 40 CFR Part 63, Subpart MM, test reports shall be submitted via CEDRI within 60 days after the date of completing each performance test. **(40 CFR 63.7(g), 40 CFR 63.863(c)(2) and 40 CFR 63.867(d), R 336.2001(5))**

Commented [PCA76]: PCA requests incorporation of this new requirement to reflect U.S. EPA's October 11, 2017 amendments to 40 CFR Part 63, Subpart MM.

~~7. The permittee shall submit quarterly reports of excess emissions if any RTO temperature meets any of the conditions specified in 40 CFR 63.864(k)(1) and (2). The report must contain the information specified in 40 CFR 63.10(c) as well as the number and duration of occurrences when the source met or exceeded the conditions in SC VI.2, and the number and duration of occurrences when the source met or exceeded the conditions in SC VI.3. Reporting excess emissions below the violation thresholds of SC VI.3 does not constitute a violation of the applicable standard. When no exceedances of parameters have occurred, the permittee shall submit a semiannual report stating that no excess emissions occurred during the reporting period. **(40 CFR 63.867(c))**~~

7. The Permittee shall submit semiannual excess emissions and/or summary reports as required by 40 CFR Part 63, Subpart MM (40 CFR 63.867(c)). Semiannual reports shall be submitted within 30 days following the completion of the semiannual reporting periods ending June 30 and December 31. Once the reporting form for 40 CFR Part 63, Subpart MM semiannual reports has been available in CEDRI for one year, the permittee must submit these reports through CEDRI. Until that time, reports may be submitted to the Administrator at the appropriate address listed in 40 CFR 63.13.
   a. If the total duration of excess emissions or process control system parameter exceedances for the reporting period is less than 1 percent of the total reporting period operating time, and CMS downtime is less than 5 percent of the total reporting period operating time, only the summary report is required to be submitted. This report will be titled "Summary Report – Gaseous and Opacity Excess Emissions and Continuous Monitoring System Performance" and must contain the information specified in 40 CFR 63.867(c)(1)(i)-(x). **(40 CFR 63.867(c)(1))**

b. If measured parameters meet any of the conditions specified in 40 CFR 63.864(k)(1) or (2), the owner or operator of the affected source must submit a semiannual report describing the excess emissions that occurred. If the total duration of monitoring exceedances for the reporting period is 1 percent or greater of the total reporting period operating time, or the total CMS downtime for the reporting period is 5 percent or greater of the total reporting period operating time, or any violations according to 40 CFR 63.864(k)(2) occurred, information from both the summary report and the excess emissions and continuous monitoring system performance report must be submitted. This report will be titled "Excess Emissions and Continuous Monitoring System Performance Report" and must contain the information specified in 40 CFR 63.867(c)(1)(i) through (x), in addition to the information required 40 CFR 63.10(c)(5) through (14), as specified in 40 CFR 63.867(c)(3)(i) through (vi). **(40 CFR 63.867(c)(3))**

c. If a source fails to meet an applicable standard, including any emission limit in 40 CFR 63.862 or any CPMS operating limit in 40 CFR 63.864, report such events in the semiannual excess emissions report. Report the number of failures to meet an applicable standard. For each instance, report the date, time, and duration of each failure. For each failure, the report must include a list of the affected sources or equipment (e.g., RTO, temperature monitor) For any failure to meet an emission limit under 40 CFR 63.862, provide an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions. **(40 CFR 63.867(c)(4)**

Commented [PCA77]: PCA requests to update this condition to reflect U.S. EPA's October 11, 2017 amendments to 40 CFR Part 63, Subpart MM.

8. Within 15 days after startup where the duration of the prior EUCOPELAND+DISTANK shutdown exceeds six months the permittee shall notify the AQD District Supervisor, in writing, of the startup date. **(R 336.1213(3))**

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

10. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SV102	87[2]	140[2]	~~R 336.1331~~R 336.1213(2)

IX. OTHER REQUIREMENT(S)

~~1. The permittee shall develop a written Startup, Shutdown, and Malfunction Plan as described in 40 CFR 63.6(e)(3) that contains specific procedures for operating the source and maintaining the source during periods of startups, shutdowns, and malfunctions, and a program of corrective action for malfunctioning process and control systems used to comply with the standards. In addition to the information required in 40 CFR 63.6(e), the plan must include the requirements listed below. **(40 CFR 63.866(a))**~~

~~a. Procedures for responding to any process parameter level that is inconsistent with the level(s) established under Section 63.864(j), including the following: **(40 CFR 63.866(a)(1))**~~

~~i. Procedures to determine and record the cause of an operating parameter exceedance and the time the exceedance began and ended; and~~

~~ii. Corrective actions to be taken in the event of an operating parameter exceedance, including procedures for recording the actions taken to correct the exceedance.~~

~~b. The startup, shutdown, and malfunction plan also must include the following schedules: **(40 CFR 63.866(a)(2))**~~

~~i. A maintenance schedule for each control technique that is consistent with, but not limited to, the manufacturer's instructions and recommendations for routine and long-term maintenance; and~~

~~ii. An inspection schedule for each continuous monitoring system required under Section 63.864 to ensure, at least once in each 24-hour period, that each continuous monitoring system is properly functioning.~~

Commented [PCA78]: PCA requests deletion of this condition to reflect U.S. EPA's October 11, 2017 amendments to 40 CFR Part 63, Subpart MM.

~~2.~~ 1. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD; and if necessary, submit a proposed modification of the CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

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

3. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills, 40 CFR Part 63, Subparts A and MM. **(40 CFR Part 63, Subparts A and MM)**

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).

EUWASHERS
EMISSION UNIT CONDITIONS

Commented [PCA79]: PCA requests update of the following EUWASHERS Emission Unit Conditions to incorporate the conditions of PTI No. 209-18, which permits the Mill to utilize EUBOILER4A as a back-up LVHC incineration device.

DESCRIPTION

Two vacuum drum rotary pulp washers operated in series.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

LVHC Collection System~~,~~; EUBOILER1, EUBOILER2, or EUBOILER4A

Commented [PCA80]: PCA requests clarification that only one incineration point is used at any given time.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. VOC (Normal Operation)[a]	0.37 ~~pounds per hour~~[2,a] pph	~~NA~~Hourly	EUWASHERS	SC VI.1	~~R 336.1205(1),~~ ~~R 336.1227~~R 336.1213(2)
2. VOC (Abnormal Operation)[b]	18.57 ~~pounds per hour~~[2] pph[b]	Hourly~~NA~~	EUWASHERS	SC VI.1	~~R 336.1205(1),~~ ~~R 336.1227~~R 336.1213(2)
3. VOC	2.42 tpy~~tons~~[2]	12 month rolling time period as determined at the end of the month	EUWASHERS	SC VI.1	~~R 336.1205(1),~~ ~~R 336.1227~~R 336.1213(2)

~~[a] This limit is applicable during normal operation of the washers. Normal operation is defined as those times when the emissions from EUWASHERS are collected by the LVHC Collection System and combusted in EUBOILER1 or EUBOILER2~~

~~[b] This limit is applicable during abnormal operation of the washers. Abnormal operation is defined as those times when the emissions from EUWASHERS are not collected by the LVHC Collection System or when the LVHC is operating and the collected gases are not combusted in EUBOILER 1 or EUBOILER2.~~

[a] Normal operation is defined as those times when the emissions from EUWASHERS are collected by the LVHC Collection System and combusted in EUBOILER1, EUBOILER2, or EUBOILER4A.

[b] Abnormal operation is defined as those times when the emissions from EUWASHERS are not collected by the LVHC Collection System or when the LVHC is operating and the collected gases are not combusted in EUBOILER1, EUBOILER2, or EUBOILER4A.

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install and maintain EUWASHERS with a LVHC Collection System which collects emissions from EUWASHERS and combusts the collected emissions in EUBOILER1, ~~or~~ EUBOILER 2, or EUBOILER4A.[2] ~~(R 336.1205(1))~~ (R 336.1213(2))

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall keep, in a manner satisfactory to the AQD, records of the following information:[2] ~~**(R 336.1205(1), R 336.1213(3)(b))**~~
   a. Amount of oven dried pulp processed by EUWASHERS on a monthly basis;
   b. Operating hours of EUWASHERS on a monthly basis;
   c. Total time that the LVHC Collection System was unavailable or was being bypassed during operation of EUWASHERS on a monthly basis;
   d. Annual VOC emissions, based upon a ~~12 month~~12-month rolling time period, as determined at the end of each calendar month using the calculations in Appendix 7;

Hourly VOC emissions with and without the LVHC collection system operating, calculated on a monthly basis, using the calculations in Appendix 7.

See Appendix 7

VII. REPORTING

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

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

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

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

EUSANDSILO
EMISSION UNIT CONDITIONS

Commented [PCA81]: PCA requests incorporation of new EUSANDSILO Emission Unit Conditions for consistency with PTI No. 209-18, which permits the construction of EUSANDSILO.

DESCRIPTION

Sand silo used to store sand used in Boiler No. 5 (EUBOILER5).

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Baghouse to control particulate emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.10 lb/1,000 lb exhaust gases	Hourly	EUSANDSILO	SC V.1	R 336.1331(1)(a)

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUSANDSILO unless the baghouse is installed and operating properly.

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The Permittee shall perform and document a non-certified visible emission observation while EUSANDSILO is being filled. If any visible emissions are observed the permittee will correct and document the problem causing visible emissions within two (2) hours, re-perform the non-certified visible emission observation and document that visible emissions are no longer present while EUSANDSILO is being filled. If visible emissions are still present additional actions shall be implemented to identify and correct the problem causing the visible emissions and these actions shall be documented. This process shall be repeated until the cause of visible emissions has been eliminated. **(R 336.1910)**

VI. MONITORING/RECORDKEEPING

1. Records of the non-certified visible emissions observations that are performed, the reason for the visible emissions, and any corrective actions taken shall be kept on file in a format acceptable to the AQD. **(R 336.1213(3)(a) & (b))**

VII. REPORTING

N/A

VIII.STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

EUSODA-ASH
EMISSION UNIT CONDITIONS

DESCRIPTION

Soda Ash Silo.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Baghouse

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.10 pound per 1,000 pounds of exhaust gases	NA	EUSODA-ASH	SC III.1 SC VI.1	**R 336.1331(1)(a)**

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall maintain the differential pressure across the baghouse within the normal operating ranges identified in the Source-Wide MAP. **(R 336.1910, R 336.1911)**

2. The permittee shall not operate EUSODA-ASH unless the baghouse is installed and operating properly. **(R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install and maintain a device to measure the differential pressure across the baghouse. **(R 336.1910)**

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall utilize baghouse differential pressure as an indicator of the proper functioning of the baghouse. The appropriate range of differential pressure defining proper function of the baghouse shall be specified in the Source-Wide MAP. The differential pressure across the baghouse shall be continuously monitored and recorded once per day. **(R 336.1213(3)(b), 40 CFR 64.6(c)(1)(i)(ii) and (iii))**

2. The permittee shall properly maintain the differential pressure monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b), R 336.1911)**

3. The permittee shall use the differential pressure across the baghouse to assure compliance with the PM limit in SC I.1. An excursion for PM shall be a differential pressure outside of the normal operating range specified in the Source-Wide MAP. **(40 CFR 64.6(c)(2))**

4. In response to an excursion as defined in SC VI.3, the permittee shall restore operation of EUSODA-ASH to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, Shutdown, or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). **(40 CFR 64.7(d))**

5. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all baghouse differential pressure monitoring in continuous operation (or shall collect data at all required intervals) at all times that the EUSODA-ASH is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for 40 CFR Part 64 compliance, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, in frequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**

6. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan, any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, records of monitoring maintenance, or corrective actions. **(40 CFR 64.9(b)(1))**

VII. REPORTING

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

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

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

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

5. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD, and if necessary, submit a proposed modification of the CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

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

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

EUFLYASH
EMISSION UNIT CONDITIONS

DESCRIPTION

Fly Ash Silo

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Baghouse

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.10 pound per 1,000 pounds of exhaust gases	NA	EUFLYASH	SC III.1 SC VI.1	**R 336.1331(1)(a)**

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall maintain the differential pressure across the baghouse within the normal operating ranges identified in the Source-Wide MAP. **(R 336.1910, R 336.1911)**

2. The permittee shall not operate EUFLYASH unless the baghouse is installed and operating properly. **(R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install and maintain a device to measure the differential pressure across the baghouse. **(R 336.1910)**

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall utilize baghouse differential pressure as an indicator of the proper functioning of the baghouse. The appropriate range of differential pressure defining proper function of the baghouse shall be specified in the Source-Wide MAP. The differential pressure across the baghouse shall be continuously monitored and recorded once per day. **(R 336.1213(3)(b), 40 CFR 64.6(c)(1)(i-iii))**

2. The permittee shall properly maintain the differential pressure monitoring system, including keeping necessary parts for routine repair of the monitoring equipment. **(40 CFR 64.7(b), R 336.1911)**

3. The permittee shall use the differential pressure across the baghouse to assure compliance with the PM limit in Condition I.1. An excursion for PM shall be a differential pressure outside the normal operating range specified in the Source-Wide MAP. **(40 CFR 64.6(c)(2))**

4. In response to an excursion as defined in SC VI.3, the permittee shall restore operation of EUFLYASH to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions. The response shall include minimizing the period of any startup, shutdown, or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). **(40 CFR 64.7(d))**

5. Except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the owner or operator shall conduct all baghouse differential pressure monitoring in continuous operation (or shall collect data at all required intervals) at all times that the EUFLYASH is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for 40 CFR Part 64, compliance, including data averages and calculations or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, in frequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions. **(40 CFR 64.6(c)(3), 40 CFR 64.7(c))**

6. The permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality improvement plan, any activities undertaken to implement a quality improvement plan, and other information such as data used to document the adequacy of monitoring, records of monitoring maintenance, or corrective actions. **(40 CFR 64.9(b)(1))**

VII. REPORTING

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

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

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

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

5. Each semiannual report of monitoring and deviations shall include summary information on monitor downtime. If there were no periods of monitor downtime in the reporting period, then this report shall include a statement that there were no periods of monitor downtime. **(40 CFR 64.9(a)(2)(ii))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. If the permittee identifies a failure to achieve compliance with an emission limitation or standard for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the permittee shall promptly notify the AQD and if necessary, submit a proposed modification of the CAM Plan to address the necessary monitoring changes. Such a modification may include but is not limited to reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters. **(40 CFR 64.7(e))**

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

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

EUPELLET
EMISSION UNIT CONDITIONS

DESCRIPTION

Sodium Carbonate Pellet Storage Silo.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Baghouse

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.10 pound per 1,000 pounds of exhaust gases	NA	EUPELLET	SC III.2 SC VI.1	**R 336.1331(1)(a)**

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUPELLET unless the baghouse is installed and operating properly. **(R 336.1910)**

2. The permittee shall maintain the differential pressure across the baghouse within the normal operating ranges identified in the Source-Wide MAP. **(R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip and maintain a device to monitor the differential pressure across the baghouse. **(R 336.1910)**

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

1. The differential pressure across the baghouse shall be continuously monitored and recorded once per day. **(R 336.1213(3)(b))**

VII. REPORTING

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

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

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

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

D. FLEXIBLE GROUP CONDITIONS

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

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

FLEXIBLE GROUP SUMMARY TABLE

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

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGMACT_SUBPART_S	For semi-chemical pulping processes using wood, the affected sources are the digester system and the evaporator system, as defined in 40 CFR Part 63, Subpart S.	EUEVAPFC EUEVAPLTV EUDIGESTEORS
FGBIOGASSYSTEM	Biogas generation system which produces fuel for the three boilers. In the event of boiler upsets or malfunctions, the gas is directed to EUBIOGASFLARE for destruction.	EUBOILER1 EUBOILER2 EUBOILER4A EUBIOGASSYSTEM, EUBIOGASFLARE
FGRULE290	Any emission unit that emits air contaminants and is exempt from the requirements of Rule 201 pursuant to Rules 278 and 290.	EUPULPTANKS EURECYCLE200 EUBLTANKS EURECYCLE300 EUWHITEWATER EUPROCESSCHEM
FGRICE1	Existing emergency stationary compression ignition RICE with a horsepower rating of less than 500 hp.	EURICE12994 EURICE12974
FGPAPERMACH	Grandfathered paper machines 1 – 3 all installed prior to 1967, no permit to install or NSR requirements.	EUPAPERMACH1 EUPAPERMACH2 EUPAPERMACH3

FGMACT SUBPART S
FLEXIBLE GROUP CONDITIONS

Commented [PCA82]: PCA requests update of the following FGMACT Subpart S Flexible Group Conditions to incorporate the conditions of PTI No. 209-18, which permits the Mill to utilize EUBOILER4A as a back-up LVHC incineration device.

DESCRIPTION

For semi-chemical pulping processes using wood, the affected source is the total of all HAP emission points in the pulping system. Pulping system means all process equipment, beginning with the digester system, and up to and including the last piece of pulp conditioning equipment.

Emission Units: EUDIGESTERS, EUEVAPLTV, EUEVAPFC

POLLUTION CONTROL EQUIPMENT

EUBOILER1, EUBOILER2, EUBOILER4A, LVHC collection system

I. EMISSION LIMIT(S)

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

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. All regulated HAP-emitting sources associated with EUEVAPFC, EUEVAPLTV, and EUDIGESTERS shall be enclosed and vented into a closed-vent system and routed to EUBOILER1 and/or EUBOILER2 and/or EUBOILER4A. **(40 CFR 63.443(c), 40 CFR 63.443(d)(4))**

2. Each component of the closed-vent system specified in S.C. III.1 that is operated at positive pressure and located prior to a control device shall be operated with no detectable leaks as indicated by an instrument reading of less than 500 ppmv above background, as measured by the procedures in S.C.V.1. **(40 CFR 63.450(c))**

3. Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the control device requirements in S.C. III.1 shall comply with the following requirement: **(40 CFR 63.450(d))**
   a. On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that is capable of taking periodic readings as frequently as specified in 40 CFR 63.454(e). The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or
   b. For bypass line valves that are not computer controlled, the permittee shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that the valve or closure mechanism cannot be opened without breaking the seal.

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. For all regulated HAP-emitting sources associated with EUEVAPFC, EUEVAPLTV, and ~~EUDIGESTORS~~EUDIGESTERS, the total HAP emissions from each LVHC system shall be controlled by introducing the HAP emission stream into the flame zone of EUBOILER1 and/or EUBOILER2 and/or EUBOILER4A. **(40 CFR 63.443(b)(1), 40 CFR 63.443(d)(4)(i))**

V. TESTING/SAMPLING

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

1. For positive pressure closed-vent systems or portions of closed vent systems, demonstrate no detectable leaks as specified in S.C. III.2, ~~-~~measured annually by the procedures in 40 CFR 63.457(d) as stated below: **(40 CFR 63.453(k)(3))**
   a. Method 21, of part 60, appendix A-7; and
   b. The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used:
      i. Zero air (less than 10 parts per million by volume of hydrocarbon in air); and
      ii. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.

VI. MONITORING/RECORDKEEPING

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

1. Each enclosure and closed-vent system used to comply with 40 CFR 63.450(a) shall comply with the following requirements: ~~-~~**(40 CFR 63.453(k), R 336.1213(3)(b))**
   a. For each enclosure opening, a visual inspection of the closure mechanism specified in 40 CFR 63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.
   b. Each closed-vent system required by 40 CFR 63.450(a) shall be visually inspected ~~every 30 days~~monthly (as long as at least 21 days elapse between inspections) and at other times requested by the AQD. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects.
   c. For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks as specified in 40 CFR 63.450(c) measured ~~initially and~~ annually by the procedures in 40 CFR 63.457(d).
   d. The valve or closure mechanism specified in 40 CFR 63.450(d)(2) shall be inspected at least ~~once every 30 days~~monthly (as long as at least 21 days elapse between inspections) to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.

2. If an inspection required by SC VI.1(a-c) identifies visible defects in ductwork, piping, enclosures or connections to covers required by 40 CFR 63.450, or if an instrument reading of 500 ppm_v or greater above background is measured by SC V.1, or if enclosure openings are not maintained at negative pressure as determined by SC V.2, then the following corrective actions shall be taken as soon as practicable. **(40 CFR 63.453(k)(6), R 336.1213(3)(a))**
   a. A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
   b. The repair or corrective action shall be completed no later than 15 days after the problem is identified. Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without a process unit shutdown or if the owner or operator determines that the emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

3. For each applicable enclosure opening, closed-vent system, and closed collection system, the permittee shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of applicable affected equipment. **(40 CFR 63.454(b), R 336.1213(3)(a))**

Commented [PCA83]: PCA requests administrative update of this text.

Commented [PCA84]: PCA requests update of this condition to reflect U.S> EPA's January 10, 2002 Applicability Determination (67 FR 1295, Abstract 010028)

https://www.federalregister.gov/articles/2002/01/10/02-624/recent-posting-to-the-applicability-determination-index-adi-database-system-of-agency-applicability

Commented [PCA85]: PCA requests removal of this completed obsolete requirement.

Commented [PCA86]: PCA requests update of this condition to reflect U.S> EPA's January 10, 2002 Applicability Determination (67 FR 1295, Abstract 010028)

4. For each inspection performed pursuant to Condition VI.1(a-c), the permittee shall record the following information: **(40 CFR 63.454(b), R 336.1213(3)(a))**
   a. Date of inspection;
   b. The equipment type and identification;
   c. Results of negative pressure tests for enclosures;
   d. Results of leak detection tests;
   e. The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);
   f. The date the defect or leak was detected and the date of each attempt to repair the defect or leak;
   g. Repair methods applied in each attempt to repair the defect or leak;
   h. The reason for the delay if the defect or leak was not repaired within 15 days after discovery;
   i. The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;
   j. The date of successful repair of the defect or leak;
   k. The position and duration of opening of bypass line valves and the condition of any valve seals;
   l. The duration of the use of bypass valves on ~~computer controlled~~computer-controlled valves.

Commented [PCA87]: PCA requests administrative update of this language.

5. The permittee shall set the flow indicator on each bypass line specified in 40 CFR 63.450(d)(1) to provide a record of the presence of gas flow in the bypass line at least once every 15 minutes. **(40 CFR 63.454(e), R 336.1213(3)(a))**

6. The following records of malfunctions must be maintained:
   a. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment;
   b. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. **(40 CFR 63.454(g))**

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. Semiannual reporting of malfunctions that occurred during the reporting period, 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. The report must include the number, duration and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken to minimize emissions, including actions taken to correct the malfunction. **(40 CFR 63.455(g), 40 CFR 63.10(d)(5)(i))**

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable portions of the National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry in 40 CFR Part 63, Subpart S, as they apply. **(40 CFR Part 63, Subpart S)**

Commented [PCA88]: PCA requests administrative update of this permit language for clarity.

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).

FGBIOGASSYSTEM
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Biogas generation system which produces fuel for the three boilers. In the event of boiler upsets or malfunctions, the gas is directed to EUBIOGASFLARE for destruction.

Emission Unit: EUBOILER1, EUBOILER2, EUBOILER4A, EUBIOGASSYSTEM, EUBIOGASFLARE

POLLUTION CONTROL EQUIPMENT

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. SO_2	8.45 lb/hr[2a]	Test Protocol[b]	FGBIOGASSYSTEM	SC V.2	**R 336.1205(1)(a), R 336.1205(3)**
2. H_2S	0.0449 lb/hr[2c]	Test Protocol[b]	FGBIOGASSYSTEM	SC V.2	**R 336.1224, R 336.1225**

[a] Calculated by assuming complete combustion of H_2S to SO_2
[b] Test Protocol shall specify averaging time.
[c] Calculated by assuming 99% destruction of H_2S during combustion

II. MATERIAL LIMIT(S)

Material	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. Biogas	50,400,000 cubic feet[2]	12 month rolling time period	EUBIOGASFLARE	SC VI.6	**40 CFR 52.21(r)(6)(iii)**
2. H_2S	4.49 lb/hr before combustion in a boiler or flare[2]	Test Protocol*	EUBIOGASFLARE	SC V.2	**R 336.1205(1)(a), R 336.1205(3), R 336.1224, R 336.1225**

* Test Protocol shall specify averaging time.

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FGBIOGASSYSTEM unless EUBIOGASFLARE is installed and operating properly.[2] **(R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall vent emissions from the recycle/rapid mix tank to the biogas collection system.[2] **(R 336.1910)**

2. The permittee shall install and maintain a device for measuring and recording the amount of biogas combusted in EUBIOGASFLARE.[2] **(40 CFR 52.21(r)(6)(iii))**

V. TESTING/SAMPLING

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

1. The permittee shall conduct performance tests, in a manner acceptable to the AQD, for verification of the PM, CO, and VOC emission rates from EUBOILER4A when firing only biogas. The performance tests shall be conducted every five years when biogas has been fired alone for more than 60 consecutive days.[2] **(40 CFR 52.21(r)(6)(iii), R 336.1213(3)(a))**

2. The permittee shall annually verify the rate of H_2S in pounds per hour supplied to the boilers and flare from FGBIOGASSYSTEM by testing at owner's expense, in accordance with Department requirements. This test shall also be used to determine emission rates of H_2S and SO_2 in pounds per hour.[2] No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing. Verification of SO_2 emissions and H_2S emission rates includes the submittal of a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(~~R 336.1205, R 336.1224, R 336.1225, R 336.1299,~~ R 336.1213(2) & (3), R 336.2001, R 336.2003, R 336.2004~~, R 336.2803, R 336.2804, 40 CFR 52.21(c) and (d)~~)**

Commented [PCA89]: PCA requests modification of this condition to reflect current EGLE rule language.

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 measure and record the heat content, in BTU per cubic foot of biogas, on an annual basis.[2] **(~~40 CFR 52.21(r)(6)(iii),~~ R 336.1213(3)(b))**

Commented [PCA90]: PCA requests removal of the obsolete reference to 40 CFR §52.21 from this permit condition, as all obligations to this rule have been fulfilled.

2. ~~The permittee shall calculate and keep monthly records of the SO_2, NO_x, CO, VOC, PM, PM-10, lead, hydrogen fluoride, and sulfuric acid mist emissions from EUBOILER4A in tons per calendar year basis. The permittee shall use mass balance and emission factors derived from CEMS data and the most recent EUBOILER4A stack test data to calculate SO_2, NO_x, CO, VOC, PM emissions. The permittee shall use AQD approved emission factors to calculate PM-10, lead, hydrogen fluoride, and sulfuric acid mist emissions. Calculations and recording shall begin in January, 2009 and shall continue for 10 years. In the event that it becomes necessary to modify an emission factor, the permittee shall obtain the written approval of the District Supervisor prior to implementing the change.[2] **(40 CFR 52.21(r)(6)(iii), R 336.1213(3)(b))**~~

Commented [PCA91]: PCA requests to remove this obsolete condition regarding recordkeeping requirements that expired in January of 2019.

3. The permittee shall maintain a record of the following for ~~EUBOILER1, EUBOILER2, EUBOILER4A~~, and EUBIOGASFLARE:[2] **(~~40 CFR 52.21(r)(6)(iii),~~ R 336.1213(3)(b))**
   a. Emission unit identification;
   b. The type(s) of fuel used in each emission unit;
   c. The quantity of fuel used in each emission unit on a calendar month basis;
   d. The emission factor used to calculate emissions;
   e. The source of the emission factor;
   f. The heat content of each fuel used.

Commented [PCA92]: PCA requests removal of these boiler references because the requirements of SC VI.3 are redundant and also obsolete now that the Mill is no longer required to perform PSD emissions tracking for the historic Biogas Project.

Commented [PCA93]: PCA requests removal of the obsolete reference to 40 CFR §52.21 from this permit condition, as all obligations to this rule have been fulfilled.

4. The permittee shall measure and record, in cubic feet, the amount of biogas combusted in EUBIOGASFLARE on a monthly basis. The permittee shall use the monthly records to calculate the amount of gas combusted in EUBIOGASFLARE on a 12 month rolling time period.[2] **(R 336.1213(3)(b), ~~40 CFR 52.21(r)(6)(iii)~~)**

Commented [PCA94]: PCA requests removal of the obsolete reference to 40 CFR §52.21 from this permit condition, as all obligations to this rule have been fulfilled.

VII. REPORTING

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

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

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

4. The Permittee shall submit two complete test protocols to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, which are postmarked at least 30 days prior to the anticipated test date. The protocol shall describe the test method(s) and the maximum routine operating conditions, including targets for key operational parameters associated with air pollution control equipment to be monitored and recorded during testing. All stack testing protocols must be approved by the AQD prior to testing. **(R 336.2001(3))**

5. The Permittee shall notify the AQD Technical Programs Unit Supervisor and the District Supervisor no less than 7 days prior to the anticipated test date. **(R 336.2001(4)**)

6. The Permittee shall submit two complete test reports of the test results in a format acceptable to the AQD, one to the Technical Programs Unit Supervisor and one to the District Supervisor, which are postmarked within 60 days following the last test date. **(R 336.2001(5))**

5. ~~Effective until January 2019, the permittee shall submit records of SO2, NOx, CO, VOC, PM, PM-10, lead, hydrogen fluoride, and sulfuric acid mist emissions from EUBOILER4A in tons per calendar year to both the AQD Permit Section Supervisor and the AQD District Supervisor within 60 days following the end of each calendar year, if both of the following apply:~~

   a. ~~The calendar year actual emissions of SO2, NOx, CO, VOC, PM, PM-10, lead, hydrogen fluoride, or sulfuric acid mist exceed the baseline actual emissions (BAE) by a significant amount, and~~

   b. ~~The calendar year actual emissions differ from the pre-construction projection. The pre-construction projection is the sum of the projected actual emissions from each existing emission unit included in the Actual-to-Projected-Actual Applicability Test used for EUBOILER4A. A summary of baseline actual emissions and pre-construction projection can be found in the following table:~~

~~Pollutant~~	~~Baseline emissions (tons per year)~~	~~Projected emissions (tons per year)~~
~~SO2~~	~~1,940.46~~	~~1,980.21~~
~~NOx~~	~~589.55~~	~~679.83~~
~~CO~~	~~32.52~~	~~33.13~~
~~VOC~~	~~3.78~~	~~6.27~~
~~PM~~	~~8.40~~	~~12.23~~
~~PM-10~~	~~10.05~~	~~13.90~~
~~Lead~~	~~0.0230~~	~~0.237~~
~~Hydrogen fluoride~~	~~8.22~~	~~8.37~~
~~Sulfuric acid mist~~	~~21.02~~	~~21.42~~

~~The report shall contain the name, address, and telephone number of the facility; the annual emissions as calculated pursuant to EUBOILER4A, SC VI.2; and any other information the owner or operator wishes to include (i.e., an explanation why emissions differ from the pre-construction projection).2~~ **~~(R 336.2818, 40 CFR Part 52.21(r)(6)(iii))~~**

Commented [PCA95]: PCA requests removal of this permit condition, as the obligation in this permit condition has been fulfilled.

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBIOGASFLARE	144[2]	50[2]	R 336.1213(2) ~~40 CFR 52.21(r)(6)(iii)~~
2. SVBOILER4A	69[2]	116[2]	R 336.1213(2)
3. SVSHARED1_2_5~~SV917~~	144144[2]	199193[2]	R 336.1213(2)~~R 336.1213(2)~~

Commented [PCA96]: PCA requests removal of the obsolete reference to 40 CFR §52.21, as the obligation of this rule has been fulfilled.

Commented [PCA97]: PCA requests incorporation of the recently installed shared stack details.

IX. OTHER REQUIREMENT(S)

NA

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

FG-RULE 290
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: EUPULPTANKS, EURECYCLE200, EUBLTANKS, EURECYCLE300, EUWHITEWATER, and EUPROCESSCHEM

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

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

2. 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(2)(a)(ii))**
   a. For ~~noncarcinogenic~~ toxic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials which are listed in Rule 122(f) as not contributing appreciably to the formation of ozone, with initial threshold screening levels greater than or equal to 0.04 micrograms per cubic meter and less than 2.0 micrograms per cubic meter, the total uncontrolled or controlled emissions shall not exceed ~~1,000 or 500~~20 or 10 pounds per month, respectively. **(R 336.1290(2)(a)(ii)(A))**
   b. For toxic air contaminants with initial risk screening levels greater than or equal to 0.04 micrograms per cubic meter, the total uncontrolled or controlled emissions shall not exceed 20 or 10 pounds per month, respectively.~~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(2)(a)(ii)(B))**
   c. The emission unit shall not emit any toxic air contaminants, excluding noncarcinogenic volatile organic compounds and noncarcinogenic materials that are listed in Rule 112(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 micrograms per cubic meter.~~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(2)(a)(ii)(C))**
   d. For total mercury, the uncontrolled or controlled emissions shall not exceed 0,01 pounds per month.~~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(2)(a)(ii)(D))**
   e. For lead, the uncontrolled or controlled emissions shall not exceed 16.7 pounds per month. **(R 336.1290(a)(2)(ii)(E)**

3. Each emission unit that emits only ~~noncarcinogenic~~ particulate air contaminants without initial risk screening levels 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(2)(a)(iii))**

Commented [PCA98]: PCA requests update of this permit condition to reflect the current rule and the correct regulatory citation.

Commented [PCA99]: PCA requests update of this permit condition to reflect the current rule and the correct regulatory citations.

a. The particulate emissions are controlled by an appropriately designed and operated fabric filter collector or an equivalent control system ~~which~~ that 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~~ that does not have an exhaust gas flow rate more than 30,000 actual cubic feet per minute. **(R 336.1290(2)(a)(iii)(A))**
b. The visible emissions from the emission unit are not more than 5% opacity in accordance with the methods contained in Rule 303. **(R 336.1290(2)(a)(iii)(B))**
c. The initial threshold screening level for each particulate toxic air contaminant, excluding nuisance particulate, is more than 2.0 micrograms per cubic meter. **(R 336.1290(2)(a)(iii)(C))**

4. If control equipment is utilized, it shall be installed, maintained, and operated in accordance with the manufacturer's specifications. For an air cleaning device for particulate matter, the permittee may develop a plan that provides to the extent practicable for the maintenance and operation of the equipment in the manner consistent with good air pollution control practices for minimizing emissions. It shall also be equipped to monitor appropriate indicators of performance. **(R 336.1290(2)(b))**

Commented [PCA100]: PCA requests update of this permit condition to reflect the current rule and the correct regulatory citations.

Commented [PCA101]: PCA requests inclusion of this permit condition to reflect the current rule.

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The 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

NA

VI. MONITORING/RECORDKEEPING

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

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

2. The permittee shall maintain an inventory of each emission unit that is exempt pursuant to Rule 290. This inventory shall include the following information. **(R 336.1213(3))**
   a. The permittee shall maintain a written description of each emission unit as it is maintained and operated throughout the life of the emission unit. **(R 336.1290(2)(~~b~~c), R 336.1213(3))**

Commented [PCA102]: PCA requests update of this permit condition to reflect the current rule and the correct regulatory citation.

Commented [PCA103]: PCA requests update of this permit condition to reflect the current rule and the correct regulatory citation.

b. For each emission unit that emits noncarcinogenic particulate air contaminants pursuant to Rule 290(a)(iii), the permittee shall maintain a written description of the control device, including the designed control efficiency and the designed exhaust gas flow rate. **(R 336.1213(3))**

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

See Appendix 4

VII. REPORTING

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

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

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FGRICE1
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

One emergency (Caterpillar) - compression-ignition, 225 horsepower stationary reciprocating internal combustion engine and one fire pump (Cummins) – Emergency, compression-ignition, 208 horsepower stationary reciprocating internal combustion engine.

Emission Units: EURICE 12994, EURICE 12974

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

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

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee may operate EURICE 12994 and/or EURICE 12974 as necessary during emergencies with no time limit. **(40 CFR 6640(f)(1))**

2. The permittee shall minimize the time spent at idle and minimize startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes. **(40 CFR 63.6602, 40 CFR 63.6625(h), and 40 CFR, Part 63, Subpart ZZZZ, Table 2c, Item 1)**

3. The permittee must comply with the following operational requirements:
   a. Change oil and filter every 500 hours of operation or annually, whichever comes first, except as allowed in Condition III.4;
   b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace if necessary;
   c. Inspect all hoses and belts every 500 hours or operation or annually, whichever comes first, and replace if necessary.

   If EURICE 12994 or EURICE 12974 is being operated during an emergency and it is not possible to shut down the engine to perform the work practice standards on the schedule required the work practice standard can be delayed until the emergency is over. The work practice should be performed as soon as practicable after the emergency has ended. The permittee must report any failure to perform the work practice on the schedule required. **(40 CFR 63.6602, and 40 CFR Part 63, Subpart ZZZZ, Table 2c, Item 1)**

4. The permittee has the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Condition III.3. The oil analysis program must be performed at the same frequency specified for changing the oil in Condition III.3. The oil analysis shall test for the following limits:
   a. Total Base Number is less than 30% of the Total Base Number of the oil when new;
   b. Viscosity of the oil has changed by 20% from the viscosity of the oil when new;
   c. Percent water content (by volume) is greater than 0.5%.

   If any of the limits are exceeded, the permittee must change the oil within two days of receiving the results of the analysis. If the engine is not in operation when the results of the analysis are received, the permittee must change the oil within two days or before commencing operation, whichever is later. The analysis program must be part of the maintenance plan for EURICE 12994 and EURICE 12974. **(40 CFR 63.6625(i))**

5. The permittee must be in compliance with the emission limitations, operating limitations, and other requirements in 40 CFR Part 63, Subpart ZZZZ that apply to EURICE 12994 and EURICE 12974 at all times. **(40 CFR 63.6605(a))**

6. The permittee at all times must operate and maintain EURICE 12994 and EURICE 12974 in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the permittee to make any further efforts to reduce emissions if levels required by 40 CFR Part 63, Subpart ZZZZ have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of EURICE 12994 and EURICE 12974. **(40 CFR 63.6605(b))**

7. The permittee must operate and maintain EURICE 12994 and EURICE 12974 according to the manufacturer's emission-related written operation and maintenance instructions or develop a 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), 40 CFR Part 63, Subpart ZZZZ, Table 6, Item 9)**

8. The permittee may operate EURICE 12994 and EURICE 12974 for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the engine manufacturer or vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing is limited to 100 hours per year. **(40 CFR 63.6640(f)(2)(i))**

9. The permittee may operate EURICE 12994 and EURICE 12974 for up to 50 hours per engine per year in non-emergency situations, which are counted as part of the 100 hours of operation allowed under SC III.8. **(40 CFR 63.6640(f)(3))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall equip EURICE 12994 and EURICE 12974 each with a non-resettable hour meter. **(40 CFR 63.6625(f))**

V. TESTING/SAMPLING

NA

VI. MONITORING/RECORDKEEPING

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

1. The permittee shall keep the following records: **(40 CFR 63.6655)**
   a. A copy of each notification and report submitted to comply with 40 CFR Part 63, Subpart ZZZZ, including all documentation supporting any initial Notification or Notification of Compliance Status, according to the requirements of 40 CFR 63.10(b)(2)(xiv);
   b. Records of the occurrence and duration of each malfunction of operation;

c. Records of actions taken during period of malfunctions to minimize emissions in accordance with 40 CFR 63.6605(b), including corrective actions to restore malfunctioning equipment to is normal or usual manner of operation;
d. Records of the maintenance conducted on EURICE 12994 and EURICE 12974 in order to demonstrate that EURICE 12994 and EURICE 12974 are operated and maintained according to the respective maintenance plans;
e. Records of the hours of operation recorded through the non-resettable hour meters. The permittee shall document how many hours were spent during emergency operation (including what classified the operation as an emergency) and how many hours were spent during non-emergency operation per engine;
f. Records to demonstrate continuous compliance with the operating limitations in SC III.7.

2. The permittee shall keep records of the parameters that are analyzed as part of the oil analysis program in SC III.4, the results of the analysis, and the oil changes for the engine. **(40 CFR 63.6625(j))**

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), 40 CFR 63.6640(b), 40 CFR 63.6650(f))**

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

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

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

FGPAPERMACH
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

Grandfathered paper machines numbers 1 thru 3 all installed prior to 1967.

Emission Units: EUPAPERMACH1, EUPAPERMACH2, EUPAPERMACH3

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

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

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

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

NA

VI. MONITORING/RECORDKEEPING

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

NA

VII. REPORTING

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

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

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

See Appendix 8

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

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

E. NON-APPLICABLE REQUIREMENTS

At the time of the ROP issuance, the AQD has determined that the requirements identified in the table below are not applicable to the specified emission unit(s) and/or flexible group(s). This determination is incorporated into the permit shield provisions set forth in the General Conditions in Part A pursuant to Rule 213(6)(a)(ii). If the permittee makes a change that affects the basis of the non-applicability determination, the permit shield established as a result of that non-applicability decision is no longer valid for that emission unit or flexible group.

Emission Unit/Flexible Group ID	Non-Applicable Requirement	Justification
EUBOILER1	40 CFR Part 60, Subpart Db (Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units)	EUBOILER1 was installed prior to the applicability date of the regulation (June 19, 1984) and has not been modified since the promulgation date. Future modifications to the boiler may make EUBOILER1 subject to the regulation.
Miscellaneous Storage Tanks Storing VOC-containing Liquids	40 CFR Part 60, Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984)	The Mill does not maintain any storage tanks containing VOCs that meet both the size requirement and the installation date requirement that would subject them to 40 CFR Part 60, Subpart Kb.
EUCOALHANDLING	40 CFR Part 60, Subpart Y (Standards of Performance for Coal Preparation and Processing Plants)	EUCOALHANDLING has not experienced an NSPS modification since its construction in 1950. Future NSPS modifications may make EUCOALHANDLING subject to the regulation.
EUCOPELAND+DISTANK	40 CFR 63.862(a) (NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills)	The EUCOPELAND+DISTANK is a semi-chemical combustion unit and, as such, is not subject to the PM standards for kraft recovery furnaces or sulfite combustion units. This unit is subject to the gaseous HAP standard at 40 CFR 63.862(c)(2).

Commented [PCA104]: PCA requests listing of the PM standard at 40 CFR Part 63, Subpart MM as being non-applicable to the EUCOPELAND+DISTANK, as it is not a kraft recovery furnace or sulfite combustion unit.

APPENDICES

Appendix 1: Abbreviations and Acronyms

The following is an alphabetical listing of abbreviations/acronyms that may be used in this permit.

AQD	Air Quality Division	MM	Million
acfm	Actual cubic feet per minute	MSDS	Material Safety Data Sheet
BACT	Best Available Control Technology	MW	Megawatts
BTU	British Thermal Unit	NA	Not Applicable
°C	Degrees Celsius	NAAQS	National Ambient Air Quality Standards
CAA	Federal Clean Air Act	NESHAP	National Emission Standard for Hazardous Air Pollutants
CAM	Compliance Assurance Monitoring	NMOC	Non-methane Organic Compounds
CEM	Continuous Emission Monitoring	NOx	Oxides of Nitrogen
CFR	Code of Federal Regulations	NSPS	New Source Performance Standards
CO	Carbon Monoxide	NSR	New Source Review
COM	Continuous Opacity Monitoring	PM	Particulate Matter
department	Michigan Department of Environmental Quality	PM-10	Particulate Matter less than 10 microns in diameter
dscf	Dry standard cubic foot	pph	Pound per hour
dscm	Dry standard cubic meter	ppm	Parts per million
EGLE	Environment, Great Lakes, and Energy	ppmv	Parts per million by volume
EPA	United States Environmental Protection Agency		
EU	Emission Unit	ppmw	Parts per million by weight
°F	Degrees Fahrenheit	PS	Performance Specification
FG	Flexible Group	PSD	Prevention of Significant Deterioration
GACS	Gallon of Applied Coating Solids	psia	Pounds per square inch absolute
GC	General Condition	psig	Pounds per square inch gauge
gr	Grains	PeTE	Permanent Total Enclosure
HAP	Hazardous Air Pollutant	PTI	Permit to Install
Hg	Mercury	RACT	Reasonable Available Control Technology
hr	Hour	ROP	Renewable Operating Permit
HP	Horsepower	SC	Special Condition
H_2S	Hydrogen Sulfide	scf	Standard cubic feet
HVLP	High Volume Low Pressure *	sec	Seconds
ID	Identification (Number)	SCR	Selective Catalytic Reduction
IRSL	Initial Risk Screening Level	SO_2	Sulfur Dioxide
ITSL	Initial Threshold Screening Level	SRN	State Registration Number
LAER	Lowest Achievable Emission Rate	TAC	Toxic Air Contaminant
lb	Pound	Temp	Temperature
m	Meter	THC	Total Hydrocarbons
MACT	Maximum Achievable Control Technology	tpy	Tons per year
MAERS	Michigan Air Emissions Reporting System	µg	Microgram
MAP	Malfunction Abatement Plan	VE	Visible Emissions
MDEQ	~~Michigan Department of Environmental Quality~~	VOC	Volatile Organic Compounds
mg	Milligram	yr	Year
mm	Millimeter	%	Percent

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 pounds per square inch gauge (psig).

Commented [PCA105]: PCA requests administrative update of this text.

Commented [PCA106]: PCA requests administrative update of this text.

Appendix 2. Schedule of Compliance

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

Appendix 3. Monitoring Requirements

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

Appendix 4. Recordkeeping

The permittee shall use the following approved formats and procedures for the recordkeeping requirements referenced in FGRULE290. Alternative formats must be approved by the AQD District Supervisor.

As an approved alternative to the SC VI.1 (e) requirements for FGRULE290, the permittee maintains and provides to AQD documentation of a worst-case Potential to Emit (PTE) rate based on a 31-day month for each emission unit included in Rule 290 Flexible Group. Should changes be made to an emissions unit included in Rule 290 Flexible Group, or if a new emissions unit is installed that is subject to Rule 290, then the Permittee shall maintain and provide a new set of information to the AQD District Supervisor updating the worst-case PTE rate.

Appendix 5. Testing Procedures

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

Appendix 6. Permits to Install

The following table lists any PTIs issued or ROP revision applications received since the effective date of the previously issued ROP No. MI-ROP-B3692-~~2009~~2015. 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-B3692-~~2009~~ 2015 is being reissued as Source-Wide PTI No. MI-PTI-B3692-~~2015~~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

The following ROP amendments or modifications were issued after the effective date of ROP No. MI-ROP-B3692-~~2015~~2020.

Permit to Install Number	ROP Revision Application Number/Issuance Date	Description of Change	Corresponding Emission Unit(s) or Flexible Group(s)
~~93-15~~	~~201500090/ August 24, 2015~~	~~Incorporate Permit to Install (PTI) No. 93-15. PTI No. 93-15 is an adjustment of the PM testing frequency to once every five years concurrent with~~	~~EUCOPELAND+DISTANK~~

Commented [PCA107]: PCA requests removal of PTIs which were issued prior to the effective date of the future ROP.

Permit to Install Number	ROP Revision Application Number/Issuance Date	Description of Change	Corresponding Emission Unit(s) or Flexible Group(s)
		~~the ROP cycle. The PTI also removes the TRS limit.~~	
~~210-15~~	~~201600048/ June 1, 2016~~	~~Incorporate Permit to Install (PTI) No. 210-15. PTI No. 210-15 removes the scrubber requirement for biogas sent to the boilers from FGBIOGASSYSTEM and updates the H2S and SO2 emission limits. Additionally, this modification incorporates language to allow for the option of a predictive emissions monitoring system (PEMS) for air pollution control monitoring in EUBOILER2 and EUBOILER4A when burning natural gas or biogas.~~	~~FGBIOGASSYSTEM EUBOILER2 EUBOILER4A~~

Commented [PCA108]: PCA requests removal of PTIs which were issued prior to the effective date of the future ROP.

Appendix 7. Emission Calculations

Commented [PCA109]: PCA requests update of Appendix 7 for consistency with PTI No. 209-18.

A. ~~EUBOILER2~~BOILERS

~~The permittee shall use the following equation to calculate the NO_x emission limit listed in Condition I.9 in conjunction with monitoring, testing, or recordkeeping data to determine compliance with the applicable requirements referenced in EUBOILER2.~~

$$E_n = \frac{(EL_{go} \times H_{go}) + (EL_{ro} \times H_{ro}) + (EL_c \times H_c)}{(H_{go} \times H_{ro} \times H_c)}$$

~~Where: E_n = NO_x emission limit (pound per million BTU)~~
~~EL_{go} = 0.20 pound per million BTU~~
~~H_{go} = Heat input from combustion of natural gas~~
~~EL_{ro} = 0.40 pound per million BTU~~
~~H_{ro} = Heat input from combustion of No. 6 fuel oil~~
~~EL_c = 0.70 pound per million BTU~~
~~H_c = Heat input from combustion of coal~~

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the pound per hour (pph) NO_X, CO, PM_{10}, $PM_{2.5}$, and SO_2 emissions limits, on a continuous 24-hour rolling operating hours average basis, referenced in PTI No.209-18. The permittee shall use emission factors from the most recent source specific testing (i.e., stack testing, gas sampling), as available for each boiler.

24-hour PM_{10} emissions = (A x EF)
24-hour $PM_{2.5}$ emissions = (A x EF)
24-hour SO_2 emissions = (A x EF)
24-hour NO_X emissions (with TDF) = [B x (46 lb/lb-mol) x (lb-mol/385.35 scf) x ($C_{w/TDF}$) x A x (1/1,000,000)]
24-hour NO_X emissions (without TDF) = [B x (46 lb/lb-mol) x (lb-mol/385.35 scf) x ($C_{wo/TDF}$) x A x (1/1,000,000)]
24-hour CO emissions (with TDF) = [B x (28 lb/lb-mol) x (lb-mol/385.35 scf) x ($C_{w/TDF}$) x A x (1/1,000,000)]
24-hour CO emissions (without TDF) = [B x (28 lb/lb-mol) x (lb-mol/385.35 scf) x ($C_{wo/TDF}$) x A x (1/1,000,000]

Where: A = Amount of total heat input of all fuels fired (Combined MMBtu of all fuels fired on an hourly basis)
B = CEMS Concentration (hourly ppm average)
$C_{w/TDF}$ = F factor for fuel blend with TDF from most recent fuel sampling analysis (scf/BTU)
$C_{wo/TDF}$ = F factor for fuel blend without TDF from most recent fuel sampling analysis (scf/BTU)
EF – Emission factor from the most recent approved EPA Test Method stack test results (lb/MMBtu)

B. EUWASHERS

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

$$\text{Daily VOC emissions} = (A \times EF \times (1 - CE)) + (B \times EF)$$

Where: A = Amount of pulp processed under normal conditions (Tons of oven dried pulp on a daily basis)
B = Amount of pulp processed under abnormal conditions (Tons of oven dried pulp on a daily basis)
EF[a] = Emission factor
CE[b] = Control efficiency

[a] In the absence of specific test data, a default EF of 0.518 pounds of VOC per ton of oven dried pulp shall be used.

[b] CE shall equal 0.98 when emissions are collected by the LVHC Collection System and EUBOILER1, ~~and~~ EUBOILER2, and EUBOILER4A are operating properly.

Appendix 8. Reporting

A. Annual, Semiannual, and Deviation Certification Reporting

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

Commented [PCA110]: PCA requests administrative update of this text.

Commented [PCA111]: PCA requests administrative update of this text.

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 B –
PERMIT TO INSTALL NO. 209-18

STATE OF MICHIGAN
DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY
LANSING

GRETCHEN WHITMER
GOVERNOR

LIESL EICHLER CLARK
DIRECTOR

August 16, 2019

Mr. Andrew Richards, Mill Manager
Packaging Corporation of America – Filer City Mill
2246 Udell Street
Filer City, Michigan 49634

Dear Mr. Richards:

This letter is in reference to your Permit to Install (PTI) application, identified as No. 209-18, for the installation and operation of a new multi-fuel boiler and modifications to two existing boilers (Nos. 1 and 2) located at 2246 Udell Street, Filer City, Michigan, (State Registration Number B3692).

The public comment period ended on August 9, 2019. Only one comment was received and no request for a public hearing was made. Pursuant to the delegation of authority from the Director of the Michigan Department of Environment, Great Lakes, and Energy (EGLE), I have approved PTI No. 209-18.

Based on administrative errors found in the proposed permit, the following changes were made to the final permit:

1. Page 6 of 39 and 34 of 39: FGPROJECT19 was removed from the Emission Unit Summary Table and the Flexible Group Summary Table since there are no special conditions for this flexible group.

2. Page 19 of 39: Stack/Vent Restrictions for EUBOILER4A were changed to match the modeling parameter inputs. Maximum exhaust diameter was changed from 69 inches to 72 inches and the minimum height above ground was changed from 116 feet to 92 feet.

The equipment covered by this permit is also subject to the requirements of the Renewable Operating Permit (ROP) Program. Submittal of the M-001 and C-001 forms may be required prior to commencing operation. A change that is subject to Rule 215 subrules (1), (2), or (3), promulgated pursuant to Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, requires the submittal of the forms to the appropriate Air Quality Division (AQD) District Office. If a change is made pursuant to Rule 216, please submit the required forms to the Cadillac District Office at the address provided in the M-001 form instructions. Also, you must notify the Cadillac District Office, in writing, within 30 days after completion of the installation, construction, reconstruction, relocation, or modification of the process or process equipment covered by this PTI.

Additional information is included in the M-001 form instructions which are available on the Internet or can be obtained by contacting the Cadillac District Office at (231) 775-3960. The AQD permit Web page is located at https://www.michigan.gov/air, click the "Permits" tab, and click the link at the first bullet entitled "Air Quality Division Permits."

To help us improve the service we provide our customers, we encourage you to complete a *Permit to Install Customer Service Survey* on the following Web page:

https://www.surveymonkey.com/s/aqdptics

If you have any questions regarding this permit, please contact Melissa Byrnes, AQD, Permit Section, at (517) 284-6790, byrnesm@michigan.gov; or EGLE Air Quality Division, P.O. Box 30260, Lansing, Michigan 48909-7760; or you may contact me.

Sincerely,

Annette Switzer, PE
Permit Section Manager
Air Quality Division
(517) 284-6803

Enclosures
cc/enc: Mr. Larry Romanelli, Little River Band of Ottawa Indians
Mr. Thurlow Samuel McClellan, Grand Travers Bay Band of Ottawa and Chippewa Indians
Senator Curt VanderWall
Representative Larry Inman
Representative Jack O'Malley
Mr. Terry Walker, Supervisor, Charter Township of Filer
Ms. Jill M. Nowak, Manistee County Clerk
Ms. Genevieve Damico, U.S. Environmental Protection Agency, Region 5
Mr. Constantine Blathras, U.S. Environmental Protection Agency, Region 5
Ms. Sarah M. Howes, Legislative Liaison, EGLE
Ms. Jill Greenberg, Public Information Officer, EGLE
Mr. Shane Nixon, EGLE
Ms. Melissa Byrnes, EGLE

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

August 16, 2019

PERMIT TO INSTALL
209-18

ISSUED TO
Packaging Corporation of America – Filer City Mill

LOCATED AT
2246 Udell Street
Filer City, Michigan

IN THE COUNTY OF
Manistee

STATE REGISTRATION NUMBER
B3692

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: **June 14, 2019**	
DATE PERMIT TO INSTALL APPROVED: **August 16, 2019**	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

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

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H_2S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO_x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO_2	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**

2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**

3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**

4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**

5. The terms and conditions of this Permit to Install 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 this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit 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 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**

6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**

7. 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 Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department 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 condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**

8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.

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

10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
    a. A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
    b. A visible emission limit specified by an applicable federal new source performance standard.
    c. A visible emission limit specified as a condition of this Permit to Install.

12. 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). **(R 336.1370)**

13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

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
EUBOILER1	Boiler No. 1 has a maximum heat input rating of 240 MMBTU/hr and is equipped with low NO_x burners and flue gas recirculation (FGR). The boiler will fire natural gas and/or biogas. Non-Condensable Gas (NCG) from the Low-Volume High-Concentration (LVHC) system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.	01/01/50 12/06/80 09/02/83 TBD	FGBIOGASSYSTEM
EUBOILER2	Boiler No. 2 has a maximum heat input rating of 186 MMBTU/hr and is equipped with low NO_x burners. The boiler will fire natural gas and/or biogas. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.	01/01/50 12/06/80 09/02/83 12/06/84 TBD	FGBIOGASSYSTEM
EUBOILER4A	Boiler No. 4A is a natural gas and biogas-fired Babcock and Wilcox Model No. FM120-97 boiler. The boiler's maximum heat input rating is 227 MMBTU/hr and is equipped with low NOx burners. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.	11/01/02 TBD	FGBIOGASSYSTEM
EUBOILER5	A bubbling fluidized bed (BFB) boiler with a heat input capacity of 302 MMBTU/hr. The boiler will burn wood, wood waste, primary clarifier residuals, paper recycling residuals, tire derived fuel (TDF), and natural gas.	TBD	NA
EUSOLIDFUELTRAN	Existing enclosed wood and wood waste conveyors and new covered conveyors will transport solid fuels of wood and wood waste, TDF, paper recycling residuals, and primary clarifier residuals. The fuel streams will be blended while traveling along the new wood and wood waste conveyor before entering Building 4 and being deposited into a fuel storage bin.	01/01/50 08/11/88 TBD	NA
EUWASHERS	Pulp washing system and low volume/high concentration (LVHC) collection system.	03/01/04	NA
EUSANDSILO	Sand silo used to store sand used in Boiler No. 5 (EUBOILER5).	NA	NA

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

EUBOILER1
EMISSION UNIT CONDITIONS

DESCRIPTION

Boiler No. 1 has a maximum heat input rating of 240 MMBTU/hr and is equipped with low NO_x burners and flue gas recirculation (FGR). The boiler will fire natural gas and/or biogas. Non-Condensable Gas (NCG) from the Low-Volume High-Concentration (LVHC) system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.

Flexible Group ID: FGBIOGASSYSTEM

POLLUTION CONTROL EQUIPMENT

Low NO_x burners and FGR to control NO_x emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit[a]	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NOx	32.34 pph	Hourly	EUBOILER1	SC V.I	R 336.2803, R 336.2804
2. NOx	120.4 tpy	12-month rolling time period as determined at the end of each month	EUBOILER1	SC VI.2, VI.5	R 336.1205(1)(a) & (b)
3. CO	15.04 pph	Hourly	EUBOILER1	SC V.1	R 336.2804
4. CO	72.2 tpy	12-month rolling time period as determined at the end of each month	EUBOILER1	SC VI.2, VI.6	R 336.1205(1)(a) & (b)

II. MATERIAL LIMIT(S)

1. The permittee shall burn only natural gas and/or biogas fuels in EUBOILER1. The gas shall not have a total sulfur content greater than 0.0006 lb/MMBTU of gas based on a 12-month rolling time period. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall submit a malfunction abatement plan (MAP) for EUBOILER1 as described in Rule 911(2), within 180 days after trial operation. The MAP shall be implemented, maintained, and shall specify, at a minimum, the following:
   a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
   c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If 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 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 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. **(R 336.1225, R 336.1910, R 336.1911, R 336.2803, R 336.2804)**

2. The permittee shall operate EUBOILER1 in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(40 CFR 63.7500(a)(3))**

3. The permittee shall comply with the applicable work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD at all times EUBOILER1 is operating, except for the periods noted in 40 CFR 63.7500(f). **(40 CFR 63.7505(a))**

4. The permittee shall conduct a tune-up of EUBOILER1 as specified in 40 CFR 63.7540. **(40 CFR 63.7500(a)(1); 40 CFR 63.7515(d); Table 3, Item 1 to 40 CFR Part 63, Subpart DDDDD; 40 CFR 63.7540)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for EUBOILER1 shall not exceed 240 MMBTU/hr (HHV) on a fuel heat input basis. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**

2. The permittee shall not operate EUBOILER1 unless the low NO_x burners and flue gas recirculation system are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EUBOILER1 as required in SC III.1. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2803, R 336.2804)**

3. The permittee shall install, calibrate, maintain and operate, in a satisfactory manner, a device to monitor and record the daily fuel usage rate for EUBOILER1 on a continuous basis. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.49b(d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of EUBOILER1 resumes regular operation after the project, the permittee shall verify NO_x and CO emission rates, from EUBOILER1 at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. The permittee shall complete the testing once every five years for NO_x and CO, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
NO_x	40 CFR Part 60, Appendix A
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, R 336.2804)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 63 Subpart DDDDD)**

2. The permittee shall monitor and record, in a satisfactory manner, the natural gas and biogas usage rates from EUBOILER1, in cubic feet, on a daily, monthly, and 12-month rolling time period basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225)**

3. The permittee shall maintain records of the notifications, energy assessments, and tune-ups in accordance with 40 CFR 63.7555 for EUBOILER1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 63.7555)**

4. The permittee shall monitor and maintain records of the hours NCG's are combusted in EUBOILER1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a))**

5. The permittee shall calculate monthly and 12-month rolling NO_x emissions, according to Appendix 7, using natural gas and biogas fuel throughput data, and emission factors from the most recent performance stack testing. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**

6. The permittee shall calculate and maintain records of the monthly and 12-month rolling CO emissions, according to Appendix 7, using natural gas and biogas fuel throughput data, and emission factors from the most recent performance stack testing. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**

7. The permittee shall keep, in a satisfactory manner, gas samples or records of the fuel receipts from the fuel supplier that certify that the natural gas and biogas meets the sulfur concentration as specified in SC II.1. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUBOILER1. **(R 336.1201(7)(a))**

2. The permittee shall submit 40 CFR Part 63, Subpart DDDDD reports pursuant to 40 CFR 63.7550. **(40 CFR 63.7550)**

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVSHARED1_2_5	144	199	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers, and Process Heaters, as specified in 40 CFR Part 63, Subparts A and DDDDD as they apply to EUBOILER1. **(40 CFR Part 63, Subparts A and DDDDD)**

EUBOILER2
EMISSION UNIT CONDITIONS

DESCRIPTION

Boiler No. 2 has a maximum heat input rating of 186 MMBTU/hr and is equipped with low NO_x burners. The boiler will fire natural gas and/or biogas. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.

Flexible Group ID: FGBIOGASSYSTEM

POLLUTION CONTROL EQUIPMENT

Low NO_x burners to control NO_x emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO_x	0.20 lb/MMBTU	30-day rolling average basis	EUBOILER2	SC V.1, VI.2, VI.3, VI.6, VI.7	40 CFR 60.44b(a)(1)(ii), 40 CFR 60.44b(i)
2. NO_x	23.13 pph	24-hour rolling operating hours basis	EUBOILER2	SC V.1, VI.2, VI.3, VI.6, VI.7	R 336.2803, R 336.2804
3. NO_x	15.2 tpy	12-month rolling time period as determined at the end of each month	EUBOILER2	SC VI.4, VI.8	R 336.1205(1)(a) & (b)
4. CO	15.04 pph	Hourly	EUBOILER2	SC V.2, VI.9	R 336.2804
5. CO	9.88 tpy	12-month rolling time period as determined at the end of each month	EUBOILER2	SC VI.4, VI.10	R 336.1205(1)(a) & (b)

II. MATERIAL LIMIT(S)

1. The permittee shall burn only natural gas and/or biogas fuels in EUBOILER2. The gas shall not have a total sulfur content greater than 0.0006 lb/MMBTU of gas based on a 12-month rolling time period. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804, 40 CFR 60 Subpart Db)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall submit a malfunction abatement plan (MAP) for EUBOILER2 as described in Rule 911(2), within 180 days after trial operation. The MAP shall be implemented, maintained, and shall specify, at a minimum, the following:
   a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.

c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If 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 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 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. **(R 336.1225, R 336.1910, R 336.1911, R 336.2803, R 336.2804)**

2. The permittee shall operate EUBOILER2 in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(R 336.1912, 40 CFR 63.7500(a)(3))**

3. The permittee shall comply with the applicable work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD at all times EUBOILER2 is operating, except for the periods noted in 40 CFR 63.7500(f). **(40 CFR 63.7505(a))**

4. The permittee shall conduct a tune-up of EUBOILER2 as specified in 40 CFR 63.7540. **(40 CFR 63.7500(a)(1); 40 CFR 63.7515(d); Table 3, Item 3 to 40 CFR Part 63, Subpart DDDDD; 40 CFR 63.7540)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for EUBOILER2 shall not exceed 186 MMBTU/hr (HHV) on a fuel heat input basis. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**

2. The permittee shall not operate EUBOILER2 unless the low NO_x burners are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EUBOILER2 as required in SC III.1. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2803, R 336.2804)**

3. The permittee shall install, calibrate, maintain and operate, in a satisfactory manner, a device to monitor and record the daily fuel usage rate for EUBOILER2 on a continuous basis. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.49b(d))**

4. If the permittee chooses the compliance method specified in SC VI.2 for EUBOILER2, the permittee shall install, calibrate, maintain and operate in a satisfactory manner, a device to monitor and record the NO_x emissions from EUBOILER2 on a continuous basis. Monitoring systems are to be operated and data recorded during all periods of operation including startup, shutdown, malfunction or emergency conditions, except for continuous monitor system breakdowns, repairs, calibration checks, and zero span adjustments. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.48b(c))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The Permittee shall perform the Quality Assurance Procedures of the NO_x CEM as set forth in Appendix F to 40 CFR Part 60 each calendar quarter. **(40 CFR 60.13(a), 40 CFR 48b(e))**

2. Within 180 days after commencement of EUBOILER2 resumes regular operation after the project, the permittee shall verify CO emission rates, from EUBOILER2 at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. The permittee shall complete the testing once every five years for CO, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, R 336.2804)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 60 Subpart Db, 40 CFR Part 63 Subpart DDDDD)**

2. Except as specified in SC VI.3, the permittee shall continuously monitor and record, in a satisfactory manner, the NO_X emissions and the O_2, or CO_2, emissions from EUBOILER2. The permittee shall operate each CEMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the CEMS data for determining compliance with SC I.1 and I.2. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 60 Subpart Db)**

3. As an alternative to the compliance method specified in SC VI.2, the permittee may demonstrate compliance by monitoring EUBOILER2 operating conditions and predicting NO_X emission rates in a satisfactory manner. The permittee shall submit a plan that identifies the operating conditions to be monitored and the records to be maintained. The permittee shall operate each Predictive Emission Monitoring System (PEMS) to meet the timelines, requirements and reporting detailed in Appendix A and shall use the PEMS data for determining compliance with SC I.1 and I.2. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 60 Subpart Db)**

4. The permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for each fuel for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804, 40 CFR 60.49b(d))**

5. The permittee shall keep, in a satisfactory manner, fuel samples or records of the fuel receipts from the fuel supplier that certify that the natural gas meets the definition of natural gas defined in 40 CFR 60.41b for EUBOILER2. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 60 Subpart Db, 40 CFR 60.49b(r)(1))**

6. The permittee shall calculate the 30-day rolling average NO_X emission rate by using the one-hour average NO_X emission rates measured by the NO_X CEM/PEM, expressed in pounds per MMBTU heat input. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3), 40 CFR 60.48b(d))**

7. The permittee shall maintain records of the following information for each day EUBOILER2 is operated:
   a. Calendar date;
   b. The average hourly NO_X emission rate measured or predicted;
   c. The 30-day average NO_X emission rate calculated at the end of each steam generating unit operating day, from the measured hourly NO_X emission rates for the preceding 30 steam generating unit operating days;

d. Identification of the steam generating unit operating days when the calculated 30-day average NO_x emission rate are in excess of the NO_x emission limit under 40 CFR 60.44b and SC I.5 with the reasons for such excess emissions as well a description of corrective actions taken;
e. Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of the corrective actions taken;
f. Identification of the time when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
g. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;
h. Identification of the times when the pollutant concentration exceeded full span of the CEM/PEM;
i. Description of any modifications to the CEM/PEM that could affect the ability of the CEM/PEM to comply with the applicable Performance Specification 2, 3, or 16;
j. Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, Appendix F, Procedure 1.

The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), 40 CFR 60.49b(g))**

8. The permittee shall calculate monthly and 12-month rolling NO_x emissions using natural gas and biogas fuel throughput data and NO_x CEMS or PEMS data. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**

9. The permittee shall calculate and maintain records of the 24-hour average CO emissions at the end of each operating day, to determine compliance with the hourly emissions, as described in Appendix 7. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**

10. The permittee shall calculate and maintain records of the monthly and 12-month rolling CO emissions using natural gas and biogas fuel throughput data, and emission factors from the most recent performance stack testing. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**

11. The permittee shall monitor and maintain records of the hours that EUBOILER2 combusted NCGs. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a))**

12. When NO_x emission data is not obtained because of CEM/PEM breakdowns, repairs, calibration checks, and zero and span adjustments, emission data shall be obtained by using standby monitoring systems, Method 7, Method 7A, or other AQD approved reference methods to provide emission data for a minimum of 75% of the operating hours in each operating day, in at least 22 out of 30 successive operating days. **(R 336.1205(1)(a) & (b), 40 CFR 60.48b(f))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUBOILER2. **(R 336.1201(7)(a))**

2. The permittee shall submit reports containing the information in SC VI.7. The reports shall be postmarked no later than 30 days following the end of each 6-month reporting period, unless the permittee has obtained approval from the AQD to submit reports electronically in accordance with 40 CFR 60.49b(v). The permittee has the option to submit on a more frequent basis. **(40 CFR 60.49b(i), (v), and (w))**

3. The permittee shall submit 40 CFR Part 63, Subpart DDDDD reports pursuant to 40 CFR 63.7550. **(40 CFR 63.7550)**

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVSHARED1_2_5	144	199	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units as specified in 40 CFR Part 60, Subparts A and Db as they apply to EUBOILER2. **(40 CFR Part 60, Subparts A and Db)**

2. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers, and Process Heaters, as specified in 40 CFR Part 63, Subparts A and DDDDD as they apply to EUBOILER2. **(40 CFR Part 63, Subparts A and DDDDD)**

EUBOILER4A
EMISSION UNIT CONDITIONS

DESCRIPTION

Boiler No. 4A is a natural gas and biogas-fired Babcock and Wilcox Model No. FM120-97 boiler. The boiler's maximum heat input rating is 227 MMBTU/hr and is equipped with low NOx burners. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.

Flexible Group ID: FGBIOGASSYSTEM

POLLUTION CONTROL EQUIPMENT

Low NO_x burners to control NO_x emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. NO_x	0.17 lb/MMBTU[a]	30-day rolling average	EUBOILER4A	SC V.2, VI.1, VI.2, VI.4, VI.5	R 336.1205(3)
2. CO	22.7 pph	24-hour average	EUBOILER4A	SC V.1, VI.6	R 336.1205(3)

[a]Compliance with this streamlined nitrogen oxides emissions limit established by R 336.1205 shall be considered compliance with the nitrogen oxides emissions limit in 40 CFR 60.44b(a), an additional applicable requirement that has been subsumed within this condition.

II. MATERIAL LIMIT(S)

1. The permittee shall burn only natural gas and/or biogas in EUBOILER4A. **(R 336.1205(1)(a) & (3))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall submit a malfunction abatement plan (MAP) for EUBOILER4A as described in Rule 911(2), within 180 days after trial operation. The MAP shall be implemented, maintained, and shall specify, at a minimum, the following:
   a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
   c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

   If 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 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 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. **(R 336.1225, R 336.1910, R 336.1911)**

2. The permittee shall operate EUBOILER4A in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(40 CFR 63.7500(a)(3))**

3. The permittee shall comply with the applicable work practice standards in Table 3 to 40 CFR Part 63, Subpart DDDDD at all times EUBOILER4A is operating, except for the periods noted in 40 CFR 63.7500(f). **(40 CFR 63.7505(a))**

4. The permittee shall conduct a tune-up of EUBOILER4A as specified in 40 CFR 63.7540. **(40 CFR 63.7500(a)(1); 40 CFR 63.7515(d); Table 3, Item 1 to 40 CFR Part 63, Subpart DDDDD; 40 CFR 63.7540)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for EUBOILER4A shall not exceed 227 MMBTU/hr (HHV) on a fuel heat input basis. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**

2. The permittee shall not operate EUBOILER4A unless the low NO_x burners are installed, maintained, and operated in a satisfactory manner. Satisfactory manner includes operating and maintaining each control device in accordance with an approved MAP for EUBOILER4A as required in SC III.1. **(R 336.1205(1)(a) & (b), R 336.1910)**

3. The permittee shall install, calibrate, maintain and operate, in a satisfactory manner, a device to monitor and record the daily fuel usage rate for EUBOILER4A on a continuous basis. **(R 336.1205(1)(a), 40 CFR 60.49b(d))**

4. If the permittee chooses the compliance method specified in SC VI.2 for EUBOILER4A, the permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor and record the NO_x emissions, and O_2 or CO_2 content of the exhaust gas from EUBOILER4A on a continuous basis. **(R 336.1205(1)(a), 40 CFR 60.48b(c) & (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall verify CO emission rates, from EUBOILER4A at maximum routine operating conditions, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. The permittee shall complete the testing once every five years for CO, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
CO	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a), R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(d))**

2. The permittee shall perform the Quality Assurance Procedures of the NO_x CEM as set forth in Appendix F to 40 CFR Part 60 each calendar quarter. **(40 CFR 60.13(a), 40 CFR 60.48b(e))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall monitor and record the NO_x emissions from EUBOILER4A on a continuous basis in a manner and with instrumentation acceptable to the AQD. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a), 40 CFR 60.48b(c) & (d))**

2. The permittee shall calculate the 30-day rolling average NO_x emission rate from EUBOILER4A by using one-hour average NO_x emission rates measured by the NO_x CEMS expressed in pounds per MMBTU heat input. **(40 CFR 60.48b(d))**

3. When NO_x emission data from EUBOILER4A are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other AQD approved reference methods to provide emission data for a minimum of 75% of the operating hours in each operating day, in at least 22 out of 30 successive operating days. **(40 CFR 60.48b(f))**

4. The permittee shall record and maintain records of the amounts of each fuel combusted, in EUBOILER4A, during each day and calculate the annual capacity factor individually for each fuel for the reporting period. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.49b(d)(1))**

5. The permittee shall maintain records for EUBOILER4A of the following information for each day the boiler is operated:
   a. Calendar date;
   b. The average hourly NO_x emission rate measured or predicted;
   c. The 30-day average NO_x emission rate calculated at the end of each operating day from the measured or predicted hourly NO_x emission rates for the preceding 30 operating days;
   d. Identification of the operating days when the calculated 30-day average NO_x emission rate are in excess of the NO_x emission limits under 40 CFR 60.44b and SC I.1 with the reasons for such excess emissions as well a description of corrective actions taken;
   e. Identification of the operating days for which NO_x emission data have not been obtained, including reasons for not obtaining sufficient data and a description of the corrective actions taken;
   f. Identification of the time when emission data have been excluded from the calculation of average NO_x emission rates and the reasons for excluding data;
   g. Identification of "F" factor used for calculations, method of determination, and type of fuel combusted;
   h. Identification of the times when the NO_x emission concentration exceeded full span of the CEMS;
   i. Description of any modifications to the CEMS that could affect the ability of the CEMS to comply with the applicable Performance Specification 2, 3, or 16;
   j. Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, Appendix F, Procedure 1.

   The permittee shall keep all records on file and make them available to the Department upon request. **(40 CFR 60.49b(g))**

6. The permittee shall calculate and maintain records of the 24-hour average CO emissions at the end of each operating day as described in Appendix 7. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) &(3))**

7. The permittee shall monitor and maintain records of the hours that EUBOILER4A combusted NCGs in backup service to EUBOILER1 and EUBOILER2. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (3))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUBOILER4A. **(R 336.1201(7)(a))**

2. The permittee shall submit, on a semiannual basis, excess emission reports for any NO_X excess emission which occurred during the reporting period. The reports shall be postmarked no later than 30 days following the end of each semiannual period. NO_X excess emissions are defined as any calculated 30-day rolling average NO_X emission rate which exceeds the applicable emission limits in 40 CFR 60.44b and SC I.1. **(40 CFR 60.49b(h), 40 CFR 60.7(c))**

3. The permittee shall submit, on a semiannual basis, reports containing the information in SC VI.5. The reports shall be postmarked no later than 30 days following the end of each semiannual period. **(40 CFR 60.49b(i))**

4. No less than 30 days prior to installation of any new monitoring system, the permittee shall submit two copies of a Monitoring Plan to the AQD, for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required PEMS. **(40 CFR 60.49b(c))**

5. The permittee shall submit notifications pursuant to 40 CFR 63.7545 and 63.7550. **(40 CFR Part 63 Subpart DDDDD)**

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVBOILER4A	72	92	R 336.1205

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units as specified in 40 CFR Part 60, Subparts A and Db, as they apply to EUBOILER4A. **(40 CFR Part 60 Subparts A and Db)**

2. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers, and Process Heaters, as specified in 40 CFR Part 63, Subparts A and DDDDD as they apply to EUBOILER4A. **(40 CFR Part 63, Subparts A and DDDDD)**

EUBOILER5
EMISSION UNIT CONDITIONS

DESCRIPTION

A bubbling fluidized bed (BFB) boiler with a heat input capacity of 302 MMBTU/hr. The boiler will burn wood, wood waste, primary clarifier residuals, paper recycling residuals, tire derived fuel (TDF), and natural gas.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

A baghouse to control particulates.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. NO_x (While firing Natural gas & mixture of other permitted fuels)	0.30 lb/MMBtu	30-day rolling average	EUBOILER5	SC V.3, VI.2, VI.3, VI.4, VI.11, VI.12	40 CFR 60.44b(d)
2. NO_x (While firing natural gas only)	0.20 lb/MMBtu	30-day rolling average	EUBOILER5	SC V.3, VI.2, VI.3, VI.4, VI.11, VI.12	40 CFR 60.44b(a)(1)(ii)
3. NO_x	99.7 pph	24-hour rolling operating hours basis	EUBOILER5	SC V.3, VI.2, VI.3, VI.4, VI.12	R 336.2803, R 336.2804
4. NO_x	349.70 tpy	12-month rolling time period as determined at the end of the month	EUBOILER5	SC VI.9, VI.10, VI.12	R 336.1205(1)(a) & (b)
5. CO	310 ppmvd corrected to 3% O_2	720-hour rolling average	EUBOILER5	SC V.4, VI.5, VI.6, VI.12	40 CFR 63.7500, Table 1, Item 9a to 40 CFR Part 63, Subpart DDDDD
6. CO	51.9 pph	24-hour rolling operating hours basis	EUBOILER5	SC V.4, VI.5, VI.6, VI.12	R 336.2804
7. CO	126.45 tpy	12-month rolling time period as determined at the end of the month	EUBOILER5	SC VI.9, VI.10, VI.12	R 336.1205(1)(a) & (b)
8. PM	9.80E-03 lb/MMBtu	Hourly	EUBOILER5	SC V.2, VI.7 VI.8, VI.12	40 CFR 63.7500, Table 1, Item 9b to 40 CFR Part 63 Subpart DDDDD

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
9. PM (During periods of firing wood, when the heat input of wood is greater than 75% of total heat input)	0.50 lb/1,000 lb exhaust gas, corrected to 50% excess air	Hourly	EUBOILER5	SC V.2, VI.8, VI.13	R 336.1331 (Table 31)
10. PM10	8.06 pph	Hourly	EUBOILER5	SC V.1, VI.10, VI.13	R 336.2803, R 336.2804
11. PM10	21.10 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC V.1, VI.11, VI.13	R 336.1205(1)(a) & (b)
12. PM2.5	7.76 pph	Hourly	EUBOILER5	SC V.1, VI.10, VI.3	R 336.2803, R 336.2804
13. PM2.5	19.86 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC V.1, VI.11, VI.13	R 336.1205(1)(a) & (b)
14. SO_2	121.05 pph	Hourly	EUBOILER5	SC V.1, VI.11	R 336.2803, R 336.2804
15. SO_2	375.72 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC VI.1, VI.11, VI.13	R 336.2803, R 336.2804
16. VOC	14.77 tpy	12-month rolling time period as determined at the end of each month	EUBOILER5	SC V.3, VI.11	R 336.1702(a)
17. HCl	2.20E-02 lb/MMBtu	Hourly	EUBOILER5	SC V.2, VI.13	40 CFR 63.7500, Table 1, Item 9b to 40 CFR Part 63 Subpart DDDDD
18. Hg (During periods of firing primary clarifier residuals)	3.2 kg/24-hr period (7.1 lbs/24-hr period)[a]	24-hours	EUBOILER5	SC V.2, VI.13	40 CFR 61.52(b)
19. Hg	8.00E-07 lb/MMBtu heat input	Hourly	EUBOILER5	SC V.2, VI.13	40 CFR 63.7500, Table 1, Item 1b to 40 CFR Part 63, Subpart DDDDD
20. Visible Emissions	20%, except for one 6-minute period per hour of not more than 27% opacity	6-minute average	EUBOILER5	SC VI.7 VI.8, VI.13	40 CFR 60.43b(f), R 336.1301(1)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
21. Visible Emissions	10%, or the highest hourly average opacity reading measured during the performance test run demonstrating compliance with the PM emissions limitation	Daily Block Average[b]	EUBOILER5	SC VI.7 VI.8, VI.13	40 CFR 63.7500, Table 4, Item 3a to 40 CFR Part 63, Subpart DDDDD

[a]In accordance with 40 CFR Part 61, Subpart E, the permittee shall comply either 1) 40 CFR 61.52(b) emissions standard of 3.2 kilograms (kg) (7.1 pounds) of mercury per 24-hour period when firing primary clarifier residuals in proposed EUBOILER5, or 2) 40 CFR 61.54 option to sample primary clarifier residuals within 90 days of startup of EUBOILER5. The Mill is subject to a more stringent mercury emissions standard under 40 CFR Part 63, Subpart DDDDD.

[b]Daily block average – the arithmetic mean of all valid emission concentrations or parameter levels recorded when a unit is operating measured over the 24-hour period from 12 a.m. (midnight) to 12 a.m. (midnight, except for periods of startup and shutdown or downtime.

II. MATERIAL LIMIT(S)

Material	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. TDF	1 ton/hr (tph)	24-hr block average	EUBOILER5	SC VI.9, VI.13	R 336.1205(1)(a), R 336.1225

2. The permittee shall burn only wood and wood waste, primary clarifier residuals, paper recycling residuals, tire derived fuel, or natural gas in EUBOILER5. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall submit a malfunction abatement plan (MAP) for EUBOILER5 as described in Rule 911(2), within 180 days after trial operation. The MAP shall be implemented, maintained, and shall specify, at a minimum, the following:
   a. A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
   b. An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
   c. A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

   If 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 60 days after such an event occurs. The permittee shall also amend the MAP within 60 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 60 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. **(R 336.1225, R 336.1910, R 336.1911, R 336.2803, R 336.2804)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The maximum design heat input capacity for EUBOILER5 shall not exceed 302 MMBTU/hr (HHV) on a fuel heat input basis. **(R 336.1205(1)(a) & (b), R 336.1225, R 336.2803, R 336.2804)**

2. The permittee shall install, maintain, and operate the baghouse for EUBOILER5 in a satisfactory manner. Satisfactory manner includes operating and maintaining the baghouse in accordance with an approved MAP for EUBOILER5 as required in SC III.1. **(R 336.1205(1)(a) & (b), R 336.1910, R 336.2803, R 336.2804, 40 CFR 63.7500, 40 CFR 63.7525)**

3. The permittee shall not operate EUBOILER5 firing wood and wood waste, primary clarifier residuals, paper recycling residuals, or TDF, unless the associated baghouse is installed and operating properly. The permittee shall maintain the differential pressure across the baghouse within the recommended range in accordance with an approved MAP for EUBOILER5 as required in SC III.1. **(R 336.1910)**

4. The permittee shall operate EUBOILER5 in a manner consistent with safety and good air pollution control practices for minimizing emissions. **(R 336.1912, 40 CFR 63.7500(a)(3))**

5. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, devices to monitor and record NO_x emissions, CO emissions, and visible emissions from EUBOILER5 on a continuous basis. Monitoring systems are to be operated and data recorded during all periods of operation including startup, shutdown, malfunction or emergency conditions, except for continuous monitor system breakdowns, repairs, calibration checks, and zero span adjustments. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.48b(a), (b) & (c), 40 CFR 63.7525)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of EUBOILER5 resumes regular operation after the project, the permittee shall verify SO_2, PM10, and PM2.5 emission rates, from EUBOILER5 at maximum routine operating conditions firing TDF, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. In addition, the permittee shall determine the total sulfur content of all fuels burned during the testing. The permittee shall complete the testing once every five years for SO_2, PM10, PM2.5, and total sulfur content of the fuels, thereafter, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
SO_2	40 CFR Part 60, Appendix A
PM10	40 CFR Part 60, Appendix A
PM2.5	40 CFR Part 60, Appendix A
Total sulfur content of all fuels burned	40 CFR Part 60, Appendix A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1205(1)(a) & (b), R 336.2001, R 336.2003, R 336.2004, R 336.2803, R 336.2804)**

2. The permittee shall conduct performance testing for filterable PM, and either performance testing or fuel analyses to demonstrate initial compliance Hg and HCl emissions limits for EUBOILER5. The compliance demonstration shall be performed in accordance with 40 Subpart DDDDD requirements. Performance tests (if elected) shall be conducted according to 40 CFR 63.7510(a), where 40 CFR 63.7510(a) specifies the methods by which the performance testing, associated fuel analysis, and continuous monitoring system

(CMS) performance evaluations are to be conducted and its operating limits established. Fuel analyses (if elected) shall be performed according to 40 CFR 63.7510(b), where 40 CFR 63.7510(b) specifies the methods by which the fuel analysis shall be conducted, and its associated operating limits are to be established. 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. The report must also verify that the operating limits for EUBOILER5 have not changed or provide documentation of revised operating limits established according to 40 CFR 63.7530 and Table 7 to 40 CFR Part 63, Subpart DDDDD. **(40 CFR 63.7510, 40 CFR 63.7515(f))**

3. Within 180 days after commencement of EUBOILER5 resumes regular operation after the project, the permittee shall verify VOC emission rates, from EUBOILER5 at maximum routine operating conditions firing TDF, by testing at owner's expense, in accordance with Department requirements. The hourly emission rate shall be determined by the average of three test runs per the method requirements. The permittee shall complete the testing once every five years thereafter for VOC, unless an alternate testing schedule is approved by the AQD District Supervisor. Testing shall be performed using an approved EPA Method listed:

Pollutant	Test Method Reference
VOC, as propane	Method 25A

An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

4. The Permittee shall perform the Quality Assurance Procedures of the NO_x CEM as set forth in Appendix F to 40 CFR Part 60 each calendar quarter. **(40 CFR 60.13(a), 40 CFR 48b(e))**

5. The permittee shall conduct a performance evaluation of the CO CEMS according to 40 CFR 63.7525(a) to demonstrate initial compliance with 40 CFR Part 63, Subpart DDDDD. 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. **(40 CFR 63.7510(c))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR Part 60 Subpart Db, 40 CFR Part 63 Subpart DDDD)**

2. Except as specified in SC VI.3, the permittee shall continuously monitor and record, in a satisfactory manner, the NO_x emissions and the O_2, or CO_2, emissions from EUBOILER5. The permittee shall operate each CEMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the CEMS data for determining compliance with SC I.1, I.2, I.3 and I.4. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.48b(d))**

3. As an alternative to the compliance method specified in SC VI.2, the permittee may demonstrate compliance by monitoring EUBOILER5 operating conditions and predicting NO_x emission rates in a satisfactory manner. The permittee shall submit a plan that identifies the operating conditions to be monitored and the records to be maintained. The permittee shall operate each Predictive Emission Monitoring System (PEMS) to meet the timelines, requirements and reporting detailed in Appendix A and shall use the PEMS data for determining compliance with SC I.1, I.2, I.3, and I.4. **(R 336.1205(1)(a) & (b), R 336.2803, R 336.2804, 40 CFR 60.48b(d))**

4. When NO_x emission data are not obtained because of CEM or PEM breakdowns, repairs, calibration checks, and zero and span adjustments, emission data will be obtained by using standby monitoring systems, Method 7, Method 7A, or other AQD approved reference methods to provide emission data for a minimum of 75% of the operating hours in each operating day, in at least 22 out of 30 successive operating days. **(40 CFR 60.48b(f))**

5. The permittee shall continuously monitor and record, in a satisfactory manner, the CO emissions from EUBOILER5. The permittee shall operate the CEMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the CEMS data for determining compliance with SC I.5. . The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.2804, 40 CFR 63.7525)**

6. The CO emission data obtained from CEMS, for EUBOILER5, during periods of startup and shutdown, monitoring system malfunctions or out-of-control periods, repairs associated with monitoring system malfunctions or out-of-control periods, or required monitoring system quality assurance or control activities may not be used in data averages and calculations used to report emissions or operating levels relative to demonstrating compliance with 40 CFR Part 63, Subpart DDDDD emission limits. **(R 336.1205(1)(a) & (b), R 336.2804, 40 CFR 63.7535(c))**

7. The permittee shall monitor and record the opacity, from EUBOILER5 on a continuous basis in a manner and with instrumentation acceptable to the AQD. The permittee shall operate the COMS to meet the timelines, requirements and reporting detailed in Appendix A and shall use the COMS data for determining compliance with SC I.16 and I.17. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.43b(a), 40 CFR 63.7525(c))**

8. The permittee shall monitor and record the differential pressure across EUBOILER5 baghouse once per day and take appropriate action if the differential pressure is outside of the manufacturer's recommended range outlined in the MAP. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1910)**

9. The permittee shall record and maintain records of the amounts of each fuel combusted during each day and calculate the annual capacity factor individually for each fuel fired in EUBOILER5. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of each calendar month. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.49b(d)(1))**

10. The permittee shall calculate and maintain records for EUBOILER5 of the 24-hour average PM10 and PM2.5 emissions of each operating day, as described in Appendix 7, to determine compliance with the hourly emissions. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b))**

11. The permittee shall calculate and keep, in a satisfactory manner, records of monthly and 12-month rolling NO_x, CO, PM10, PM2.5, VOC, and SO_2 mass emissions for EUBOILER5, as required in the emission limit table. The permittee shall keep all records on file and make them available to the Department upon request. **(R 336.1205(1)(a) & (b), R 336.1702(a))**

12. The permittee shall maintain records of the following information for each day EUBOILER5 is operated:
    a. Calendar date;
    b. The average hourly NO_x emission rate measured or predicted;
    c. The 30-day average NO_x emission rate calculated at the end of each steam generating unit operating day, from the measured hourly NO_x emission rates for the preceding 30 steam generating unit operating days;
    d. Identification of the steam generating unit operating days when the calculated 30-day average NO_x emission rate are in excess of the NO_x emission limits under 40 CFR 60.44b and SC I.1 and I.2 with the reasons for such excess emissions as well a description of corrective actions taken;
    e. Identification of the steam generating unit operating days for which pollutant data have not been obtained, including reasons for not obtaining sufficient data and a description of the corrective actions taken;

f. Identification of the time when emission data have been excluded from the calculation of average emission rates and the reasons for excluding data;
g. Identification of the times when the pollutant concentration exceeded full span of the CEM/PEM;
h. Description of any modifications to the CEM/PEM that could affect the ability of the CEM/PEM to comply with the applicable Performance Specification 2, 3, or 16;
i. Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, Appendix F, Procedure 1.

The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(40 CFR 60.49b(g))**

13. The permittee shall maintain records of all information necessary for all notifications and reports as specified in these special conditions as well as that information necessary to demonstrate compliance with the emission limits of this permit for each unit in EUBOILER5. This information shall include, but shall not be limited to the following:
    a. Compliance tests and any testing required under the special conditions of this permit;
    b. Monitoring data;
    c. Total sulfur content of all fuels burned during, as measured during testing specified in SC V.1;
    d. Verification of heat input capacity;
    e. Identification, type, and amount of fuel combusted on a calendar month basis;
    g. All records required by 40 CFR 60.7;
    h. Records of the duration of all dates and times the CEMS/PEMS are not in operation;
    i. All calculations necessary to show compliance with the limits contained in this permit;
    j. All records related to, or as required by, the MAP and the startup and shutdown plan.

    All of the above information shall be stored in a format acceptable to the AQD District Supervisor and shall be consistent with the requirements of 40 CFR 60.7(f). **(R 336.1205(1)(a) & (b), R 336.1225, R 336.1301, R 336.1331, R 336.1912, R 336.2803, R 336.2804, 40 CFR 60.7(f), 40 CFR 60.49(b), 40 CFR 63.7540)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUBOILER5. **(R 336.1201(7)(a))**

2. The permittee shall report all periods when the CO, COMS, and/or O_2 monitoring system is out of control in the semi-annual report to the AQD District Supervisor. **(40 CFR 63.7535(d))**

3. The permittee shall submit 40 CFR Part 63, Subpart DDDDD notifications pursuant to 40 CFR 63.7545, to the AQD District Supervisor. **(40 CFR 63.7545)**

4. The permittee shall submit 40 CFR Part 63, Subpart DDDDD reports pursuant to 40 CFR 63.7550, to the AQD District Supervisor. **(40 CFR 63.7550)**

5. The permittee shall submit excess emission reports for any NO_x excess emission which occurred during each 6-month period reporting period. The reports shall be postmarked no later than 30 days following the end of each reporting period, unless the permittee has obtained approval from the AQD to submit reports electronically in accordance with 40 CFR 60.49b(v). The permittee has the option to submit on a more frequent basis. NO_x excess emissions are defined as any calculated 30-day rolling average NO_x emission rate which exceeds the applicable emission limits in 40 CFR 60.44b and SC I.1 and I.2. **(R 336.1201(3); 40 CFR 60.49b(h), (v), and (w); 40 CFR 60.7(c))**

6. The permittee shall submit reports containing the information in SC VI.10. The reports shall be postmarked no later than 30 days following the end of each 6-month reporting period, unless the permittee has obtained approval from the AQD to submit reports electronically in accordance with 40 CFR 60.49b(v). The permittee has the option to submit on a more frequent basis. **(40 CFR 60.49b(i))**

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. SVSHARED1_2_5	144	199	R 336.1225, R 336.2803, R 336.2804

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the Standards of Performance for Industrial-Commercial-Institutional Steam Generating Units as specified in 40 CFR Part 60, Subparts A and Db, as they apply to EUBOILER5. **(40 CFR Part 60, Subparts A and Db)**

2. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers, and Process Heaters, as specified in 40 CFR Part 63, Subparts A and DDDDD as they apply to EUBOILER5. **(40 CFR Part 63, Subparts A and DDDDD)**

3. Initial compliance with 40 CFR Part 63, Subpart DDDDD must be demonstrated within 180 days of initial startup. Initial startup is defined as the first time useful thermal energy is supplied by EUBOILER5. **(40 CFR 63.7510(f), 40 CFR 63.7555(d)(11))**

EUSOLIDFUELTRAN
EMISSION UNIT CONDITIONS

DESCRIPTION

Existing enclosed wood and wood waste conveyors and new covered conveyors will transport solid fuels of wood and wood waste, TDF, paper recycling residuals, and primary clarifier residuals. The fuel streams will be blended while traveling along the new wood and wood waste conveyor before entering Building 4 and being deposited into a fuel storage bin.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

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

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. All solid fuel handling and storage, for EUSOLIDFUELTRAN, shall be enclosed or covered. **(R 336.1910, R 324.5524)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall perform and document a non-certified visible emission observation once per week while the equipment is handling wood and wood waste, primary clarifier residuals, paper recycling residuals, or TDF. If any visible emissions are observed PCA will correct and document the problem causing visible emissions within two (2) hours, re-perform the non-certified visible emission observation and document that visible emissions are no longer present while the equipment is handling wood and wood waste, primary clarifier residuals, paper recycling residuals, or tire derived fuel. If visible emissions are still present additional actions shall be implemented to identify and correct the problem causing the visible emissions and these actions shall be documented. This process shall be repeated until the cause of visible emissions has been eliminated. **(R 336.1331(2))**

VI. MONITORING/RECORDKEEPING

1. The permittee shall keep records of the non-certified visible emissions observations that are performed, the reason for the visible emissions, and any corrective actions taken shall be kept on file in a format acceptable to the AQD District Supervisor. **(R 336.1331)**

VII. REPORTING

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

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

EUWASHERS
EMISSION UNIT CONDITIONS

DESCRIPTION

Two vacuum drum rotary pulp washers operated in series.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

LVHC Collection System, EUBOILER1, EUBOILER2, EUBOILER4A

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. VOC (Normal operation)[a]	0.37 pph	Hourly	EUWASHERS	SC VI.1	R 336.1205(1)(a), R 336.1227
2. VOC (Abnormal operation)[b]	18.57 pph	Hourly	EUWASHERS	SC VI.1	R 336.1205(1)(a), R 336.1227
3. VOC	2.42 tpy	12-month rolling time period as determined at the end of the month	EUWASHERS	SC VI.1	R 336.1205(1)(a), R 336.1227

[a] Normal operation is defined as those times when the emissions from EUWASHERS are collected by the LVHC Collection System and combusted in EUBOILER1, EUBOILER2, EUBOILER4A.

[b] Abnormal operation is defined as those times when the emissions from EUWASHERS are not collected by the LVHC Collection System or when the LVHC is operating and the collected gases are not combusted in EUBOILER 1 or EUBOILER2, EUBOILER4A.

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall install and maintain EUWASHERS with a LVHC Collection System which collects emissions from EUWASHERS and combusts the collected emissions in EUBOILER1, EUBOILER2, or EUBOILER4A. **(R 336.1205(1)(a))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

1. The permittee shall keep records of the following information, in a manner satisfactory to the AQD:
   a. Amount of oven dried pulp processed by EUWASHERS on a monthly basis;
   b. Operating hours of EUWASHERS on a monthly basis;
   c. Total time that the LVHC Collection System was unavailable or was being bypassed during operation of EUWASHERS on a monthly basis;
   d. Annual VOC emissions, based upon a 12-month rolling time period, as determined at the end of each calendar month using the calculations in Appendix 7;
   e. Hourly VOC emissions with and without the LVHC collection system operating, calculated on a monthly basis, using the calculations in Appendix 7.

   (R 336.1205(1)(a))

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

EUSANDSILO
EMISSION UNIT CONDITIONS

DESCRIPTION

Sand silo used to store sand used in Boiler No. 5 (EUBOILER5).

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

Baghouse to control particulate emissions.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/ Testing Method	Underlying Applicable Requirements
1. PM	0.10 lb/1,000 lb exhaust gases	Hourly	EUSANDSILO	SC V.1	R 336.1331(1)(a)

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate EUSANDSILO unless the baghouse is installed and operating properly.

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The Permittee shall perform and document a non-certified visible emission observation while EUSANDSILO is being filled. If any visible emissions are observed the permittee will correct and document the problem causing visible emissions within two (2) hours, re-perform the non-certified visible emission observation and document that visible emissions are no longer present while EUSANDSILO is being filled. If visible emissions are still present additional actions shall be implemented to identify and correct the problem causing the visible emissions and these actions shall be documented. This process shall be repeated until the cause of visible emissions has been eliminated. **(R 336.1910)**

VI. MONITORING/RECORDKEEPING

1. Records of the non-certified visible emissions observations that are performed, the reason for the visible emissions, and any corrective actions taken shall be kept on file in a format acceptable to the AQD. **(R 336.1201(3))**

VII. REPORTING

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

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

NA

FLEXIBLE GROUP SPECIAL CONDITIONS

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
FGBIOGASSYSTEM	Biogas generation system which produces fuel for the three boilers. In the event of boiler upsets or malfunctions, the gas is directed to EUBIOGASFLARE for destruction.	EUBOILER1, EUBOILER2, EUBOILER4A, EUBIOGASSYSTEM, EUBIOGASFLARE
FGMACT SUBPART S	For semi-chemical pulping processes using wood, the affected sources are the digester system and the evaporator system, as defined in 40 CFR Part 63, Subpart S.	EUEVAPFC, EUEVAPLTV, EUDIGESTERS

FGMACT SUBPART S
FLEXIBLE GROUP CONDITIONS

DESCRIPTION

For semi-chemical pulping processes using wood, the affected source is the total of all HAP emission points in the pulping system. Pulping system means all process equipment, beginning with the digester system, and up to and including the last piece of pulp conditioning equipment.

Emission Units: EUDIGESTERS, EUEVAPLTV, EUEVAPFC

POLLUTION CONTROL EQUIPMENT

EUBOILER1, EUBOILER2, EUBOILER4A, LVHC collection system

EMISSION LIMIT(S)

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

II. MATERIAL LIMIT(S)

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

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. All regulated HAP-emitting sources associated with EUEVAPFC, EUEVAPLTV, and EUDIGESTERS shall be enclosed and vented into a closed-vent system and routed to EUBOILER1 and/or EUBOILER2 and/or EUBOILER4A. **(40 CFR 63.443(c), 40 CFR 63.443(d)(4))**

2. Each component of the closed-vent system specified in S.C. III.1 that is operated at positive pressure and located prior to a control device shall be operated with no detectable leaks as indicated by an instrument reading of less than 500 ppmv above background, as measured by the procedures in S.C.V.1. **(40 CFR 63.450(c))**

3. Each bypass line in the closed-vent system that could divert vent streams containing HAP to the atmosphere without meeting the control device requirements in S.C. III.1 shall comply with the following requirement:
   a. On each bypass line, the owner or operator shall install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that is capable of taking periodic readings as frequently as specified in 40 CFR 63.454(e). The flow indicator shall be installed in the bypass line in such a way as to indicate flow in the bypass line; or
   b. For bypass line valves that are not computer controlled, the permittee shall maintain the bypass line valve in the closed position with a car seal or a seal placed on the valve or closure mechanism in such a way that the valve or closure mechanism cannot be opened without breaking the seal.

   (40 CFR 63.450(d))

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. For all regulated HAP-emitting sources associated with EUEVAPFC, EUEVAPLTV, and EUDIGESTERS, the total HAP emissions from each LVHC system shall be controlled by introducing the HAP emission stream into the flame zone of EUBOILER1 and/or EUBOILER2 and/or EUBOILER4A. **(40 CFR 63.443(b)(1), 40 CFR 63.443(d)(4)(i))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. For positive pressure closed-vent systems or portions of closed vent systems, demonstrate no detectable leaks as specified in S.C. III.2, measured annually by the procedures in 40 CFR 63.457(d) as stated below:
   a. Method 21, of part 60, appendix A-7; and
   b. The instrument specified in Method 21 shall be calibrated before use according to the procedures specified in Method 21 on each day that leak checks are performed. The following calibration gases shall be used:
      i. Zero air (less than 10 parts per million by volume of hydrocarbon in air); and
      ii. A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 parts per million by volume methane or n-hexane.

   (40 CFR 63.453(k)(3))

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Each enclosure and closed-vent system used to comply with 40 CFR 63.450(a) shall comply with the following requirements:
   a. For each enclosure opening, a visual inspection of the closure mechanism specified in 40 CFR 63.450(b) shall be performed at least once every 30 days to ensure the opening is maintained in the closed position and sealed.
   b. Each closed-vent system required by 40 CFR 63.450(a) shall be visually inspected every 30 days and at other times requested by the AQD. The visual inspection shall include inspection of ductwork, piping, enclosures, and connections to covers for visible evidence of defects.
   c. For positive pressure closed-vent systems or portions of closed-vent systems, demonstrate no detectable leaks as specified in 40 CFR 63.450(c) measured initially and annually by the procedures in 40 CFR 63.457(d).
   d. The valve or closure mechanism specified in 40 CFR 63.450(d)(2) shall be inspected at least once every 30 days to ensure that the valve is maintained in the closed position and the emission point gas stream is not diverted through the bypass line.

   (40 CFR 63.453(k))

2. If an inspection required by SC VI.1(a-c) identifies visible defects in ductwork, piping, enclosures or connections to covers required by 40 CFR 63.450, or if an instrument reading of 500 ppmv or greater above background is measured by SC V.1, or if enclosure openings are not maintained at negative pressure as determined by SC V.2, then the following corrective actions shall be taken as soon as practicable.
   a. A first effort to repair or correct the closed-vent system shall be made as soon as practicable but no later than 5 calendar days after the problem is identified.
   b. The repair or corrective action shall be completed no later than 15 days after the problem is identified. Delay of repair or corrective action is allowed if the repair or corrective action is technically infeasible without a process unit shutdown or if the owner or operator determines that the emissions resulting from immediate repair would be greater than the emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

   (40 CFR 63.453(k)(6))

3. For each applicable enclosure opening, closed-vent system, and closed collection system, the permittee shall prepare and maintain a site-specific inspection plan including a drawing or schematic of the components of applicable affected equipment. **(40 CFR 63.454(b))**

4. For each inspection performed pursuant to Condition VI.1(a-c), the permittee shall record the following information:
   a. Date of inspection;
   b. The equipment type and identification;
   c. Results of negative pressure tests for enclosures;
   d. Results of leak detection tests;
   e. The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection);
   f. The date the defect or leak was detected and the date of each attempt to repair the defect or leak;
   g. Repair methods applied in each attempt to repair the defect or leak;
   h. The reason for the delay if the defect or leak was not repaired within 15 days after discovery;
   i. The expected date of successful repair of the defect or leak if the repair is not completed within 15 days;
   j. The date of successful repair of the defect or leak;
   k. The position and duration of opening of bypass line valves and the condition of any valve seals;
   l. The duration of the use of bypass valves on computer controlled valves.
   (40 CFR 63.454(b))

5. The permittee shall set the flow indicator on each bypass line specified in 40 CFR 63.450(d)(1) to provide a record of the presence of gas flow in the bypass line at least once every 15 minutes. **(40 CFR 63.454(e))**

6. The following records of malfunctions must be maintained:
   a. Records of the occurrence and duration of each malfunction of operation (i.e., process equipment) or the air pollution control and monitoring equipment;
   b. Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. **(40 CFR 63.454(g))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

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

Stack & Vent ID	Maximum Exhaust Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
NA	NA	NA	NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable requirements of the National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry in 40 CFR Part 63, Subpart S, as they apply. **(40 CFR Part 63, Subpart S)**

APPENDIX A – Monitoring
Continuous Emission Monitoring System (CEMS) and Predictive Emission Monitoring System (PEMS) Requirements

1. Within 30 calendar days after commencement of trial operation, the permittee shall submit two copies of a Monitoring Plan to the AQD, for review and approval. The Monitoring Plan shall include drawings or specifications showing proposed locations and descriptions of the required CEMS/PEMS.

2. Within 150 calendar days after commencement of trial operation, the permittee shall submit two copies of a complete test plan for the CEMS/PEMS to the AQD for approval.

3. Within 180 calendar days after commencement of trial operation, the permittee shall complete the installation and testing of the CEMS/PEMS.

4. Within 60 days of completion of testing, the permittee shall submit to the AQD two copies of the final report demonstrating the CEMS/PEMS complies with the requirements of the corresponding Performance Specifications (PS) in the following table.

Pollutant	Applicable PS*
Opacity (COMS)	1
NO_X (CEMS)	2
O_2 and CO_2	3
CO	4
NO_X (PEMS)	16
*Or other PS as approved by the AQD.	

5. The span value shall be 2.0 times the lowest emission standard or as specified in the federal regulations.

6. The CEMS shall be installed, calibrated, maintained, and operated in accordance with the procedures set forth in 40 CFR 60.13 and PS 1, 2, 3, and 4 of Appendix B to 40 CFR Part 60 or 40 CFR Part 75. If a PEMS is installed in lieu of a CEMS, the PEMS shall be installed, maintained, and operated in accordance with PS 16 of Appendix B to 40 CFR Part 60, as proposed or promulgated.

7. Each calendar quarter, the permittee shall perform the Quality Assurance Procedures of the CEMS set forth in Appendix F of 40 CFR Part 60. If a PEMS is installed in lieu of a CEMS, the permittee shall perform the Quality Assurance Procedures of the PEMS set forth in PS 16 of Appendix B to 40 CFR Part 60, as proposed or promulgated. Within 30 days following the end of each calendar quarter, the permittee shall submit the results to the AQD in the format of the data assessment report (Figure 1, Appendix F).

8. In accordance with 40 CFR 60.7(c) and (d), the permittee shall submit two copies of an excess emission report (EER) and summary report in an acceptable format to the AQD, within 30 days following the end of each calendar quarter. The Summary Report shall follow the format of Figure 1 in 40 CFR 60.7(d). The EER shall include the following information:
   a) A report of each exceedance. This includes the date, time, magnitude, cause and corrective actions of all occurrences during the reporting period.
   b) A report of all periods of CEMS/PEMS downtime and corrective action.
   c) A report of the total operating time of the unit during the reporting period.
   d) A report of any periods that the CEMS/PEMS exceeds the instrument range.
   e) If no exceedances or CEMS/PEMS downtime occurred during the reporting period, the permittee shall report that fact.

The permittee shall keep all monitoring data on file for a period of at least five years and make them available to the AQD upon request.

APPENDIX 7 – Emission Calculations

EUWASHERS

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

$$\text{Daily VOC emissions} = (A \times EF \times (1 - CE)) + (B \times EF)$$

Where: A = Amount of pulp processed under normal conditions (Tons of oven dried pulp on a daily basis)
B = Amount of pulp processed under abnormal conditions (Tons of oven dried pulp on a daily basis)
EF[a] = Emission factor
CE[b] = Control efficiency

[a]In the absence of specific test data, a default EF of 0.518 pounds of VOC per ton of oven dried pulp shall be used.

[b]CE shall equal 0.98 when emissions are collected by the LVHC Collection System and EUBOILER1, EUBOILER2, and EUBOILER4A are operating properly.

BOILERS

The permittee shall use the following calculations in conjunction with monitoring, testing or recordkeeping data to determine compliance with the pound per hour (pph) NO_X, CO, PM_{10}, $PM_{2.5}$ and SO_2 emissions limits, on a continuous 24-hour rolling operating hours average basis, referenced in this PTI. The permittee shall use emission factors from the most recent source specific testing (i.e. stack testing, gas sampling), as available for each boiler.

24-hour PM_{10} emissions = (A x EF)
24-hour $PM_{2.5}$ emissions = (A x EF)
24-hour SO_2 emissions = (A x EF)
24-hour NO_X emissions (with TDF) = [B x (46 lb/lb-mol) x (lb-mol/385.35scf) x ($C_{w/TDF}$) x A x (1/1,000,000)]
24-hour NO_X emissions (without TDF) = [B x (46 lb/lb-mol) x (lb-mol/385.35scf) x ($C_{wo/TDF}$) x A x (1/1,000,000)]
24-hour CO emissions (with TDF) = [B x (28 lb/lb-mol) x (lb-mol/385.35scf) x ($C_{w/TDF}$) x A x (1/1,000,000)]
24-hour CO emissions (without TDF) = [B x (28 lb/lb-mol) x (lb-mol/385.35scf) x ($C_{wo/TDF}$) x A x (1/1,000,000)]

Where: A = Amount of total heat input of all fuels fired (Combined MMBTU of all fuels fired on an hourly basis)
B: = CEMS Concentration (hourly ppm average)
$C_{w/TDF}$ = F factor for fuel blend with TDF from most recent fuel sampling analysis (scf/BTU)
$C_{wo/TDF}$ = F factor for fuel blend without TDF from most recent fuel sampling analysis (scf/BTU)
EF = Emission factor from the most recent approved EPA Test Method stack test result (lb/MMBTU

APPENDIX C –
ENVIRONMENTAL PLANS REFERENCED IN CURRENT ROP

PCA Filer City, Michigan Mill
Copeland Reactor CAM Plan (EUCOPELAND+DISTANK)
Particulate Matter (PM) Control

I. BACKGROUND

A. Emissions Unit

Description:	The Copeland Reactor is a fluidized bed reactor used to recover sodium carbonate from spent pulping liquor (black liquor). The Copeland Reactor is equipped with two cyclones, a venturi scrubber, wet electrostatic precipitators (WESP), and regenerative thermal oxidizer (RTO). The venturi scrubber controls the PM emissions. The WESP serves as protective equipment to prevent fouling of the RTO ceramic saddle bed (where the RTO was installed to comply with VOC destruction requirements).
Identification:	EUCOPELAND+DISTANK
Facility:	Packaging Corporation of America (PCA) – Filer City, Michigan Mill

B. Applicable Regulations, Emission Limit, and Monitoring Requirements

Regulation No.:	R 336.1331(1)(a)
Emission Limits:	0.20 lb PM/1000 lbs exhaust corrected to 50% excess air
Monitoring Requirements:	Monitor and record the differential pressure across the throat of the venturi scrubber at least once every 15 minutes.

C. Control Technology (Particulate Matter)

- Venturi Scrubber

II. MONITORING APPROACH

The key elements of the monitoring approach are presented below:

A. Indicator

The differential pressure across the venturi scrubber.

B. Measurement Approach

The differential pressure across the venturi scrubber is measured via a differential pressure transmitter.

C. Indicator Range

An excursion is defined as a one hour average differential pressure across the venturi scrubber less than 38 inches w.c.

D. Performance Criteria

Data Representativeness:	The differential pressure transmitter monitors the static pressures upstream and downstream of the scrubber's venturi throat.
Verification of Operational Status:	A differential pressure transmitter is currently installed, operated and maintained.
QA/QC Practices and Criteria:	Annually and as needed, the instrument is cleaned, zeroed out, and calibration checked.
Monitoring Frequency and Data:	Measured continuously.
Collection Procedure:	Measured continuously.

III. JUSTIFICATION

A. Background

The Copeland Reactor is equipped with a venturi scrubber in order to control emissions PM.

B. Rationale for Selection of Performance Indicator

A differential pressure transmitter continuously monitors the venturi scrubber to indicate proper functioning of the scrubber and to assure compliance with the PM limit.

C. Rationale for Selection of Indicator Level

Differential pressure readings within the range specified indicate that the venturi scrubber is properly functioning and effectively controlling emissions of PM.

PCA Filer City, Michigan Mill
Soda Ash Silo Baghouse CAM Plan (EUSODA-ASH)
Particulate Matter (PM) Control

I. BACKGROUND

A. Emissions Unit

Description:	The baghouse for the Soda Ash Silo (EUSODA-ASH) is subject to CAM.
Identification:	EUSODA-ASH
Facility:	PCA Filer City, Michigan Mill

B. Applicable Regulations, Emission Limit, and Current Title V Monitoring Requirements

Regulation No.:	R 336.1331(1), R 336.1201
Emission Limits:	0.10 lb/1000 lb exhaust gas calculated on a dry basis
Monitoring Requirements:	The differential pressure across the baghouse shall be continuously monitored and recorded once per day.

C. Control Technology

Baghouse

II. MONITORING APPROACH

The key elements of the monitoring approach are presented below:

A. Indicator

Pressure drop across the baghouse and the absence of visible emissions.

B. Measurement Approach

Differential pressure gauges.

C. Indicator Range

Pressure drop should be greater than or equal to 0.0 inches water column and less than or equal to 15 inches water column.

D. Performance Criteria

Data Representativeness:	Pressure drop is measured as the difference in pressure between the inlet and outlet of the baghouse.

Verification of Operational Status:	Not applicable. Applies only to new or modified monitoring systems. The pressure differential gauges for the soda-ash silo baghouse are existing monitors and do not need to be modified.
QA/QC Practices and Criteria:	Inspections of the baghouse are conducted and any problems are noted and corrected promptly.
Monitoring Frequency and Data Collection Procedure:	Pressure drop across the baghouse is monitored and recorded daily while the unit is operating. Readings are also recorded continuously in the process information system for real-time feedback.

III. JUSTIFICATION

A. Background

The soda-ash silo is used to store ash collected from the boilers. The silo is equipped with a baghouse to control particulate matter (PM) emissions.

B. Rationale for Selection of Performance Indicator

Pressure drop across a baghouse is an indicator of the resistance to flow through the control device and the effectiveness of the cleaning system. The baghouse is designed to operate within a certain pressure drop range. Operation outside of that range is an indication that the baghouse is not performing as designed and may not be effectively removing particulate matter from the gas stream. A high pressure drop can indicate that the bags have become blinded, or the bag cleaning system or dust removal system is malfunctioning. A low pressure drop can indicate that the bags are being over-cleaned (the bags must be coated with some dust to clean effectively), there are holes or tears in one or more bags, that one or more bags have come loose, or that the pressure monitoring device is plugged.

C. Rationale for Selection of Indicator Level

The pressure drop indicator ranges selected for the baghouse are based on a review of the differential pressure at the baghouse during transfers.

PCA Filer City, Michigan Mill
Fly Ash Silo Baghouse CAM Plan (EUFLYASH)
Particulate Matter (PM) Control

I. BACKGROUND

A. Emissions Unit

Description:	The baghouse for the Fly Ash Silo (EUFLYASH) is subject to CAM.
Identification:	EUFLYASH
Facility:	PCA Filer City, Michigan Mill

B. Applicable Regulations, Emission Limit, and Current Title V Monitoring Requirements

Regulation No.:	R 336.1331(1), R 336.1201
Emission Limits:	0.10 lb/1000 lb exhaust gas calculated on a dry basis
Monitoring Requirements:	Monitor and record pressure drop across baghouse once per day when the fly ash silo is operating.

C. Control Technology

Baghouse

II. MONITORING APPROACH

The key elements of the monitoring approach are presented below:

A. Indicator

Pressure drop across the baghouse and the absence of visible emissions.

B. Measurement Approach

Differential pressure gauges.

C. Indicator Range

Pressure drop should be greater than or equal to 2.0 inches water column and less than or equal to 6.0 inches water column.

D. Performance Criteria

Data Representativeness:	Pressure drop is measured as the difference in pressure between the inlet and outlet of the baghouse.
Verification of Operational Status:	Not applicable. Applies only to new or modified monitoring systems. The pressure differential gauge for the fly ash silo baghouse is an existing monitor and does not need to be modified.

QA/QC Practices and Criteria:	Calibrate, maintain, and operate equipment and instrumentation in accordance with manufacturer's specifications. Inspections of the baghouse are conducted and any problems are noted and corrected promptly.
Monitoring Frequency and Data Collection Procedure:	Pressure drop across the baghouse is monitored and recorded daily while the unit is operating. Readings are recorded and maintained on a log sheet.

III. JUSTIFICATION

A. Background

The fly ash silo is used to store fly ash collected from the boilers. The silo is equipped with a baghouse to control particulate matter (PM) emissions.

B. Rationale for Selection of Performance Indicator

Pressure drop across a baghouse is an indicator of the resistance to flow through the control device and the effectiveness of the cleaning system. The baghouse is designed to operate within a certain pressure drop range. Operation outside of that range is an indication that the baghouse is not performing as designed and may not be effectively removing particulate matter from the gas stream. A high pressure drop can indicate that the bags have become blinded, or the bag cleaning system or dust removal system is malfunctioning. A low pressure drop can indicate that the bags are being over-cleaned (the bags must be coated with some dust to clean effectively), there are holes or tears in one or more bags, that one or more bags have come loose, or that the pressure monitoring device is plugged.

C. Rationale for Selection of Indicator Level

The pressure drop indicator ranges selected for the baghouse are the manufacturer's recommendations to ensure effective particulate removal based on the design conditions for each filter.

Operating Program to Control Fugitive Dust

Packaging Corporation of America
2246 Udell Street
Filer City, MI 49634

May 1, 2018

Uncontrolled Emissions of Fugitive Dust

The following table lists the calculated potential uncontrolled emissions of fugitive dust for the Packaging Corporation of America Filer Mill:

PM Emissions (TPY)	Source
13.47	Material Handling
2.60	Unpaved Roads
7.03	Paved Roads
0..85	Wind Erosion

The supporting calculations and data tables are included in the appendix. These figures represent the maximum potential uncontrolled emissions from the mill. Material handling emissions were calculated using 2015 throughput and silt content measured onsite. The average wind speed was pulled from the 2012-2017 dataset. Unpaved road and paved road emissions were calculated using the 2012 vehicle miles traveled. Wind erosion emissions were chosen by comparing emissions from 2012-2016 and using the highest emission.

The uncontrolled emissions of fugitive dust are less than 50 tons per year from storage piles and 100 tons per year from all sources. Therefore, Rule 324.5524 (3) (i) is not applicable to the facility.

Material Storage Piles

The mill has outdoor storage piles of logs, chips, bark, and bales of recycle paper.

Timber handling machines are used to unload logs from trucks and to transport them to storage piles, and then to the mill for processing.

Chip trucks are unloaded in a chip dumper that elevates the truck into a near-vertical position so the chips can fall out by gravity. Front-end loaders transport chips for storage and for processing. Front-end loaders also transport bark that has been removed from logs.

Forklift trucks are used to unload bales of waste paper from trucks and transport them to storage piles and then to the mill for processing. Waste paper bales are tightly compacted with large individual pieces. Fugitive dust emissions from these piles are considered negligible.

Minimum drop heights are used in all unloading and transfer operations.

Spills are cleaned up promptly.

Roads, Parking Lots, and Traffic Areas around Storage Piles

The mill has both paved and unpaved roads, paved and unpaved parking lots, and paved and unpaved traffic areas around storage piles.

In addition to the traffic that serves outdoor storage piles, there is some other regular traffic:

- Finished paper product from inside the mill is loaded into rail cars or trucks.
- Primary sludge dumpsters are hauled to a landfill from Building 56 or the bin 115 by truck.
- Secondary sludge is hauled either for land application or to a landfill from secondary treatment by truck.
- Solid waste is occasionally hauled to or from Bin #115 by truck.
-
- In addition, there is traffic from maintenance activities and general operations.

Traffic in the mill is limited to 10 miles per hour. Signs are posted.

Unpaved surfaces are inspected frequently and dust suppressants are applied by a contractor as necessary to prevent fugitive dust emissions. A typical application rate is 2000 gallons of 28% calcium chloride per mile of two-lane road. Records are kept of purchase orders for dust suppressants.

Paved surfaces are also inspected frequently and cleaned with a street sweeper as necessary to prevent fugitive dust emission. This is typically done during or shortly after a rain to minimize sweeper dust. Records are maintained of paved surface sweeping.

The mill also has a wash-up building where vehicles are cleaned as necessary.

The mill operates a weather station for the National Weather Service and maintains daily record of precipitation.

Fugitive Dust Control Equipment for Coal Handling

Coal Handling is covered by EUCOALHANDLING in the Renewable Operating Permit (ROP).

The mill has not used coal as a fuel source since the beginning of 2014. However, if coal firing resumes, the following fugitive dust control equipment would apply:

Coal is received by boat. It is off-loaded and stored on the coal dock. It is then hauled to a covered conveyor system by front-end loader for transfer to coal bunkers.

The ROP requires the mill to perform non-certified visible emissions observations from the fabric filter exhaust points once a week when the equipment is operating. Records of emissions and corrective actions are kept onsite.

Fugitive Dust Control Equipment for Chip Handling

Chip Handling is covered by EUWOODCHIPTRAN in the ROP.

Wood chips are received by truck or they may be made onsite by chipping logs. They are screened and transferred to chip bins in the mill. Chip transfer operations involve blowing, belt conveyors, and front-end loaders. There are cyclones at the blower discharge points.

The ROP requires the mill to perform non-certified visible emissions observations from the cyclones once a week when the equipment is operating. Records of emissions and corrective actions are kept onsite.

Fugitive Dust Control Equipment for Soda Ash Handling

Soda Ash Handling is covered by EUSODA-ASH in the ROP.

Soda ash is received by rail and transferred to a silo by an enclosed blowing system that has a baghouse at the discharge point. It is then transferred to a dissolving tank. A minimum drop height is used.

The mill has pressure gauges at the entrance and exit of the baghouse, and the operator is in position to see a ruptured bag. The normal operating range is identified in the Source-Wide Malfunction Abatement Plan (MAP), and records are kept of any excursions and the corrective actions taken.

Fugitive Dust Control Equipment for Fly Ash Handling

Fly Ash Handling is covered by EUFLYASH in the ROP.

The mill has not used coal as a fuel source since the beginning of 2014. However, if coal firing resumes, the following fugitive dust control equipment would apply:

Fly Ash from the boiler baghouse is transferred to a collection tank by an enclosed blowing system that has a separate baghouse at the discharge point. The ash is then loaded into dump trucks via an enclosed tube for transport to a landfill. Water is added to the fly ash during the transfer in order to minimize fugitive dust and improve handling characteristics. The trucks are not filled above 6” from the top and they are covered with a tarpaulin for transport.

The ROP requires the mill to continuously measure the differential pressure across the baghouse. The normal operating range is identified in the Source-Wide Malfunction Abatement Plan (MAP), and records are kept of any excursions and the corrective actions taken.

Fugitive Dust Control Equipment for Pellet Handling

Pellet Handling is covered by EUPELLET in the ROP.

Pellets and bed material from the Copeland Reactor are transferred to a collection tank by an enclosed blowing system that has a baghouse at the discharge point. If the material is subsequently disposed of, instead of being reused, minimum drop heights are used in loading trucks.

Fugitive Dust Control Equipment for Bark Grinding

Starting July 2017, PCA also operates a portable horizontal hammer grinder to process bark rejected from the on-site bark hog. This portable bark grinder is brought onsite approximately 8 weeks per year and is not considered a significant source of additional fugitive emissions.

Activities from Previous Year

Road brining occurred 5/23/17 at the Mill and at the M-55 bark site.
Road brining was approved again 8/28/17 but was not ordered.
Street sweeping occurred on 9/5/17 at the Mill.

Appendices

1. Calculation of potential uncontrolled fugitive dust emissions.
2. Plant Map showing approximate location of storage piles, conveyors, traffic patterns, and fugitive dust control equipment.

Wood Chip Unloading	Emit Factor	Units	Total Emission	Units	Source/Comment
PM	3.07E-02	lb/ton	17161.1	lbs/year	Ap-42 Ch. 13.2.4 Eq. 1. PM10 & PM2.5 "k" values per NCASI Bulletin Vol. 40, No. 8, 10/1/2014; assume 3 drops
PM10	1.25E-04		69.6	lbs/year	
PM2.5	2.08E-05		11.6	lbs/year	
Bark/Refuse Unloading	**Emit Factor**	**Units**			**Source/Comment**
PM	2.55E-02	lb/ton	723.9	lbs/year	Ap-42 Ch. 13.2.4 Eq. 1. PM10 & PM2.5 "k" values per NCASI Bulletin Vol. 40, No. 8, 10/1/2014; assume 3 drops
PM10	5.18E-05		1.5	lbs/year	
PM2.5	6.90E-06		0.2	lbs/year	
Logs	**Emit Factor**	**Units**			**Source/Comment**
PM	2.55E-02	lb/ton	9049.3	lbs/year	Ap-42 Ch. 13.2.4 Eq. 1. PM10 & PM2.5 "k" values per NCASI Bulletin Vol. 40, No. 8, 10/1/2014; assume 2 drops.
PM10	1.04E-04		36.7	lbs/year	
PM2.5	1.73E-05		6.1	lbs/year	

	Bark Handling	Chip Handling	Logs	
k (PM)	0.74	0.74	0.74	
k (PM10)	0.0015	0.003	0.003	
k (PM2.5)	0.0002	0.0005	0.0005	
Silt content (%) <75 um	0.99000%	0.04600%	0.51800%	Measured in 2015
Mean wind speed (mph)	7	7	7	
Moisture content (%)	0.5	0.438	0.5	
PM Emit Factor (lb/ton)	2.55E-02	3.07E-02	2.55E-02	
PM10 Emit Factor (lb/ton)	5.18E-05	1.25E-04	1.04E-04	
PM2.5 Emit Factor (lb/ton)	6.90E-06	2.08E-05	1.73E-05	
2017 Annual Throughput (tons)	28344.72	558236	354309	

Unpaved Roads	2012 VMT	Max VMT	PM lb/yr Actual	PM-10 lb/yr Actual	PM-2.5 lb/yr Actual	PM lb/yr Max	PM-10 lb/yr Max	PM-2.5 lb/yr Max
Roadway Segment W	830	995	687	97	10	824	117	12
Roadway Segment X	162	195	135	19	2	161	23	2
Roadway Segment Y	487	585	404	57	6	484	68	7
Roadway Segment Z	1,101	1,321	911	129	13	1094	155	15
Roadway Segment AA	225	270	187	26	3	224	32	3
Roadway Segment AB	2,184	2,621	1809	256	26	2171	307	31
Roadway Segment AC	249	299	206	29	3	247	35	3

E, PM-30	0.8959136
E, PM-10	0.12665
E, PM-2.5	0.012665
E_{ext}, PM-30	0.8281678
E_{ext}, PM-10	0.1170732
E_{ext}, PM-2.5	0.0117073

AP-42 13.2.2 Eq 1a : $E = k (s/12)^a (W/3)^b$

Where:

E = size-specific emission factor (lb/VMT)		
s = silt content, % (Worst case, Table 13.2.2-3 Industrial Rd Range)	25.2%	
W = mean vehicle weight, tons	28	
S = Vehicle speed, mph	10	
k, PM-30	4.9	
k, PM-10	1.5	
k, PM-2.5	0.15	
a, PM-30	0.7	
a, PM-10 & PM2.5	0.9	
b, PM-30, PM-10, PM2.5	0.45	
P = day/yr w/ precip >0.01"	27.6	*see file for weather data*

AP-42 13.2.2 Eq 1a : $E = k (s/12)^a (W/3)^b$

AP-42 13.2.2 Eq 2 : $E_{ext} = E[(365-P)/365]$

VMT=Vehicle Miles Traveled

Paved Roads	2012 VMT	Max VMT	PM lb/yr Actual	PM-15 lb/yr Actual	PM-10 lb/yr Actual	PM-2.5 lb/yr Actual	PM lb/yr Max	PM-15 lb/yr Max	PM-10 lb/yr Max	PM-2.5 lb/yr Max
Roadway Segment A	1,327	1,593	231	57	46	11	277	68	55	14
Roadway Segment B	9,332	11,199	1626	399	325	80	1951	479	390	96
Roadway Segment C	3,526	4,231	614	151	123	30	737	181	147	36
Roadway Segment D	1,694	2,032	295	72	59	14	354	87	71	17
Roadway Segment E	4,203	5,044	732	180	146	36	879	216	176	43
Roadway Segment F	1,599	1,918	279	68	56	14	334	82	67	16
Roadway Segment G	778	933	135	33	27	7	163	40	33	8
Roadway Segment H	648	778	113	28	23	6	135	33	27	7
Roadway Segment I	194	232	34	8	7	2	40	10	8	2
Roadway Segment J	15,153	18,184	2640	648	528	130	3168	778	634	156
Roadway Segment K	830	995	145	35	29	7	173	43	35	9
Roadway Segment L	778	933	135	33	27	7	163	40	33	8
Roadway Segment M	197	236	34	8	7	2	41	10	8	2
Roadway Segment N	622	747	108	27	22	5	130	32	26	6
Roadway Segment O	3,111	3,733	542	133	108	27	650	160	130	32
Roadway Segment P	4,839	5,807	843	207	169	41	1012	248	202	50
Roadway Segment Q	4,372	5,247	762	187	152	37	914	224	183	45
Roadway Segment R	2,592	3,111	452	111	90	22	542	133	108	27
Roadway Segment S	7,259	8,710	1265	310	253	62	1517	372	303	74
Roadway Segment T	802	962	140	34	28	7	168	41	34	8
Roadway Segment U	1,711	2,053	298	73	60	15	358	88	72	18
Roadway Segment V	1,244	1,493	217	53	43	11	260	64	52	13
Roadway Segment AD	435.511	523	76	19	15	4	91	22	18	4
E_{ext}, PM-30	0.17									
E_{ext}, PM-15	0.04									
E_{ext}, PM-10	0.03									
E_{ext}, PM-2.5	0.01									

Equation from AP-42 Chapter 13.2

$E_{ext} = [k(sL)^{0.91} * (W)^{1.02}](1-P/4N)$

E_{ext} =Particulate emission factor

sL=Silt loading (g/M^2)	2.4	
P = day/yr w/ precip >0.01"	27.6	*see file for weather data*
W = mean vehicle weight, tons	7	
N= Number of days considered in P calc.	365	
k-PM 2.5	0.00054	
k-PM 10	0.0022	
k-PM 15	0.0027	
k-PM 30	0.011	

Wood Chip Unloading	Emit Factor	Units	Actual Emissions	Units
PM	9.20E+01	g/m^2	1082	Lbs/Year
Bark/Refuse Unloading				
PM	9.20E+01	g/m^2	111	Lbs/Year
Logs				
PM	9.20E+01	g/m^2	505	Lbs/Year

AP-42 Chapter 13.2.5

	Bark Handling	Chip Handling	Logs
Silt content (%) <75 um	0.99%	0.05%	0.52%
Moisture content (%)	0.5	0.438	0.5
Height of pile (m)	10	20	14
Pile Length (m)	25	80	50
Pile width (m)	10	40	30
Total surface area (m2)	1305	12702	5921
Threshold friction velocity u*t (m/s)	1.02	1.02	1.02

Pile surface area by wind regieme (m^2)

.2a	65.3	635.1	296.0
.2b	26.1	254.0	118.4
.2c	378.5	3683.5	1717.0
.6a	339.4	3302.4	1539.4
.6b	313.3	3048.4	1420.9
0.9	182.7	1778.2	828.9

Potential to Emit by Year

2012	37.22
2013	69.93354
2014	43.5848
2015	66.56367
2016	30.32218
2017	92.04
Max	92.04

PACKAGING CORPORATION OF AMERICA, FILER CITY, MICHIGAN
SUMMARY OF PAVED AND UNPAVED ROADWAY DATA

Description	Distance* (ft)	Avg. Daily Vehicle Count (number of trucks)	Annual Distance Traveled (Miles)	Roadway Segments Utilized	Roadway Surface	
Roadways Segments						
Roadway Segment A	160	120	1,327.3		Paved	
Roadway Segment B	600	225	9,332.4		Paved	
Roadway Segment C	425	120	3,525.6		Paved	
Roadway Segment D	350	70	1,693.7		Paved	
Roadway Segment E	200	304	4,203.0		Paved	
Roadway Segment F	925	25	1,598.6		Paved	
Roadway Segment G	450	25	777.7		Paved	
Roadway Segment H	375	25	648.1		Paved	
Roadway Segment I	70	20	193.6		Paved	**
Roadway Segment J	800	274	15,153.0		Paved	**
Roadway Segment K	300	40	829.5		Paved	
Roadway Segment L	225	50	777.7		Paved	
Roadway Segment M	190	15	197.0		Paved	
Roadway Segment N	150	30	622.2		Paved	**
Roadway Segment O	900	50	3,110.8		Paved	
Roadway Segment P	1,000	70	4,839.0		Paved	
Roadway Segment Q	575	110	4,372.4		Paved	
Roadway Segment R	750	50	2,592.3		Paved	
Roadway Segment S	600	175	7,258.5		Paved	
Roadway Segment T	290	40	801.9		Paved	
Roadway Segment U	165	75	1,710.9		Paved	**
Roadway Segment V	450	40	1,244.3		Paved	
Roadway Segment W	1,500	4	829.5		Unpaved	**
Roadway Segment X	235	5	162.5		Unpaved	**
Roadway Segment Y	282	25	487.4		Unpaved	
Roadway Segment Z	398	40	1,100.5		Unpaved	
Roadway Segment AA	163	20	225.4		Unpaved	
Roadway Segment AB	790	40	2,184.5		Unpaved	
Roadway Segment AC	120	15	248.9		Unpaved	**
Roadway Segment AD	70	45	435.5		Paved	**
Truck Type						
Chips	N/A	45.0		A, B		
Logs	N/A	0.0		A, B		
Recycle	N/A	32.0		A, C, D, E, F		
Polymer	N/A	1.0		A, C, D, E, F		
Product	N/A	21.0		A, C, D, E		
Solid Waste	N/A	20.0		A, C, D, E, F		
Coal Pile to Mill	N/A	32.0		H		
Chips to Pile	N/A	264.0		G		
Chips to Hopper	N/A	284.0		H		
Bark Fines	N/A	25.0		I		
General Mill Traffic	N/A	0.0		A, B, C, D, E, F, G, H, I		

*- All distances are measured one-way. All measurements have been rounded to compensate for innacuracies
**- multiplied by two for round trip

Paved

Truck Type	Description	Truck Weight, tons	Source	Loads/year	Avg Load Weight, tons	Total Weight, tons	Weighted Avg Segment
Chip Trucks	Tractor with 53' box trailer	21.3	https://www.allencounty.us/homeland/images/lepc/docs/TruckTrailerGuide.pdf	6740	36	58	1.15
Round Wood Trucks	Tractor with tandem log trailer/ self unloaders	25.35	https://www.allencounty.us/homeland/images/lepc/docs/TruckTrailerGuide.pdf	8003	47	73	1.72
Secondary Sludge Trucks	Tractor with tandem self dumping trailers	25.5	PCA Scale tare weight	944	47	73	0.20
Dump Trucks to Landfill	Double axle 4x4 dump trucks or double axle roll-off transport trucks	21	PCA Scale tare weight	4702	10	31	0.43
In-Mill Chip Transport	John Deer 844k Loaders with Modified Chip Bucket, Liebherr Clamp Loaders	37.7065	https://www.deere.com/en/loaders/wheel-loaders/844k-ii-wheel-loader/	273204	3	41	33.25
Bark/Fines Movement	John Deer 844k Loaders with Modified Chip Bucket, Liebherr Clamp Loaders	37.7065	https://www.deere.com/en/loaders/wheel-loaders/844k-ii-wheel-loader/	1688	5	42	0.21
Light Duty Pickup	Crew Cab 4x4 Pickup Truck	2.6	https://www.kbb.com/chevrolet/silverado-1500-crew-cab/2008/?bodystyle=pickup&intent=buy-used	8760	0	3	0.07
Bark/Fines Shipping	Tractor with 40' self dumping trailer or moving bottom	26	PCA Scale tare weight	2154	28	54	0.35
Finished Paper Shipping	Tractor with 53' box trailer	21.3	https://www.allencounty.us/homeland/images/lepc/docs/TruckTrailerGuide.pdf	21051	22	43	2.67
Secondary Fiber Receiving	Tractor with 53' box trailer	21.3	https://www.allencounty.us/homeland/images/lepc/docs/TruckTrailerGuide.pdf	10000	20	42	1.23
Total				337246			41

Unpaved

Truck Type	Description	Truck Weight, tons	Source	Loads/year	Avg Load Weight, tons	Total Weight, tons	Weighted Avg Segment
Chip Trucks	Tractor with 53' box trailer	21.3	https://www.allencounty.us/homeland/images/lepc/docs/TruckTrailerGuide.pdf	6740	0	21	6.11
Round Wood Trucks	Tractor with tandem log trailer/ self unloaders	25.35	https://www.allencounty.us/homeland/images/lepc/docs/TruckTrailerGuide.pdf	8003	0	25	8.63
Secondary Sludge Trucks	Tractor with tandem self dumping trailers	25.5	PCA Scale tare weight	0	47	73	0.00
Dump Trucks to Landfill	Double axle 4x4 dump trucks or double axle roll-off transport trucks	21	PCA Scale tare weight	0	10	31	0.00
In-Mill Chip Transport	John Deer 844k Loaders with Modified Chip Bucket, Liebherr Clamp Loaders	37.7065	https://www.deere.com/en/loaders/wheel-loaders/844k-ii-wheel-loader/	0	3	41	0.00
Bark/Fines Movement	John Deer 844k Loaders with Modified Chip Bucket, Liebherr Clamp Loaders	37.7065	https://www.deere.com/en/loaders/wheel-loaders/844k-ii-wheel-loader/	0	5	43	0.00
Light Duty Pickup	Crew Cab 4x4 Pickup Truck	2.6	https://www.kbb.com/chevrolet/silverado-1500-crew-cab/2008/?bodystyle=pickup&intent=buy-used	8760	0	3	1.05
Bark/Fines Shipping	Tractor with 40' self dumping trailer or moving bottom	26	PCA Scale tare weight	0	28	54	0.00
Finished Paper Shipping	Tractor with 53' box trailer	21.3	https://www.allencounty.us/homeland/images/lepc/docs/TruckTrailerGuide.pdf	0	22	43	0.00
Secondary Fiber Receiving	Tractor with 53' box trailer	21.3	https://www.allencounty.us/homeland/images/lepc/docs/TruckTrailerGuide.pdf	0	20	42	0.00
Total				23503			16

2012	Temp. (°F)			Dew Point (°F)			Humidity (%)			Sea Level Press. (in)			Visibility (mi)			Wind (mph)			Precip. (	Events	3 Day Max
1	37	36	33	34	31	28	93	82	70	29.83	29.64	29.47	10	6	1	26	11	38	0.15		31
4	30	21	12	25	15	9	93	81	69	29.99	29.91	29.84	10	10	10	14	6	18	0		14
7	39	36	30	30	25	18	75	64	55	30.21	29.93	29.68	10	10	1	18	12	25	0		18
10	46	35	24	30	28	21	93	71	49	29.99	29.9	29.77	10	10	2	14	7	21	0		14
13	28	24	21	27	18	12	93	76	63	29.93	29.66	29.39	10	6	2	16	3	28	0		16
16	39	30	21	30	24	12	86	77	68	30.04	29.82	29.73	10	10	8	9	6	-	0		24
19	26	17	8	21	6	0	86	71	62	30.06	29.83	29.61	10	4	0	26	15	37	0		26
22	33	22	12	30	18	7	93	77	56	30.16	29.92	29.62	10	8	2	16	9	24	0		26
25	35	30	24	28	23	19	86	75	65	30.36	30.28	30.17	10	10	6	12	2	17	0		17
28	35	30	26	32	24	16	93	78	59	29.92	29.76	29.63	10	6	0	26	13	32	0.16		26
31	50	36	21	39	31	18	93	81	66	29.8	29.73	29.67	10	8	2	16	6	25	0		16
3	37	32	28	32	29	23	93	80	65	30.49	30.45	30.4	10	7	2	9	1	-	0		10
6	35	30	26	28	27	25	93	78	70	30.12	30.07	30.02	10	8	3	15	7	21	0		15
9	35	32	28	18	16	12	64	53	44	30.18	30.1	30	10	10	10	17	11	23	0		20
12	30	24	19	14	11	9	68	60	47	30.19	30.15	30.1	10	10	10	18	15	26	0		20
15	39	34	30	32	29	25	93	78	70	30.06	30.02	29.95	10	9	4	12	5	18	0		20
18	33	26	19	30	19	12	93	68	55	30.24	30.11	29.92	10	9	3	17	9	25	0		17
21	37	34	32	34	25	19	93	70	56	29.98	29.67	29.51	10	9	2	16	7	20	0.05		22
24	32	30	28	27	25	21	86	80	64	29.74	29.59	29.51	10	5	1	20	10	24	0.01		20
27	42	37	32	30	22	18	70	60	52	30.36	30.08	29.9	10	10	10	25	16	36	0		25
1	37	34	32	32	30	28	93	83	70	29.83	29.71	29.49	10	8	2	12	5	-	0.01		21
4	24	22	19	19	15	10	86	74	63	29.93	29.83	29.75	10	9	5	10	6	-	0		20
7	60	56	53	46	38	30	67	49	41	29.89	29.82	29.7	10	10	9	26	17	40	0		26
10	51	37	23	28	15	7	63	44	35	30.51	30.28	30.08	10	10	10	23	10	38	0		23
13	55	50	44	43	36	28	82	62	36	30.05	29.93	29.78	10	10	8	21	13	28	0		21
16	73	56	39	54	41	36	87	76	50	30.1	30.06	30.03	10	10	8	13	4	-	0		22
19	80	68	55	61	56	52	88	64	47	30.02	30	29.95	10	10	5	15	6	22	0		21
22	80	66	53	59	52	46	94	66	42	30.14	30.1	30.06	10	10	5	12	3	-	0	Thunderstorm	13
25	55	48	41	43	37	28	87	66	50	30.14	30.03	29.93	10	10	10	16	6	23	0		18
28	64	54	44	46	37	32	71	61	52	29.93	29.74	29.64	10	10	10	22	15	32	0		22
31	44	38	33	30	29	27	81	71	57	30.04	30.01	29.95	10	10	10	10	4	16	0		16
3	53	48	42	43	34	28	76	60	46	30.01	29.95	29.91	10	10	8	15	7	17	0.08		18
6	48	37	26	28	24	19	86	59	40	30.36	30.3	30.22	10	10	10	15	6	-	0		17
9	51	40	28	34	27	23	86	60	33	30.01	29.92	29.88	10	10	10	21	8	28	0		22
12	48	34	21	34	27	19	93	70	43	30.28	30.23	30.19	10	10	5	14	3	16	0		23
15	69	63	57	61	57	54	94	84	64	29.83	29.7	29.6	10	7	2	16	8	29	0.52	Thunderstorm	29
18	60	43	26	45	32	21	93	65	36	30.32	30.09	29.9	10	10	7	18	6	30	0.07		18
21	48	38	28	32	25	21	93	59	34	30.09	30.04	30.01	10	9	0	16	6	24	0		22
24	55	47	37	30	27	21	75	48	26	29.74	29.7	29.67	10	10	10	18	10	24	0		24
27	46	34	23	28	20	12	86	52	25	30.29	30.24	30.18	10	10	9	18	6	23	0		18
30	53	46	39	43	37	21	87	71	28	30.16	30	29.92	10	10	5	15	7	17	0.13		15
3	71	63	55	63	58	54	94	85	68	29.96	29.89	29.84	10	9	0	16	6	23	2.94	Thunderstorm	16
6	59	55	51	52	40	25	88	57	35	30.13	30.06	29.97	10	10	6	16	8	23	0.17		16
9	55	47	39	45	39	34	93	73	44	29.94	29.89	29.83	10	10	1	17	8	25	0		20
12	64	54	42	46	40	30	76	54	34	30.27	30.2	30.05	10	10	8	17	6	23	0		17
15	78	63	48	48	41	32	72	48	34	30.02	29.88	29.77	10	10	9	16	5	25	0.01	Thunderstorm	16
18	80	66	51	43	38	34	63	38	23	30.1	30.05	30	10	10	8	13	6	22	0		21
21	64	54	44	55	43	34	87	65	37	30.16	30.11	30	10	10	2	17	9	24	0		17
24	84	70	55	55	50	46	72	47	27	29.82	29.73	29.59	10	10	10	21	9	34	0		21
27	80	70	59	63	60	54	94	77	54	30.17	30	29.82	10	10	5	28	9	40	0.61	Thunderstorm	28
30	57	49	41	48	42	36	93	73	51	30.01	29.91	29.81	10	10	7	15	6	22	0		15
2	60	54	48	48	45	43	87	74	55	29.69	29.64	29.59	10	10	10	17	10	25	0.09		17
8	80	74	69	55	52	48	50	45	42	29.95	29.9	29.86	10	10	2	15	10	22	0		20
11	84	75	66	64	61	57	73	60	48	29.9	29.83	29.75	10	10	0	16	6	26	0		18
14	78	61	44	52	45	39	87	60	29	30.22	30.17	30.08	10	10	2	10	6	18	0		14
17	75	68	62	64	58	48	94	69	38	29.88	29.85	29.81	10	10	0	13	7	22	0.07	Thunderstorm	22
20	89	81	73	68	65	59	73	57	45	29.98	29.92	29.81	10	10	1	17	9	31	0		20
23	75	60	46	55	50	45	93	69	43	30.08	30.05	30.02	10	10	1	12	2	-	0		18
26	71	56	42	54	46	39	93	64	35	30.13	30.07	29.98	10	9	0	13	2	-	0		15
29	84	68	53	63	55	48	94	62	29	29.89	29.86	29.82	10	8	0	13	3	16	0		13
2	91	72	53	63	58	52	94	62	33	30.05	29.98	29.9	10	10	7	13	2	-	0		23
5	91	80	68	73	70	64	94	73	49	29.97	29.9	29.84	10	10	2	13	6	28	0.4	Thunderstorm	16
8	80	66	53	63	58	52	94	72	42	30.12	30.09	30.04	10	8	0	13	3	17	0		17
11	80	66	51	55	51	46	88	60	30	30.21	30.17	30.12	10	10	3	13	4	-	0		16
14	87	76	66	66	63	59	88	65	38	30.07	30.03	29.97	10	10	10	14	4	17	0		16
17	87	78	69	70	67	63	94	65	43	29.92	29.81	29.76	10	10	10	17	12	23	0.04	Thunderstorm	17
20	78	68	57	57	55	52	88	66	39	30.16	30.11	30.08	10	10	9	14	7	20	0		14
23	89	79	69	73	68	63	83	68	55	29.98	29.88	29.83	10	10	10	15	6	21	0		15
26	75	72	68	72	67	61	94	83	69	29.77	29.67	29.55	10	9	3	14	6	25	0.89	Thunderstorm	21
29	80	64	48	64	57	46	94	78	51	30.13	30.07	30.01	10	7	0	13	3	16	0		16
1	80	66	53	64	59	50	94	81	54	29.98	29.96	29.92	10	6	0	16	3	91	0		24
4	89	76	64	73	69	64	100	79	49	29.95	29.88	29.8	10	10	6	13	6	17	0		21
7	77	67	57	66	61	55	100	76	57	30	29.95	29.93	10	8	2	13	4	17	0		14
10	69	66	62	55	52	48	77	67	53	29.94	29.91	29.89	10	10	10	20	9	30	0.01		20
13	71	64	57	63	59	55	94	82	57	29.98	29.96	29.94	10	10	10	10	2	-	0		13
16	71	68	66	66	62	55	100	81	68	29.89	29.78	29.71	10	9	2	21	5	29	0.3	Thunderstorm	21
19	69	60	50	59	52	45	94	74	40	29.98	29.95	29.93	10	10	8	12	4	-	0.03	Thunderstorm	15
22	78	64	50	61	52	46	100	68	32	30.12	30.08	30.05	10	8	0	14	5	21	0		14
25	91	76	62	63	60	55	94	61	29	30.08	30.04	30.02	10	10	6	13	5	16	0		14
28	73	62	51	57	54	50	100	71	50	30.18	30.13	30.09	10	9	1	14	4	17	0		21
31	80	78	75	66	63	54	73	60	42	30.05	29.95	29.91	10	10	10	13	10	20	0		13
3	82	70	57	66	59	54	94	77	51	30	29.98	29.91	10	10	8	8	5	-	0		13
6	77	67	57	61	55	45	100	65	34	29.94	29.93	29.91	10	10	7	13	5	16	0		17
9	66	58	48	54	48	43	100	73	43	30.14	30	29.85	10	10	2	16	4	23	0		21
12	80	70	60	63	59	54	88	65	51	30.15	30.09	30.06	10	10	10	14	5	21	0		14
15	69	54	39	50	45	37	100	76	43	30.34	30.25	30.12	10	10	5	15	5	18	0		17
18	55	50	44	50	44	36	93	78	47	29.96	29.83	29.74	10	10	4	25	8	32	0.36		25
21	59	49	39	50	43	37	100	85	55	29.89	29.82	29.75	10	9	1	15	4	20	0.71	Thunderstorm	17
24	64	46	30	45	35	28	93	75	38	30.17	29.97	29.76	10	10	3	21	8	32	0		21
27	59	49	39	43	40	36	93	74	45	30.31	30.25	30.2	10	10	5	13	3	16	0		15
30	62	50	37	46	42	36	100	77	45	30.05	30.01	29.97	10	8	0	15	4	20	0		15
3	46	44	42	45	43	39	93	92	87	29.99	29.97	29.95	10	8	5	7	5	-	0		24
6	41	40	39	36	36	36	87	86	81	30.14	29.99	29.92	10	10	6	23	17	31	0.04		23
9	57	52	48	45	42	34	82	66	54	29.94	29.82	29.74	10	10	6	25	10	34	0.39		25
12	48	40	32	34	29	25	93	65	43	30.47	30.37	30.23	10	10	10	15	6	23	0		25
15	48	42	33	43	38	30	93	78	62	29.95	29.81	29.59	10	10	4	23	15	33	0.38		23
18	59	52	44	54	47	39	94	88	81	29.54	29.37	29.25	10	9	3	17	9	26	1.16		17
21	57	44	32	48	38	30	100	84	51	30.05	30	29.89	10	5	0	17	3	18	0		17
24	71	63	55	63	58	54	94	83	69	29.97	29.92	29.85	10	9	3	10	6	-	0		25
7	48	38	30	30	27	25	87	66	46	30.16	30.09	29.98	10	10	10	12	6	-	0		12
10	64	54	44	48	42	37	87	74	52	30.1	29.98	29.85	10	6	2	17	9	34	0.03		24
13	35	30	26	21	19	16	80	62	52	30.48	30.4	30.21	10	10	10	20	11	26	0		20
16	46	35	24	36	28	21	100	82	57	30.49	30.44	30.35	10	6	0	10	3	-	0		12
19	51	40	28	36	31	25	93	69	47	30.36	30.25	30.12	10	9	5	8	5	-	0		10
22	62	54	46	46	41	37	82	62	42	30.02	29.84	29.62	10	9	3	20	10	30	0		32
25	33	30	26	28	23	18	93	71	55	30	29.86	29.79	10	8	1	20	8	25	0.12		20
28	35	29	23	27	20	16	86	65	52	30.29	30.22	30.15	10	9	1	17	12	25	0		18
1	51	42	33	48	35	30	94	82	70	30.24	30.06	29.85	8	5	2	13	9	21	0.6		18
4	51	42	30	52	32	16	88	65	48	30.24	29.99	29.78	10	10	7	21	12	30	0		21
7	42	40	35	37	31	25	81	71	61	29.98	29.94	29.87	10	10	10	10	7	-	0		20
10	32	30	28	27	23	19	93	76	60	29.9	29.75	29.65	10	9	2	12	5	18	0		21
13	44	38	32	30	28	27	87	67	49	30.22	30.14	30.06	10	10	10	15	7	26	0		17
16	46	42	39	45	40	36	100	93	87	29.64	29.56	29.53	10	3	0	14	4	17	0.1		14
19	35	34	32	32	28	25	93	80	65	30.11	29.99	29.78	10	9	2	12	1	-	0		30
22	30	20	19	19	18	16	93	82	64	30.09	30.03	29.92	10	10	10	17	12	26	0		17
25	28	26	23	23	20	18	93	79	64	30.37	30.27	30.07	10	10	9	9	2	-	0		16
28	30	27	24	25	21	19	93	78	64	30.15	30.07	29.95	10	9	2	8	2	-	0		15
31	35	28	19	25	19	10	86	69	59	30.09	29.97	29.89	10	9	4	18	9	30	0		18
3	28	26	24	23	19	18	86	74	64	30.12	30.05	29.99	10	8	3	17	9	29	0		23
6	37	30	23	32	25	18	93	76	60	30.25	29.99	29.82	10	8	0	17	9	28	0.03		24
9	41	38	35	30	27	25	75	66	56	30.42	30.1	29.87	10	10	10	25	13	32	0		25
12	51	42	32	46	36	25	87	72	50	29.96	29.8	29.65	10	10	7	23	10	32	0.03		23

15	28	24	21	18	14	12	80	66	51	30.39	30.29	30.08	10	10	10	14	7	18	0		22
18	41	22	6	32	15	-2	86	70	53	30.37	30.1	29.77	10	9	1	20	9	36	0		38
21	12	6	0	7	-2	-9	79	70	61	30.13	30.05	30	9	2	0	23	16	29	0		25
24	15	10	5	10	2	-2	92	69	53	30.61	30.48	30.19	10	8	1	17	8	26	0		17
27	28	24	21	25	20	16	93	77	59	30.38	30.26	30	10	8	0	14	6	20	0.06		15
30	37	30	21	37	28	16	93	86	74	29.45	29.31	29.17	10	5	1	23	9	38	0.42		25
2	17	14	10	10	6	1	85	73	53	30.11	30.04	30	10	6	0	15	8	20	0		17
5	26	10	-5	21	8	-9	86	75	47	30	29.84	29.72	10	9	0	17	6	22	0		17
8	26	16	5	25	16	1	93	77	68	30.38	30.22	29.99	10	8	0	14	9	22	0.01		16
11	44	37	30	39	29	19	93	78	64	29.84	29.54	29.39	10	8	1	26	14	34	0.03		26
14	37	30	24	34	28	16	93	87	69	29.92	29.68	29.56	10	3	1	23	5	31	0.03		23
17	21	10	0	14	4	-6	92	76	63	30.19	30.14	30.07	10	10	2	9	3	-	0		25
20	21	18	15	16	11	7	80	72	63	30.32	30.17	29.96	10	3	1	24	17	32	0		24
23	30	28	26	27	24	19	86	82	69	29.86	29.81	29.77	10	5	1	13	6	20	0		13
26	39	29	19	27	21	14	86	72	52	30.14	29.9	29.67	10	9	2	24	10	32	0		24
1	26	24	19	16	14	10	74	66	55	30.2	30.16	30.07	10	10	10	16	9	23	0		16
4	33	20	6	19	11	1	92	69	47	30.16	30.12	30.08	10	10	10	13	4	-	0		18
7	30	27	24	25	18	14	80	67	55	30.44	30.37	30.27	10	10	10	12	6	-	0		14
10	42	38	35	39	36	32	100	89	81	29.91	29.82	29.66	10	5	0	13	6	-	0.8		18
13	30	26	23	18	14	9	80	59	40	30.22	30.08	29.89	10	8	2	22	14	31	0		22
16	28	22	17	19	15	12	86	71	51	30.06	29.96	29.85	10	8	2	14	9	18	0		21
19	33	26	19	27	15	12	86	72	55	29.89	29.7	29.52	10	5	0	25	19	34	0		25
22	30	28	26	23	19	16	75	68	59	30.06	30.01	29.97	10	10	10	12	7	-	0		16
25	35	32	28	27	22	18	75	66	56	30.03	29.88	29.79	10	10	10	16	9	21	0		16
28	41	34	26	28	22	18	87	57	45	30.31	30.3	30.29	10	10	10	12	7	-	0		14
31	42	36	30	39	33	16	100	82	52	29.82	29.71	29.65	10	5	0	22	9	29	0.2		22
3	35	25	15	18	14	10	93	57	44	30.48	30.37	30.27	10	10	10	12	4	20	0		17
6	53	40	28	43	25	16	82	57	39	30.21	29.95	29.57	10	10	1	17	7	26	0.07		25
9	41	38	35	37	36	32	93	90	81	30.09	30.04	29.96	10	6	0	14	4	22	0.64	Thunderstorm	32
12	37	34	32	34	30	28	93	85	81	29.74	29.63	29.57	10	8	1	21	11	25	0.17		21
15	57	50	42	50	42	30	93	79	61	29.92	29.81	29.74	10	10	4	17	11	25	0.21		21
18	57	49	41	54	45	36	100	90	81	30	29.63	29.35	10	7	0	15	8	21	1.1		30
21	46	32	19	27	17	12	86	54	27	30.59	30.48	30.36	10	10	10	14	5	18	0		18
24	44	38	33	28	24	14	81	58	31	30.04	29.97	29.93	10	10	10	15	8	20	0.03		23
27	66	55	44	45	38	30	71	50	31	30.25	30.2	30.09	10	10	10	17	10	24	0		17
30	78	68	57	57	54	50	88	66	42	29.92	29.84	29.8	10	10	2	21	9	33	0.31	Thunderstorm	22
3	59	49	39	54	41	36	94	81	63	30.21	30.11	30.03	10	10	6	14	7	20	0.18	Thunderstorm	16
6	71	56	41	43	37	30	87	52	24	30.1	30.06	30.01	10	10	10	17	5	22	0		17
9	75	58	42	45	41	37	87	66	31	30.03	29.98	29.94	10	10	10	15	3	21	0.12		22
12	41	34	28	28	25	21	86	62	45	30.12	30.02	29.9	10	10	10	23	17	33	0		23
15	69	60	51	50	45	43	76	54	38	29.83	29.72	29.51	10	10	8	21	10	32	0		21
18	75	63	51	48	45	39	76	58	31	30.16	30.1	30.02	10	10	10	13	8	17	0		21
21	77	68	60	63	59	55	94	75	54	29.77	29.71	29.67	10	10	7	17	7	25	0.16	Thunderstorm	20
24	51	40	30	37	32	28	93	67	50	30.43	30.37	30.29	10	10	8	16	7	23	0		16
27	69	54	39	43	38	36	93	55	31	30.25	30.13	29.98	10	10	7	16	7	21	0		16
30	84	70	55	66	62	54	94	68	51	29.95	29.91	29.85	10	9	1	22	7	33	0		22
2	59	49	39	57	41	36	94	77	58	30.05	29.89	29.63	10	8	2	23	9	29	0.19		23
5	64	56	48	48	44	39	93	65	42	30.21	30.14	30.05	10	10	8	13	5	18	0.02		16
8	68	55	42	52	46	39	93	74	46	30.07	30.01	29.94	10	10	5	9	2	-	0		15
11	73	63	53	63	58	52	94	82	65	29.93	29.87	29.84	10	7	0	10	3	-	0		21
14	68	55	42	48	45	39	93	73	43	30.16	30.1	30.05	10	10	3	16	4	20	0		21
17	69	62	55	57	54	48	94	75	63	30.01	29.93	29.88	10	10	9	14	5	16	0.04	Thunderstorm	17
20	78	61	44	55	50	43	93	68	41	30.19	30.15	30.12	10	10	0	14	5	16	0		21
23	84	73	62	70	65	59	94	76	58	30.01	29.96	29.88	10	8	0	14	5	23	0	Thunderstorm	15
26	82	68	55	70	62	54	100	80	57	29.84	29.8	29.76	10	6	0	14	3	21	0		15
29	75	66	57	61	56	52	94	73	44	29.81	29.69	29.61	10	8	1	16	5	23	0		16
2	71	58	46	54	46	39	87	62	41	30.15	30.12	30.05	10	10	10	10	5	-	0.04		13
5	84	70	55	63	58	54	94	67	40	30.09	30.06	30.03	10	8	0	16	4	18	0		16
8	71	68	64	70	65	63	94	86	78	29.99	29.95	29.9	10	7	2	13	5	25	0.85	Thunderstorm	23
11	71	60	50	59	54	48	94	74	43	30.12	30.07	30	10	8	0	17	4	22	0		17
14	82	70	57	66	61	54	94	72	51	30.27	30.25	30.2	10	10	1	10	5	-	0		15
17	89	79	69	73	71	66	94	75	55	30.28	30.23	30.16	10	9	4	13	4	-	0		24
20	73	64	53	66	56	43	94	69	38	30.01	29.89	29.79	10	8	0	15	4	20	0		15
23	75	65	53	66	53	43	83	63	52	29.97	29.82	29.66	10	10	10	24	11	32	0		24
26	75	68	62	61	56	43	94	71	43	30.01	29.94	29.85	10	10	2	16	5	31	0.09		18
29	64	58	51	54	52	48	94	81	68	30.2	30.09	29.93	10	9	1	10	6	-	0.09		14
1	73	65	57	61	56	52	94	73	50	29.95	29.93	29.9	10	9	0	13	4	18	0.01		15
4	68	58	48	55	50	45	94	72	49	30.22	30.17	30.13	10	9	0	15	4	20	0		15
7	69	64	60	66	61	57	94	81	64	30	29.85	29.73	10	10	7	14	6	22	0.3	Thunderstorm	16
10	71	58	46	54	51	45	94	72	46	30.17	30.13	30.05	10	9	1	12	3	-	0		13
13	64	58	50	48	45	41	76	61	45	30.14	30.07	29.98	10	10	10	18	8	25	0.03		18
16	78	62	46	59	51	43	93	69	36	30.21	30.17	30.13	10	10	1	12	4	-	0		13
19	80	63	46	63	53	45	94	69	42	30.11	30.08	30.03	10	7	0	14	5	22	0		21
22	78	66	53	66	60	46	94	76	34	30.14	30.06	29.95	10	10	4	12	5	17	0.05	Thunderstorm	15
25	84	70	57	66	60	52	82	64	48	30.23	30.16	30.08	10	10	8	17	6	28	0		20
28	80	72	64	70	67	63	94	81	61	30.06	29.96	29.85	10	10	1	14	5	-	0		16
31	77	68	60	64	62	57	94	78	57	29.89	29.86	29.82	10	10	0	16	5	20	0		16
3	68	60	51	54	49	45	88	64	46	30.07	30.02	29.97	10	10	10	13	7	18	0		14
6	77	59	41	57	47	37	93	65	36	30.25	30.16	30	10	10	4	13	5	16	0		15
9	80	68	57	70	59	46	94	75	59	30.05	29.92	29.79	10	10	5	10	6	-	0.13		15
12	69	61	53	64	52	39	94	69	49	30.1	30	29.94	10	9	1	20	8	26	0		20
15	60	56	53	54	50	45	88	82	72	30.22	30.07	30.01	10	10	2	16	2	24	0.3		16
18	75	60	46	57	50	43	87	72	53	30.18	30.06	29.95	10	10	8	12	6	18	0		14
21	62	58	53	55	46	39	88	67	54	29.94	29.83	29.72	10	10	8	21	10	25	0.11		21
24	66	52	39	48	42	36	93	75	46	30.15	30.09	30.01	10	9	1	10	5	-	0		14
27	77	60	42	52	46	39	93	67	36	30.22	30.17	30.13	10	10	2	10	6	-	0		17
30	69	52	35	48	43	34	93	72	43	30.02	29.96	29.88	10	9	0	12	4	17	0		21
3	68	56	46	61	44	39	83	67	55	30.06	29.99	29.94	10	10	6	9	6	-	0		15
6	66	55	44	63	53	41	94	85	59	29.78	29.7	29.66	10	8	2	16	5	22	0.22		20
9	69	58	46	52	47	41	93	71	46	30.27	30.22	30.18	10	10	1	12	5	17	0		12
12	75	60	46	57	49	39	88	71	50	30.09	30.01	29.95	10	10	5	20	8	28	0.33	Thunderstorm	21
15	41	40	39	36	36	36	87	86	81	30.24	30.22	30.18	10	10	10	7	6	-	0		12
18	55	44	33	45	38	30	93	78	58	29.85	29.81	29.78	10	9	5	17	6	23	0.08		17
21	53	45	37	45	31	18	87	60	42	29.85	29.78	29.68	10	10	10	23	14	32	0		25
24	44	38	33	34	30	27	93	70	53	30.17	30.03	29.9	10	10	5	20	8	25	0.02		24
27	48	40	32	34	29	25	93	59	49	30	29.95	29.89	10	10	10	18	8	25	0		18
30	59	46	33	52	40	30	100	78	59	30.2	30.07	29.82	10	9	7	9	5	-	0.02		28
2	44	40	35	41	35	30	93	78	57	30.14	29.89	29.67	10	10	10	12	5	16	0.01		17
5	55	52	48	48	45	37	94	79	62	30.28	30.18	29.99	10	10	5	12	5	18	0		20
8	41	39	37	28	25	21	70	59	49	30.25	30.16	30.02	10	10	10	14	10	21	0		29
11	41	36	28	36	25	12	93	72	47	30.4	30.17	30.02	10	9	1	20	12	28	0.19		20
14	44	42	39	34	28	21	66	58	49	30.03	29.93	29.87	10	10	10	17	11	25	0		17
17	64	54	44	61	53	36	100	91	71	29.56	29.35	29.03	10	9	3	34	15	44	1.21	Thunderstorm	34
20	44	37	30	25	22	18	69	54	34	30.32	30.25	30.17	10	10	10	15	7	23	0		20
23	30	24	17	19	11	3	86	61	49	30.57	30.44	30.28	10	8	1	23	17	31	0		23
26	37	30	23	30	23	12	93	72	59	30.09	29.98	29.94	10	8	1	17	11	24	0.01		17
29	30	22	15	25	20	12	100	83	64	30.58	30.51	30.41	10	10	3	8	5	-	0.02		13
2	39	32	26	28	27	23	100	82	52	29.99	29.92	29.87	10	8	0	7	1	-	0		16
5	50	36	21	46	22	10	87	68	59	30.15	29.84	29.46	10	10	7	23	16	33	0.01		23
8	21	18	15	18	10	5	93	72	54	30.55	30.34	29.96	10	8	1	13	7	-	0		25
11	15	12	10	9	5	1	85	71	62	30.39	30.28	30.13	10	7	1	22	16	26	0		24
14	19	14	10	16	11	3	93	82	67	30.3	30.11	29.9	10	7	1	16	11	22	0		23
17	30	24	17	21	18	12	93	84	64	29.93	29.86	29.79	10	7	0	18	7	25	0.03		18
20	26	24	23	23	20	18	93	81	74	29.93	29.86	29.8	10	8	2	16	10	22	0.01		16
23	24	18	12	18	14	9	100	83	68	30.3	30.19	30.02	10	9	2	9	3	-	0.05		14
26	24	22	21	21	16	10	93	79	63	30.19	30.11	29.98	10	8	2	18	6	24	0.03		18
29	39	26	14	34	19	5	93	78	63	30.08	29.87	29.7	10	7	2	20	10	31	0		22
1	14	10	6	3	1	-4	79	68	57	30.39	30.35	30.31	10	10	9	12	5	16	0		16
4	32	26	19	28	22	10	93	79	68	30.01	29.8	29.68	10	7	0	24	12	33	0.03		25
7	8	3	-2	3	-2	-9	85	78	71	30.2	30.05	29.96	5	2	0	25	17	31	0		25
10	39	27	17	37	26	14	100	91	80	30.18	29.91	29.51	10	5	2	9	6	16	0.26		21
13	41	37	33	36	31	23	93	76	65	29.66	29.54	29.47	10	10	10	15	9	21	0		21
16	26	22	19	25	20	14	93	84	74	29.76	29.54	29.46	10	5	1	14	9	23	0.02		15
19	30	26	21	25	22	14	93	80	68	29.73	29.53	29.45	10	8	1	26	12	34	0		26
22	14	11	8	10	5	1	86	80	67	30.13	29.93	29.8	10	4	0	13	7	18	0		25
25	28	18	8	25	6	-6	93	67	52	29.71	29.49	29.24	9	4	0	24	18	33	0.01		26
28	8	4	1	1	-1	-4	85	76	67	30.22	30.14	30.01	7	2	0	22	15	30	0		25
31	24	16	6	21	10	3	92	75	68	30.11	30.03	29.78	10	10	4	17	10	24	0		17
3	19	10	0	12	3	-8	93	78	58	30.33	30.29	30.23	10	10	10	12	2	-	0		14

6	15	12	8	9	5	1	85	76	62	30.34	30.24	30.18	10	6	1	20	6	26	0		20
9	21	14	10	16	10	7	93	80	63	30.15	30.08	30.03	10	4	0	13	2	17	0.05		13
12	21	16	10	18	11	5	86	78	67	30.32	30.16	30.03	10	9	2	15	7	20	0		18
15	19	12	6	10	6	1	92	75	58	30.05	29.98	29.89	10	8	2	10	4	-	0		17
18	39	26	12	28	18	9	93	72	45	29.87	29.73	29.59	10	10	3	17	4	25	0		28
21	37	32	24	36	20	12	87	70	55	29.6	29.33	29.15	10	7	0	30	19	45	0.02		30
24	19	16	14	9	6	1	73	64	53	30.15	30.1	30.03	10	9	2	23	16	31	0		24
27	14	7	0	7	-4	-11	85	66	47	30.17	29.9	29.47	10	4	0	29	16	38	0		29
2	8	-2	-13	3	-9	-27	84	58	40	30.38	30.35	30.3	10	10	5	13	8	18	0		15
5	23	9	-5	7	-1	-11	100	68	39	30.51	30.44	30.29	10	10	0	13	3	16	0		14
8	28	18	6	27	15	1	92	77	59	30.21	30.15	29.99	10	9	1	15	9	20	0		18
11	42	38	32	30	27	19	81	66	53	29.86	29.71	29.6	10	10	10	14	4	20	0		17
14	44	36	28	34	29	23	93	72	49	29.78	29.56	29.44	10	9	5	21	8	29	0.01		21
17	32	18	5	9	0	-4	78	48	23	30.21	30	29.86	10	10	10	13	7	20	0		14
20	33	28	24	28	23	19	93	74	56	30.04	29.94	29.81	10	9	2	18	12	26	0.01		18
23	19	14	8	10	6	1	86	66	49	30.41	30.37	30.32	10	8	1	13	6	18	0		17
26	28	12	-4	16	4	-9	100	66	43	30.28	30.19	30.04	10	10	7	15	4	21	0		20
29	37	32	24	25	22	19	86	70	48	30.28	30.24	30.19	10	10	10	15	7	20	0		16
1	51	40	30	41	29	19	86	72	47	30.03	29.78	29.62	10	8	1	22	12	30	0.14		22
4	37	32	28	36	29	21	93	81	52	29.83	29.57	29.38	10	6	1	24	11	34	0.16	Thunderstorm	24
7	53	42	30	30	28	25	81	60	35	29.97	29.79	29.6	10	10	3	12	5	-	0		15
10	57	49	41	41	29	21	81	45	27	29.9	29.7	29.6	10	10	8	16	10	29	0.01		17
13	51	45	39	50	43	36	100	90	81	29.78	29.71	29.55	10	8	1	16	6	22	1.22	Thunderstorm	24
16	42	33	24	23	18	16	80	55	36	30.37	30.28	30.21	10	10	10	16	5	23	0		17
19	57	42	26	30	26	21	93	60	26	30.47	30.37	30.26	10	10	10	14	7	20	0		15
22	44	40	35	43	29	25	93	66	53	30.07	29.93	29.78	10	10	1	20	12	28	0		20
25	55	47	39	39	36	28	93	74	50	29.82	29.75	29.7	10	9	5	15	7	23	0.22		23
28	55	50	44	30	26	23	46	40	33	30.02	29.89	29.75	10	10	10	30	21	40	0		30
1	48	44	39	39	36	34	87	74	58	29.75	29.69	29.66	10	10	5	16	7	22	0		18
4	50	42	33	37	32	30	100	70	47	30.12	29.98	29.81	10	10	10	18	6	25	0		18
7	59	50	42	46	38	27	87	68	46	30.07	29.98	29.89	10	10	7	22	13	28	0.36	Thunderstorm	22
10	62	54	46	41	37	34	76	54	34	29.98	29.89	29.77	10	10	10	18	12	24	0		18
13	68	58	48	63	51	43	94	82	71	30.09	29.91	29.7	10	9	0	13	6	21	0.11		20
16	46	40	33	34	29	27	87	69	46	30.07	30.03	30	10	10	10	12	8	-	0		17
19	68	55	42	46	39	36	82	54	33	30.24	30.17	30.08	10	10	5	15	4	21	0.32		16
22	60	53	46	46	44	39	93	75	59	30.14	30.07	29.95	10	10	5	15	5	21	0		17
25	75	58	41	45	41	36	93	56	24	30.18	30.12	30.03	10	9	5	15	4	22	0		15
28	73	60	48	52	47	39	82	58	45	30.1	30.03	29.97	10	10	10	15	5	20	0		15
31	80	65	50	55	51	46	94	64	39	30.24	30.19	30.11	10	10	7	14	4	17	0		20
3	69	62	55	61	51	46	78	63	46	29.92	29.82	29.7	10	10	9	20	10	30	0		20
6	73	58	42	50	46	39	93	64	38	30.02	29.99	29.96	10	10	5	15	3	18	0		15
9	73	58	42	48	44	37	93	64	33	30.09	30.04	29.99	10	10	4	15	2	22	0		15
12	71	62	53	61	56	45	100	82	55	29.78	29.74	29.71	10	8	0	15	4	21	0		16
15	80	66	53	63	51	46	77	57	34	30.06	29.95	29.83	10	10	10	20	8	31	0		25
18	71	64	57	64	62	55	100	89	78	30.07	29.99	29.88	10	9	4	14	6	22	0.94		16
21	71	64	57	61	57	54	94	84	68	30.02	29.98	29.92	10	9	1	15	3	16	0		15
24	69	63	57	63	58	55	94	89	78	29.92	29.88	29.85	10	5	0	10	3	-	0		10
27	80	68	55	66	61	54	94	75	54	30.1	30.06	30.02	10	9	0	13	4	-	0		17
30	80	72	64	70	66	61	94	78	61	29.89	29.77	29.56	10	10	7	16	6	37	0.25	Thunderstorm	17
3	68	57	46	52	47	37	94	69	33	30.19	30.09	30.02	10	10	2	16	4	-	0		18
6	75	66	57	66	60	52	88	76	68	30.02	29.84	29.63	10	9	2	14	5	22	0.02	Thunderstorm	17
9	66	58	51	52	50	48	88	74	52	30.07	29.94	29.81	10	10	5	10	4	-	0		13
12	77	70	62	68	61	54	88	75	64	30.13	30.01	29.84	10	9	2	10	2	16	1.13	Thunderstorm	14
15	60	56	53	54	51	46	94	82	63	29.94	29.85	29.77	10	10	7	18	7	25	0.02		18
18	75	60	46	57	51	45	93	70	41	30.22	30.17	30.13	10	10	6	13	4	16	0		14
21	80	68	55	63	58	54	94	67	48	30.1	30.07	30.03	10	10	3	15	4	20	0		18
24	69	56	42	52	45	39	94	67	38	30.21	30.14	30.04	10	9	0	13	4	-	0		15
27	75	67	59	66	60	52	100	83	61	29.88	29.73	29.66	10	7	0	18	5	26	0.29	Thunderstorm	18
30	66	58	50	57	51	46	94	76	52	30.04	30.01	29.98	10	9	0	14	3	-	0		15
2	75	65	55	64	58	54	94	81	64	30.16	30.13	30.09	10	7	0	13	3	-	0		14
5	68	66	64	52	52	52	64	61	56	30.07	30.06	30.06	10	10	10	10	9	-	0		14
10	78	66	55	61	56	52	94	71	44	30.14	30.09	30.02	10	8	0	12	4	-	0		18
13	69	56	44	57	48	41	93	70	40	30.05	29.98	29.92	10	8	0	12	3	-	0		15
16	69	60	51	64	58	46	88	85	73	29.96	29.88	29.84	10	9	5	16	7	25	0.03		16
19	73	68	64	64	63	61	94	84	69	29.76	29.71	29.69	10	9	4	12	4	-	0.07		12
22	80	73	66	70	66	63	94	85	65	30.03	29.98	29.92	10	9	2	8	3	-	0		14
25	80	74	68	72	67	63	89	83	74	30.08	30.01	29.97	10	9	5	17	6	24	0.04	Thunderstorm	17
28	71	56	42	54	49	39	93	72	46	30.2	30.16	30.09	10	9	0	12	4	-	0		16
31	75	68	62	63	61	59	94	83	65	29.97	29.93	29.85	10	10	6	7	3	-	0		18
3	78	66	53	64	55	52	94	72	42	30.02	29.98	29.93	10	8	0	14	4	18	0		20
6	69	61	53	57	52	45	94	68	43	30.15	30.1	30.04	10	10	5	14	5	18	0		14
9	80	66	53	63	55	50	94	72	44	30.03	29.98	29.91	10	10	7	10	4	-	0		23
12	53	48	44	43	41	39	87	75	58	30.36	30.3	30.25	10	10	10	10	5	-	0.09		16
15	57	50	42	52	48	39	94	81	72	30.15	30.12	30.1	10	8	0	10	3	-	0.05		14
18	60	53	44	48	45	43	93	73	59	30.2	30.15	30.05	10	10	10	9	5	-	0		17
21	64	56	48	61	48	36	94	81	62	30.12	29.82	29.58	10	9	2	29	9	43	0.11	Thunderstorm	29
24	71	58	44	54	49	41	94	78	49	30.41	30.35	30.32	10	9	1	10	4	-	0		10
14	60	56	53	57	52	50	94	91	88	29.65	29.61	29.52	10	8	2	16	6	26	1.58		16
17	53	48	44	50	46	37	94	86	71	29.77	29.56	29.45	10	7	1	20	6	29	0.12		20
20	51	46	42	46	42	39	93	80	71	29.99	29.85	29.76	10	9	0	14	5	20	0		17
23	30	28	26	27	25	25	93	88	86	30.29	30.26	30.22	10	8	3	6	5	-	0		20
26	53	43	33	36	32	28	87	57	41	29.98	29.93	29.87	10	10	10	17	9	24	0		23
29	48	44	39	37	34	28	93	69	53	30.1	29.96	29.81	10	10	7	24	14	30	0.01		24
2	50	34	19	34	26	16	93	64	37	30.39	30.29	30.17	10	10	10	15	5	20	0		15
5	44	42	39	36	33	28	87	76	53	30.07	30	29.91	10	10	7	9	7	-	0.01		21
8	41	38	35	37	30	18	93	73	45	29.87	29.76	29.62	10	8	3	22	10	30	0.15		22
11	48	39	30	45	35	19	87	78	60	29.95	29.67	29.53	10	9	2	25	8	31	0.15		25
14	30	28	26	21	18	12	74	63	51	30.3	30.24	30.16	10	10	4	16	11	21	0		16
17	30	24	17	19	12	7	86	67	54	29.79	29.7	29.65	10	6	1	26	13	36	0.04		30
20	24	22	19	12	8	3	68	59	49	30.17	29.92	29.77	10	7	1	28	21	37	0		28
23	48	44	41	45	44	37	93	90	82	29.82	29.62	29.18	10	5	1	10	5	17	0.48		21
26	30	27	24	27	23	19	93	83	74	30.18	30.16	30.14	10	10	7	6	2	-	0		16
29	46	36	26	43	29	19	87	79	70	29.94	29.69	29.55	10	10	8	12	8	20	0		22
2	33	19	6	28	13	1	87	71	59	30.61	30.26	29.95	10	10	2	17	6	24	0		24
5	35	30	24	28	21	10	81	66	54	30.3	30.24	30.17	10	10	9	7	4	-	0		16
8	33	32	30	28	21	12	81	64	44	30.28	30.17	30.05	10	10	5	10	8	17	0.02		14
13	41	38	35	39	35	30	93	88	81	30.17	30.08	30.02	5	3	0	15	8	21	0		15
16	42	36	30	41	36	27	93	88	81	29.95	29.76	29.68	10	4	1	20	7	25	0.02		22
19	30	19	8	21	15	3	93	78	64	30.31	30.28	30.24	10	10	10	7	4	-	0		12
22	37	34	30	30	25	21	87	72	56	30.06	29.94	29.78	10	8	5	15	8	22	0.06		17
25	39	35	33	30	28	27	87	74	65	30	29.79	29.47	10	10	10	21	13	31	0.01		21
28	33	30	26	28	18	10	75	65	51	30.24	30.11	30	10	10	10	18	13	23	0		18
31	21	19	17	9	7	5	68	56	50	30.09	30	29.95	10	10	10	23	17	33	0		23
3	32	24	15	28	22	9	93	85	73	30.23	29.97	29.77	10	6	0	9	5	-	0.01		24
6	17	12	6	9	3	-4	85	67	52	30.3	30.15	30.05	10	7	2	29	10	37	0		29
9	15	10	6	10	1	-2	79	68	57	30.22	30.01	29.67	9	2	0	26	20	33	0		26
12	24	17	8	18	9	0	80	67	57	30.75	30.47	30.23	10	8	2	15	9	26	0		15
15	35	29	23	27	23	18	80	73	60	30.11	29.9	29.8	10	9	2	22	10	28	0		22
20	30	21	14	18	14	10	86	73	55	30.06	30	29.93	10	9	1	12	5	20	0		13
23	33	32	30	28	24	21	93	77	69	30.26	30	29.73	10	8	2	21	12	28	0.02		21
26	24	12	1	9	3	-4	85	67	40	30.04	29.97	29.89	10	10	10	8	4	-	0		12
29	33	28	23	28	19	9	93	71	40	30.26	29.92	29.75	10	8	1	20	9	33	0.06		20
1	19	14	8	9	4	0	79	65	58	30.27	30.14	30	10	7	2	18	12	28	0		18
4	21	16	10	18	9	-4	93	68	46	30.29	30.09	29.96	10	7	2	18	6	26	0.01		24
7	35	30	26	28	23	19	80	73	69	29.98	29.81	29.65	10	9	6	10	4	-	0		16
10	33	17	1	18	7	-4	85	67	38	30.3	30.21	30.04	10	10	10	10	3	17	0		18
13	21	13	5	16	8	1	92	74	58	30.35	30.06	29.79	10	7	0	24	7	30	0		30
16	17	8	-2	3	-10	-15	73	46	30	30.44	30.18	29.93	10	10	1	10	6	-	0		17
19	1	-2	-4	-2	-8	-13	85	70	55	30.31	30.22	30.11	10	3	0	14	8	23	0		15
22	15	8	1	10	2	-6	92	70	56	30.58	30.36	30.12	10	5	0	18	8	23	0		28
25	12	10	5	7	0	-4	73	64	53	30.14	29.98	29.76	10	8	1	18	11	24	0		18
28	21	5	-11	9	-1	-17	85	66	46	30.66	30.59	30.47	10	10	10	14	5	20	0		25
3	30	22	15	25	18	9	86	75	64	30.27	29.83	29.53	10	7	1	22	8	28	0.01		23
6	28	12	-5	19	7	-9	85	69	50	30.42	30.22	30.05	10	10	7	22	7	32	0		22
9	48	32	17	34	24	12	93	70	46	30.13	30.08	30.05	10	9	1	16	4	28	0		16
12	50	38	26	21	16	9	80	44	22	30.55	30.48	30.37	10	10	10	13	5	20	0		13
15	48	36	24	32	27	19	87	66	50	30.24	30.11	29.91	10	10	2	12	4	21	0		21
18	39	29	19	23	17	12	80	57	38	30.29	30.26	30.22	10	10	10	16	5	21	0		16
21	41	32	21	36	21	9	87	61	40	30.28	30.1	29.9	10	10	5	18	9	23	0		18
24	41	34	26	19	15	9	74	50	29	30.36	30.23	30.11	10	10	10	13	5	-	0		18
27	21	16	12	12	4	0	68	52	42	30.23	30.15	30.08	10	10	3	18	11	28	0		25
30	46	40	35	30	28	25	81	63	43	29.96	29.87	29.74	10	10	10	22	14	29	0		22
2	62	53	44	46	39	32	93	62	34	29.78	29.69	29.6	10	9	2	18	11	36	0.32		18

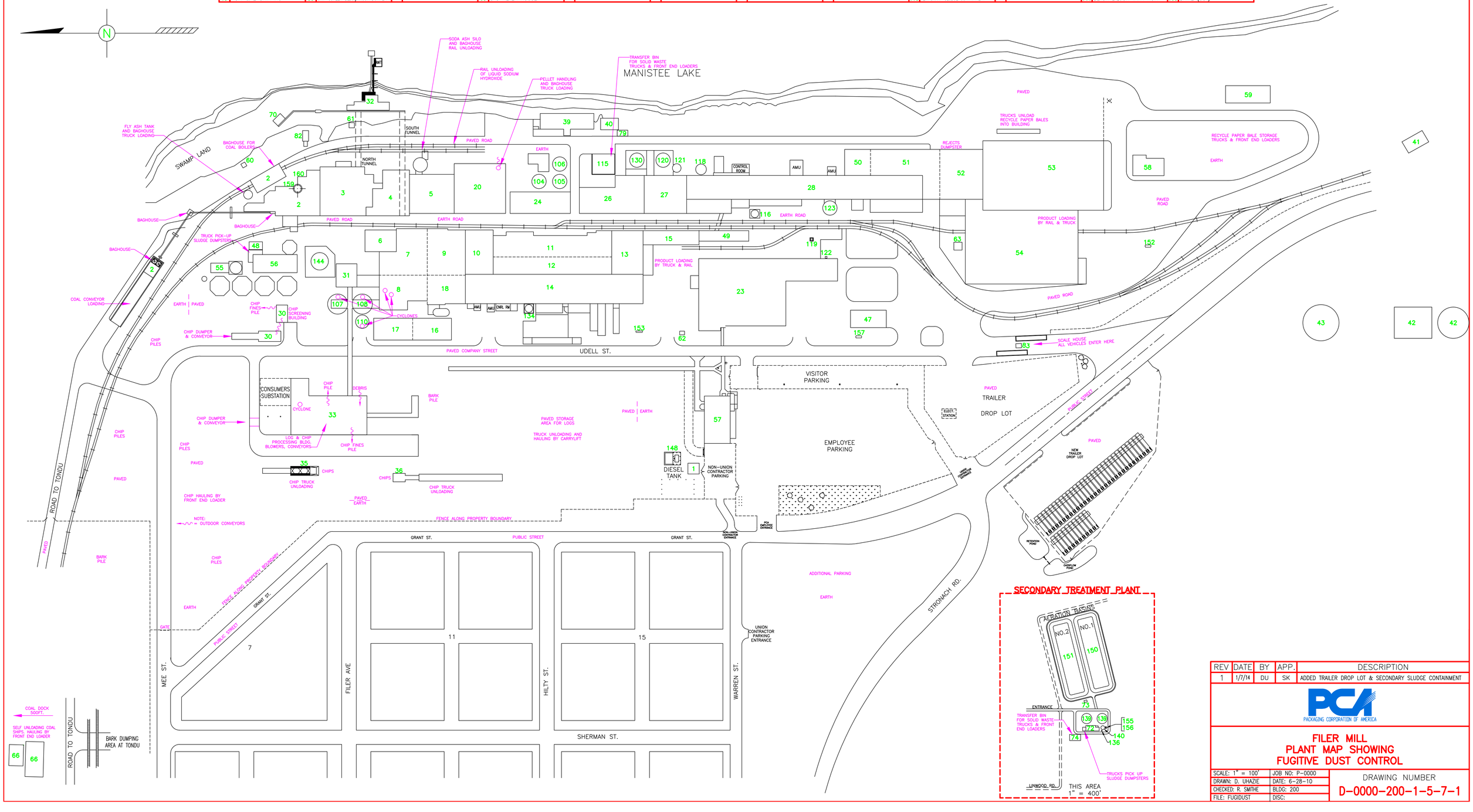
5	42	35	28	34	28	19	93	74	52	30.12	30.09	30.07	10	9	2	13	4	-	0.03		20
8	44	40	35	36	32	25	93	76	49	30.14	30.05	29.99	10	9	3	21	12	29	0.21		25
11	55	42	28	36	28	23	93	64	31	30.22	30.15	30.06	10	10	0	12	3	-	0		18
14	59	44	28	34	26	14	93	53	18	30.29	30.23	30.11	10	10	8	13	3	-	0		14
17	66	48	30	46	37	28	93	73	46	30.1	30.05	30	10	8	0	10	2	-	0		21
20	48	42	37	46	39	32	93	86	75	29.48	29.28	29.1	10	7	1	15	9	24	0.34		22
23	42	36	28	27	21	16	86	59	39	30.04	29.96	29.84	10	10	9	17	11	25	0		17
26	50	39	28	30	26	19	80	54	43	30.05	30.01	29.92	10	10	10	18	5	23	0		18
29	53	42	30	39	32	27	87	66	41	30	29.95	29.91	10	10	5	17	5	22	0		20
2	71	54	37	43	36	34	87	52	25	30.08	30.01	29.93	10	10	10	18	5	21	0		18
5	66	55	44	37	32	19	71	50	17	30.34	30.28	30.24	10	10	10	13	6	16	0		21
8	78	71	57	61	57	50	78	62	50	30.02	29.93	29.89	10	10	10	17	7	24	0		17
11	64	56	48	61	51	39	93	81	62	30.03	29.84	29.7	10	10	7	20	10	28	0.17		20
14	64	48	33	43	35	28	87	62	34	30.43	30.33	30.13	10	10	4	10	4	18	0		13
17	80	70	60	64	62	57	94	75	57	30.04	29.96	29.84	10	9	3	15	7	30	0		24
20	51	38	26	34	28	21	93	64	40	30.26	30.2	30.08	10	9	0	13	3	-	0		20
23	73	52	30	39	32	27	87	50	22	30.36	30.3	30.21	10	10	10	17	4	25	0		20
26	73	68	62	66	60	55	94	78	68	29.95	29.86	29.73	10	9	2	14	6	21	0.83		17
29	78	66	55	66	59	52	94	77	61	30.11	30	29.88	10	9	2	13	6	25	0.49	Thunderstorm	17
1	60	48	35	43	37	30	87	63	39	30.34	30.27	30.2	10	10	6	16	6	21	0		16
4	73	62	50	61	53	45	94	73	60	30.02	30	29.97	10	10	6	16	6	23	0		16
7	73	62	51	64	56	41	94	76	58	29.99	29.75	29.61	10	9	2	16	7	24	0.63		20
10	73	65	57	57	55	52	82	67	50	29.86	29.69	29.55	10	10	6	14	7	18	0		16
13	66	58	51	61	54	48	94	84	73	30.03	29.99	29.93	10	8	3	12	4	16	0.07		12
16	66	57	48	55	48	43	94	69	45	30.18	30.11	29.97	10	10	1	14	7	20	0		14
19	68	54	41	46	42	36	82	61	37	30.18	30.11	30.01	10	10	10	15	4	22	0		15
22	73	63	53	64	59	52	94	83	69	29.97	29.82	29.65	10	7	0	21	5	31	0.25	Thunderstorm	25
25	77	65	53	57	54	50	88	66	47	30.08	30.01	29.97	10	10	2	16	6	21	0		16
28	73	58	44	54	48	39	88	66	41	29.95	29.9	29.85	10	9	0	15	3	-	0		16
1	59	54	48	48	46	45	87	79	67	30.03	29.96	29.9	10	10	10	12	7	20	0		14
4	73	62	51	61	55	46	88	68	57	30.04	29.97	29.92	10	9	1	9	3	-	0		16
7	62	56	48	50	47	45	88	70	55	30.11	29.98	29.8	10	9	3	23	10	30	0.75		23
10	75	60	46	57	50	43	88	71	47	30.13	30.1	30.06	10	8	0	13	4	-	0		14
13	78	72	66	66	63	61	88	77	57	29.9	29.71	29.53	10	9	1	14	5	20	1.42	Thunderstorm	18
16	77	62	48	59	52	46	93	70	50	30.08	30	29.88	10	10	9	10	4	17	0.01		22
19	75	70	64	64	62	55	94	81	50	29.89	29.83	29.78	10	9	0	14	5	17	0		17
22	75	60	46	57	49	43	94	65	36	30	29.96	29.92	10	9	0	8	2	-	0		15
25	82	72	62	66	61	57	88	71	48	29.96	29.91	29.86	10	10	3	14	4	18	0		14
28	87	72	57	64	60	54	88	65	40	30.05	30	29.92	10	10	5	12	4	-	0		20
31	78	68	57	61	57	54	88	68	42	29.94	29.9	29.87	10	9	0	18	7	29	0.03		34
3	73	63	53	61	53	48	94	72	43	29.86	29.78	29.67	10	7	0	10	3	-	0		14
6	75	63	51	57	53	46	82	66	50	30.05	30.01	29.95	10	10	9	10	5	-	0		13
9	75	68	60	66	61	55	94	81	69	30.02	29.98	29.93	10	9	2	12	5	-	0		17
12	71	60	48	57	52	45	88	70	46	30.19	30.13	30.04	10	10	4	14	3	17	0		15
15	82	71	60	68	63	57	94	77	54	30.13	30.1	30.07	10	8	0	12	3	-	0		17
18	75	70	66	66	64	63	88	85	73	29.97	29.87	29.74	10	8	4	8	3	-	0.09	Thunderstorm	23
21	77	62	48	55	51	45	87	59	38	30.1	30.05	29.95	10	10	9	18	9	23	0		22
24	64	60	55	52	47	43	68	61	52	29.89	29.82	29.79	10	10	8	23	15	32	0.01		23
27	69	58	46	55	51	43	88	75	56	30.21	30.17	30.14	10	9	0	15	4	20	0		15
30	71	63	55	61	58	52	94	82	69	30.09	30.05	30.01	10	7	0	9	1	-	0		13
2	82	74	66	72	68	63	94	80	66	30.02	29.98	29.95	10	6	0	9	3	-	0		13
5	78	71	64	68	64	61	94	83	69	30.13	30.09	30.06	10	4	0	10	2	-	0		17
8	73	68	62	66	65	59	94	87	78	29.97	29.85	29.73	10	6	0	16	3	22	0.42	Thunderstorm	16
11	62	56	51	54	47	39	88	69	52	30.06	30.01	29.92	10	10	7	18	6	25	0.12		18
14	77	60	44	55	49	39	87	66	47	30.06	30	29.96	10	10	10	16	4	23	0		20
17	82	70	59	63	58	52	82	64	51	30.09	29.98	29.85	10	10	10	17	6	23	0		20
20	69	56	42	54	46	37	93	74	46	30.21	30.17	30.1	10	9	0	14	4	16	0		14
23	75	62	50	55	50	45	88	69	44	30.33	30.29	30.24	10	10	10	12	4	-	0		12
26	77	65	53	57	54	48	88	73	50	30.37	30.3	30.22	10	10	10	10	6	-	0		16
29	64	56	48	61	49	37	94	72	51	30.22	30.08	29.96	10	10	5	15	5	22	0.47		17
2	62	52	41	37	33	28	76	53	32	30.5	30.46	30.41	10	10	3	20	11	25	0		20
5	59	55	51	50	48	46	82	77	72	30.25	30.21	30.16	10	10	10	10	4	-	0		16
8	59	48	37	55	44	34	94	85	72	30.16	29.98	29.83	10	8	2	9	5	-	0.4		16
11	71	61	51	54	49	45	76	62	53	29.86	29.7	29.59	10	10	10	15	8	23	0		25
14	53	48	42	43	38	36	82	69	51	29.96	29.9	29.81	10	10	10	17	7	21	0		28
17	44	37	30	28	23	19	86	54	42	30.38	30.34	30.28	10	10	8	17	7	28	0		21
20	62	58	53	48	45	43	77	60	52	30.12	30.03	29.95	10	10	10	9	5	-	0.01		20
23	53	42	30	43	34	25	93	71	51	30.37	30.22	29.97	10	10	1	13	5	21	0.08		21
26	53	42	30	39	34	27	93	75	58	30.47	30.42	30.37	10	10	2	7	5	-	0		21
29	46	42	37	37	34	28	87	70	61	29.88	29.5	29.29	10	9	3	23	15	36	0.08		23
1	53	47	41	45	40	36	87	70	58	29.97	29.76	29.57	10	10	7	18	12	29	0.03		18
4	68	56	44	54	47	37	82	71	56	30.12	30.08	30.03	10	10	10	16	5	18	0		25
7	46	40	32	36	29	21	70	57	43	30.35	30.19	30.07	10	10	10	22	14	31	0		22
10	51	38	24	39	29	19	93	78	54	30.16	30.08	29.97	10	7	0	8	4	-	0		30
13	41	38	35	32	29	25	81	71	53	30.12	29.84	29.62	10	10	5	31	24	41	0.03		31
16	62	47	32	39	33	27	87	59	34	30.18	30.15	30.12	10	10	2	9	5	-	0		22
19	50	44	37	39	27	14	81	55	38	29.91	29.71	29.55	10	10	3	29	16	38	0.06		29
22	32	28	26	25	15	9	86	61	43	30.11	30.05	29.98	10	9	0	18	9	23	0.11		18
25	53	38	24	36	29	21	86	61	41	30.31	30.21	30.14	10	10	6	17	9	26	0		20
28	33	26	19	23	18	14	86	74	60	30.48	30.41	30.34	10	10	10	9	3	-	0		20
1	41	37	33	37	31	27	93	78	61	30	29.82	29.73	10	8	2	18	10	28	0.27		18
4	46	37	28	34	30	23	93	73	57	30.53	30.42	30.25	10	8	0	10	7	20	0		12
7	37	36	35	34	31	28	93	82	75	30.24	30.17	30	10	7	5	8	3	-	0		16
10	57	47	39	39	37	34	87	69	51	29.7	29.48	29.3	10	9	3	23	9	36	0.08		23
13	57	50	44	55	48	39	94	88	81	30.03	29.82	29.58	10	8	2	14	8	20	0.72	Thunderstorm	20
16	48	42	37	41	34	27	87	76	61	29.93	29.69	29.48	10	10	5	20	10	33	0.1		23
19	28	24	21	16	12	9	74	59	50	30.31	30.17	29.98	10	10	10	22	15	30	0		22
22	41	39	37	37	34	32	93	85	81	29.87	29.8	29.73	10	7	0	9	4	-	0.01		33
25	37	34	30	28	26	25	81	74	65	30.45	30.27	30.05	10	10	10	13	4	-	0		17
28	26	24	21	21	14	9	80	63	50	30.48	30.2	29.68	10	7	1	26	14	39	0.36		26
31	30	28	26	23	18	12	75	66	51	30.17	30.12	30.06	10	10	10	18	10	29	0		28
3	33	30	28	25	19	14	75	63	55	30.17	30.04	29.8	10	9	1	17	13	32	0		20
6	39	32	24	27	23	16	80	69	56	30.3	30.23	30.17	10	10	10	13	6	18	0		13
9	39	34	28	36	31	25	93	87	80	29.82	29.77	29.68	10	4	0	13	4	18	0.04		23
12	21	16	12	14	8	1	85	70	53	30.02	29.74	29.53	10	4	0	25	11	33	0		25
15	39	32	24	36	29	21	87	84	74	29.57	29.42	29.33	10	6	2	17	9	26	0		23
18	15	12	10	9	4	1	79	67	57	30.19	30.08	30	10	6	1	21	15	30	0		21
21	26	17	8	21	15	3	86	80	74	30.32	30.28	30.24	10	9	1	5	3	-	0		10
24	30	28	26	21	21	18	80	74	64	29.98	29.93	29.89	10	8	5	14	7	21	0		18
27	35	30	26	27	19	14	93	66	55	30.13	29.99	29.64	10	10	2	21	8	30	0		21
30	41	32	26	32	28	16	81	72	64	29.67	29.6	29.53	10	10	9	15	8	20	0		15
2	35	28	21	30	25	18	93	85	75	30.2	29.99	29.53	10	8	0	21	8	28	0.16		21
5	28	24	21	21	17	14	86	73	55	30.32	30.28	30.22	10	10	2	13	3	-	0		17
8	37	32	26	30	26	19	93	78	65	29.68	29.61	29.58	10	10	9	14	4	23	0		23
11	21	18	15	9	4	1	68	56	46	30.22	30.17	30.07	10	8	2	18	12	24	0		23
14	21	16	8	3	0	-2	73	55	39	30.44	30.29	30.09	10	10	10	16	5	22	0		16
17	28	16	3	23	10	-2	85	60	50	30.37	30.19	29.91	10	10	0	13	8	17	0		25
20	44	40	37	34	31	30	87	68	57	30	29.76	29.62	10	10	9	20	11	26	0		20
23	39	32	24	27	24	19	80	71	60	30.18	30.13	30.07	10	10	10	8	4	-	0		23
26	32	29	26	18	15	12	69	56	44	30.19	30.11	30	10	10	7	17	11	28	0		17
29	37	27	17	27	15	3	75	61	43	30.12	29.85	29.63	10	10	10	26	12	36	0		26
3	33	16	1	10	5	-4	85	60	34	30.18	30.14	30.09	10	10	9	9	5	-	0		12
6	46	34	21	36	26	18	93	74	61	30.24	30.07	29.84	10	9	0	18	5	31	0		18
9	62	53	42	54	47	37	94	80	68	30	29.86	29.76	10	8	2	20	9	28	0.28		20
12	59	42	26	43	34	23	93	72	44	30.24	30.13	30.05	10	10	8	16	5	21	0		18
15	60	46	33	43	36	28	93	73	45	29.85	29.77	29.62	10	6	0	20	5	31	0		32
18	39	34	30	34	26	18	93	72	52	30.17	30.04	29.91	10	10	10	13	3	17	0		18
21	39	31	23	25	20	16	80	58	42	30.13	30.09	30	10	10	10	16	5	20	0		22
24	33	30	26	28	24	21	87	81	74	29.99	29.72	29.51	10	4	0	20	14	32	0.44		22
27	53	42	32	39	33	27	93	75	54	30.14	29.96	29.77	10	8	1	9	5	-	0.15		20
30	55	44	33	43	32	25	82	61	36	30.14	29.86	29.55	10	10	5	16	6	25	0.12	Thunderstorm	21
2	32	28	24	27	20	9	86	69	47	29.93	29.65	29.49	10	8	0	20	5	31	0.08		20
5	37	26	15	25	15	9	86	59	41	30.48	30.35	30.04	10	10	4	15	3	24	0.01		23
8	37	30	23	23	17	9	80	58	38	29.96	29.8	29.75	10	10	2	17	7	26	0		17
11	42	40	37	39	27	19	93	62	42	30.05	29.83	29.66	10	9	1	22	9	26	0		22
14	59	46	32	30	28	23	81	54	33	30.36	30.3	30.25	10	10	10	13	6	18	0		14
17	73	55	37	39	36	30	81	50	25	30.46	30.39	30.35	10	10	7	13	6	-	0		18
20	69	56	44	34	29	23	57	37	26	30.28	30.15	29.98	10	10	10	16	8	22	0		18
23	51	40	30	36	31	25	87	68	50	30.25	30.19	30.11	10	10	10	14	3	20	0		21
26	46	40	33	39	35	28	87	74	61	30.02	29.89	29.68	10	10	3	14	8	20	0.07		16
29	53	45	37	34	30	25	81	56	41	30.15	30.11	30.05	10	10	10	14	4	17	0		17
2	57	44	32	37	33	27	87	60	38	30.09	30.05	29.99	10	10	5	16	5	20	0		22
5	53	45	37	39	34	30	87	68	50	30.01	29.96	29.9	10	10	10	16	7	20	0		18
8	60	45	30	36	31	25	87	56	34	30	29.92	29.87	10	10	10	15	3	18	0		23
11	69	61	53	52	41	30	67	53	36	30.12	30.07	30.03	10	10	8	14	9	20	0		16
14	44	38	33	39	31	27	87	72	57	30	29.89	29.79	10	10	3	20	9	28	0.08		20
17	57	47	37	37	33	28	87	59	33	30.28	30.23	30.17	10	10	10	17	6	25	0		17

	20	68	50	33	39	33	27	87	53	23	30.25	30.19	30.12	10	10	4	13	3	-	0		16
	23	75	57	39	45	37	30	87	49	22	30.07	30	29.93	10	10	3	17	6	23	0		22
	26	82	72	62	64	61	55	88	72	48	29.95	29.88	29.82	10	10	5	18	6	28	0.02		18
	29	75	67	59	61	57	55	88	70	57	29.98	29.93	29.9	10	10	2	21	8	32	0.02		21
	2	69	58	48	57	49	45	88	64	46	30.04	29.99	29.91	10	9	0	16	6	20	0		16
	5	66	60	55	57	54	50	94	81	59	29.71	29.59	29.56	10	7	0	16	6	28	0.05		20
	8	60	50	39	43	38	36	87	63	42	30.05	29.99	29.89	10	10	2	13	5	20	0.01		18
	11	82	72	62	70	61	45	88	72	49	30.05	29.89	29.81	10	10	3	16	6	21	0.02		18
	14	79	67	59	59	53	50	82	71	52	29.99	29.95	29.88	10	10	9	10	6	-	0		13
	17	82	66	51	59	54	50	100	73	38	30.17	30.1	29.97	10	9	2	12	2	-	0		13
	20	82	70	60	67	60	49	84	62	35	30.07	29.98	29.9	10	10	10	16	8	26	0	Rain , Thunderstorm	17
	23	78	66	55	58	53	48	96	69	41	30.06	29.97	29.85	10	10	5	15	7	18	0.03	Rain	15
	26	81	73	63	70	66	60	100	83	60	30	29.95	29.89	10	9	2	25	8	47	0.39	Rain , Thunderstorm	25
	29	72	55	39	51	43	38	100	75	33	30.22	30.15	30.1	10	8	1	10	3	-	0	Rain	17
	2	75	60	44	59	48	41	100	77	29	30.21	30.17	30.11	10	7	1	10	4	-	0		14
	5	82	72	62	65	63	60	97	74	50	29.9	29.87	29.81	10	9	2	15	4	16	0		16
	8	80	68	57	70	64	57	100	93	66	29.87	29.8	29.73	10	6	0	21	4	31	0.03	Fog , Rain , Thunderstorm	21
	11	84	74	64	73	66	59	100	86	67	30.05	29.99	29.9	10	10	7	12	4	17	0.28	Rain , Thunderstorm	20
	14	78	72	66	70	63	60	90	72	58	29.87	29.78	29.69	10	10	10	20	12	30	0	Rain , Thunderstorm	20
	17	79	66	53	67	60	52	100	83	64	30.14	29.98	29.86	10	9	2	17	6	28	0.45	Rain	17
	20	88	72	57	66	61	55	97	68	43	30.26	30.2	30.1	10	10	2	15	6	20	0		26
	23	91	76	62	70	63	60	100	85	38	30.02	29.98	29.94	10	5	0	9	3	-	0	Fog	16
	26	84	70	57	66	60	57	100	83	41	30.09	30.03	30	10	5	0	12	3	-	0	Fog	15
	29	81	71	62	64	61	57	96	74	48	30.06	30.04	30.01	10	10	6	13	8	-	0.75	Rain	13
	1	81	68	57	65	60	55	100	88	47	30.17	30.12	30.07	10	5	0	13	4	-	0	Fog	14
	4	89	76	62	68	64	61	100	70	46	30.05	29.97	29.83	10	8	2	17	5	23	0		17
	7	79	66	54	61	57	53	100	77	45	30.14	30.1	30.03	10	8	2	12	4	17	0	Rain	16
	10	89	75	62	72	66	57	93	74	51	30.15	30.08	30.04	10	10	5	13	5	-	0		13
	13	77	70	64	71	68	64	100	93	74	29.93	29.81	29.72	10	7	1	12	5	-	0.45	Rain	12
	16	82	74	66	69	65	62	93	76	51	30.06	30.02	29.99	10	10	10	12	4	-	0	Rain	15
	19	79	72	64	72	69	64	100	88	69	29.94	29.88	29.83	10	8	2	13	6	20	0	Rain	24
	22	75	65	55	58	54	51	97	71	46	30.21	30.16	30.09	10	10	10	15	4	18	0.01		16
	25	77	68	60	68	64	59	100	91	56	30.06	29.96	29.91	10	4	0	14	1	-	0	Fog	14
	28	75	68	60	69	64	60	100	85	65	30.28	30.2	30.08	10	9	1	12	6	-	0.01		13
	31	75	64	55	68	59	54	100	76	53	30.16	30.11	30.03	10	9	3	14	6	21	0.14	Rain , Thunderstorm	16
	3	77	60	46	60	53	46	100	90	53	30.34	30.25	30.18	10	5	0	12	4	-	0	Fog	18
	6	88	78	68	74	71	67	96	83	65	30.07	30.01	29.95	10	9	6	13	4	21	0.01	Rain	15
	9	79	66	55	65	59	54	100	92	56	30.02	29.95	29.9	10	3	0	9	2	-	0.01	Fog	23
	12	77	64	52	61	55	50	96	72	47	30.18	30.11	30.01	10	10	10	14	5	22	0		15
	15	73	60	46	59	53	46	100	90	57	30.38	30.27	30.17	10	6	0	9	3	-	0	Fog	15
	18	73	64	55	62	58	55	100	84	57	30.02	29.97	29.9	10	9	2	12	5	-	0		14
	21	75	67	59	66	60	56	97	87	71	30.26	30.17	30.11	10	10	4	17	3	-	0.14	Rain , Thunderstorm	17
	24	70	58	46	53	49	46	100	82	49	30.36	30.28	30.23	10	8	1	10	5	-	0		24
	27	60	56	51	52	48	42	96	77	51	29.81	29.72	29.64	10	10	5	22	15	29	0.69	Rain	22
	30	64	62	57	60	56	54	97	85	75	30.35	30.27	30.15	10	10	4	15	10	22	0.16	Rain	15
	3	64	60	57	58	56	54	96	89	73	30.18	30.13	30.08	10	9	2	8	3	-	0		12
	6	66	57	48	65	55	46	100	97	93	30.2	30.12	30.01	10	3	0	8	3	-	0.19	Fog , Rain	23
	9	59	47	37	42	39	37	97	79	51	30.48	30.44	30.36	10	10	10	7	3	-	0		13
	12	64	56	48	61	51	41	100	87	72	30.14	29.97	29.84	10	8	3	21	8	30	0.95	Rain	21
	15	64	54	44	63	55	41	100	91	77	30.12	29.99	29.87	10	8	2	14	7	24	0.09	Rain	15
	18	77	60	46	63	55	46	100	86	64	29.97	29.66	29.41	10	7	2	21	13	31	0	Rain	21
	21	51	45	39	41	38	35	93	76	62	30.25	30.19	30.12	10	10	10	12	6	22	0.04	Rain	12
	24	51	42	32	43	37	30	97	72	58	30.47	30.33	30.09	10	10	10	16	10	23	0	Rain	17
	27	48	40	33	38	36	32	100	89	66	30.31	30.22	30.11	10	8	1	14	8	-	0.08	Rain	17
	30	54	43	32	46	40	31	100	81	62	30.31	30.19	30.05	10	9	2	16	4	16	0.08	Rain	16
	2	57	50	42	51	46	42	100	95	78	30.25	30.16	30.04	10	6	0	8	4	-	0	Fog , Rain	16
	5	61	46	32	50	39	32	100	97	69	30.37	30.29	30.24	10	2	0	9	3	-	0	Fog , Rain	12
	8	55	48	42	52	44	35	100	81	63	30.32	30.17	30.06	10	9	4	22	10	29	0.09	Rain	22
	11	54	40	25	41	30	23	92	63	47	30.52	30.35	30	10	10	10	18	11	25	0	Rain	18
	14	55	45	35	46	39	34	100	84	62	29.95	29.91	29.85	10	9	2	13	5	-	0	Rain	13
	17	68	52	35	51	45	34	96	69	49	29.99	29.86	29.77	10	8	4	15	8	23	0		29
	20	32	31	30	23	21	19	72	68	60	30.33	30.28	30.23	10	10	9	20	14	31	0	Snow	20
	23	35	32	30	34	30	22	96	87	61	30.32	30.11	29.94	10	8	2	15	9	18	0.08	Rain	16
	26	39	34	30	35	31	28	96	81	70	30.34	30.26	30.12	10	10	9	15	9	-	0	Rain	15
	29	52	48	43	48	42	37	96	81	57	29.62	29.4	29.12	10	10	5	20	10	33	0.44	Rain	20
	2	37	36	34	32	29	25	86	74	64	30.31	30.12	29.9	10	10	8	15	11	22	0.01	Rain	15
	5	41	36	32	34	31	30	100	81	67	30.06	29.95	29.79	10	9	2	18	9	29	0.01	Snow	22
	8	32	28	23	27	23	17	93	80	61	30.31	30.12	29.98	10	5	0	23	17	32	0.02	Fog , Snow	23
	11	26	22	19	25	21	16	93	89	80	30.37	30.01	29.71	8	3	0	14	7	20	0.02	Fog , Snow	24
	14	19	14	8	12	5	0	85	70	59	30.12	29.97	29.9	10	4	0	33	24	45	0	Fog , Snow	33
	17	23	16	9	20	15	7	93	87	74	29.93	29.77	29.69	10	4	0	10	5	18	0.05	Fog , Snow	20
	20	37	32	26	26	22	17	75	66	59	30.34	30.06	29.89	10	10	5	23	14	33	0	Snow	23
	23	41	32	23	32	29	20	100	84	57	30.27	30.1	29.9	10	7	1	12	6	17	0.14	Rain , Snow	23
	26	51	40	27	46	35	19	100	82	56	30.15	29.85	29.68	10	8	2	24	15	36	0.27	Rain , Thunderstorm	24
	29	36	32	28	30	24	18	89	74	61	29.86	29.73	29.6	10	9	2	25	17	34	0	Snow	25
2017	1	37	30	24	27	23	19	93	77	54	30.28	30.11	29.89	10	10	8	20	7	25	0		26
	4	26	19	12	22	9	6	85	78	71	29.96	29.85	29.72	10	6	2	29	22	39	0	Snow	29
	7	12	10	8	7	4	1	85	73	61	30.53	30.37	30.28	9	3	1	25	13	32	0	Snow	25
	10	44	34	24	43	30	21	97	90	75	30.04	29.6	29.07	10	5	1	33	11	47	0.78	Rain , Snow	33
	13	19	14	10	9	8	5	84	71	62	30.86	30.76	30.48	10	9	5	15	9	21	0	Snow	15
	16	36	23	10	31	22	9	96	89	72	30.36	30.27	30.05	10	7	4	10	5	-	0.19	Rain	14
	19	37	34	32	34	33	30	100	93	85	30.07	29.99	29.85	8	4	1	9	6	-	0		10
	22	42	38	35	42	38	35	100	98	92	29.78	29.66	29.57	6	2	0	9	1	-	0	Fog	10
	25	35	34	32	36	33	32	100	98	93	29.85	29.62	29.46	10	4	0	9	2	-	0.38	Fog , Rain , Snow	20
	28	30	27	24	27	22	17	93	78	59	29.78	29.69	29.61	10	7	1	18	12	24	0.02	Snow	18
	31	32	26	23	27	23	19	93	86	72	29.83	29.65	29.51	10	5	0	20	9	26	0	Fog , Snow	24
	3	19	16	14	10	7	5	74	67	62	30.41	30.36	30.23	10	9	4	22	15	28	0	Snow	22
	6	37	27	17	28	22	14	89	75	52	30.11	29.97	29.79	10	10	9	12	5	-	0		18
	9	19	16	12	10	7	3	74	68	62	30.29	30.16	30	10	8	1	24	16	30	0	Snow	24
	12	39	34	30	34	27	17	93	76	50	30.25	29.98	29.84	10	9	2	25	7	38	0.07	Rain , Snow	25
	15	30	27	24	23	18	14	86	71	60	29.96	29.88	29.74	10	9	2	20	15	32	0	Snow	20
	18	53	42	28	38	34	27	96	77	57	29.85	29.71	29.59	10	10	8	13	6	-	0		14
	21	54	45	36	49	43	34	97	82	52	29.97	29.93	29.84	10	8	2	14	7	21	0.21	Rain	17
	24	35	32	30	34	31	27	100	94	87	29.92	29.64	29.44	10	4	1	18	11	29	0.61	Rain , Snow	23
	27	44	32	21	29	23	18	96	70	40	30.23	30.16	30.04	10	10	10	13	6	-	0		24
	2	28	24	21	23	18	13	93	76	54	30.37	30.22	30.04	10	5	0	23	11	30	0	Fog , Snow	23
	5	46	35	24	33	23	15	72	58	42	30.54	30.26	30.05	10	10	10	16	11	24	0		29
	8	39	36	32	31	19	12	73	52	41	30.11	29.84	29.69	10	10	6	31	22	44	0	Rain , Snow	31
	11	19	17	15	10	7	1	71	63	54	30.54	30.49	30.42	10	9	6	18	12	24	0	Snow	18
	14	24	16	10	15	9	0	84	67	38	30.43	30.36	30.28	10	9	2	16	9	25	0	Snow	18
	17	35	28	21	34	26	17	100	84	50	30.27	30.05	29.92	10	5	0	14	6	21	0.06	Fog , Rain , Snow	14
	20	48	40	28	38	34	26	96	82	66	30.19	30.12	30.07	10	10	5	12	6	-	0.03		20
	23	42	28	15	23	14	7	96	56	26	30.58	30.39	30.09	10	10	10	14	6	20	0	Rain	21
	26	48	42	37	46	42	36	100	95	90	30.15	29.93	29.83	10	5	0	12	7	-	0.29	Fog , Rain	15
	29	50	38	27	36	31	25	96	74	46	30.39	30.33	30.25	10	10	8	15	5	17	0		21
	1	55	38	21	32	23	7	100	72	15	30.27	30.17	30.05	10	8	1	9	1	-	0		15
	4	48	44	39	45	39	24	97	83	45	30	29.66	29.36	10	10	5	16	8	25	0.44	Rain	24
	7	48	39	25	28	23	18	88	54	32	30.14	30.07	30	10	10	10	20	12	26	0		20

10	69	54	39	55	45	37	100	82	55	30.02	29.82	29.64	10	10	3	16	10	22	0.47	Rain , Thunderstorm	16
13	57	46	35	41	36	30	89	69	51	30.52	30.46	30.4	10	10	10	10	3	-	0	Rain	20
16	64	52	39	57	51	35	100	91	37	30.11	29.84	29.72	10	6	0	22	7	30	0.63	Fog , Rain , Thunderstorm	22
19	64	55	44	49	42	38	87	70	45	30.26	30.08	29.92	10	10	10	21	11	26	0		32
22	57	40	25	35	28	23	96	64	31	30.31	30.25	30.18	10	10	9	10	3	-	0		14
25	75	64	52	54	48	39	75	60	46	29.87	29.77	29.68	10	10	8	12	9	18	0		28
28	48	42	39	41	35	32	93	77	59	30.11	29.92	29.73	10	10	9	20	11	23	0.03	Rain	20
1	57	48	39	52	43	37	100	84	57	29.77	29.5	29.36	10	10	5	17	12	26	0.41	Rain , Thunderstorm	21
4	63	48	33	36	32	28	96	60	30	30.2	30.09	29.99	10	10	10	15	5	23	0		24
7	46	40	33	30	24	15	70	53	28	30.15	30.05	29.96	10	10	10	23	12	33	0		23
10	63	50	39	43	35	26	93	58	27	30.08	30.04	29.99	10	10	10	13	3	-	0.01	Rain	14
13	72	52	34	49	42	33	97	74	39	30	29.91	29.83	10	10	4	16	5	24	0		16
16	81	66	53	64	57	50	97	77	45	29.94	29.81	29.68	10	9	2	17	6	30	0.32	Rain , Thunderstorm	30
19	57	48	39	39	35	28	89	67	41	30.33	30.24	30.11	10	10	10	13	8	18	0		20
22	64	55	46	47	44	41	93	73	52	29.99	29.94	29.87	10	10	4	18	12	26	0.02	Rain	18
25	66	60	53	55	53	50	93	79	67	29.78	29.67	29.6	10	10	9	15	8	21	0		15
28	66	59	52	58	54	50	100	88	68	29.88	29.77	29.68	10	8	2	12	4	-	0.69	Rain , Thunderstorm	17
31	66	58	50	48	46	43	83	68	44	30.06	29.96	29.92	10	10	10	16	9	23	0		16
3	79	64	50	61	55	47	94	73	45	30.09	30.01	29.91	10	10	7	22	6	38	0.25	Rain , Thunderstorm	22
6	69	57	45	52	49	44	97	70	51	30.16	30.09	30.05	10	10	10	17	5	22	0		17
9	77	65	53	58	54	51	96	69	44	29.88	29.83	29.81	10	10	10	14	4	17	0	Rain	23
12	82	73	64	70	65	58	97	78	55	30.03	29.92	29.83	10	8	0	30	6	46	0.94	Rain , Thunderstorm	30
15	81	70	60	70	65	60	100	90	64	29.88	29.83	29.79	10	7	0	14	3	-	0.03	Fog , Rain , Thunderstorm	18
18	70	67	61	68	63	57	100	90	70	29.73	29.53	29.45	10	6	0	22	6	30	0.21	Fog , Rain , Thunderstorm	22
21	73	60	46	58	51	46	100	82	44	30.04	29.98	29.92	10	5	0	10	3	-	0.01	Fog	13
24	68	60	52	57	55	52	100	80	63	30	29.91	29.79	10	10	8	16	5	22	0	Rain	18
27	70	56	42	55	47	42	100	88	47	30.12	30.06	30.02	10	5	0	12	2	-	0	Fog	16
30	75	67	59	66	62	58	100	84	64	29.88	29.84	29.8	10	9	3	12	4	-	0		17
3	75	62	51	58	54	52	100	85	50	30.17	30.11	30.05	10	5	0	12	3	-	0.01	Fog , Rain	13
6	84	72	59	70	64	57	93	77	60	30.06	29.97	29.82	10	9	2	12	4	18	0		15
9	80	66	54	63	59	52	97	80	56	30.02	29.99	29.94	10	10	10	14	5	23	0.07	Rain	14
12	80	72	64	72	68	63	97	87	69	29.95	29.89	29.83	10	9	1	14	4	24	0.2	Rain , Thunderstorm	14
15	75	63	51	64	57	51	100	88	58	30.18	30.11	29.97	10	5	0	14	3	22	0	Fog	14
18	82	66	51	64	57	50	100	80	52	30.12	30.07	30.03	10	8	1	12	3	17	0.53		13
21	87	73	60	72	66	61	100	85	46	30.04	29.99	29.93	10	10	10	8	4	-	0		14
24	75	64	54	60	55	52	93	71	48	30.17	30.04	29.89	10	10	10	17	7	20	0		17
27	82	72	62	68	64	56	100	81	46	30.04	30	29.94	10	10	10	15	3	18	0.01		15
30	80	64	48	60	55	49	100	73	44	30.25	30.22	30.19	10	10	10	14	3	18	0		14
2	78	70	62	70	66	61	97	81	66	30.11	30.04	30	10	10	10	14	6	18	0.01		17
5	72	64	55	57	53	49	97	70	47	30.07	30.03	29.95	10	10	10	12	6	-	0		13
8	79	63	48	62	56	48	100	77	48	30.18	30.15	30.13	10	10	10	14	4	-	0		15
11	71	63	57	64	60	56	100	87	73	30.02	29.97	29.92	10	10	10	14	5	21	0.01		14
14	75	64	54	60	56	52	100	79	44	30.04	29.95	29.88	10	10	10	6	2	-	0		14
18	70	67	63	66	62	60	96	83	73	29.9	29.77	29.61	10	10	10	17	12	24	0.03		17
21	81	70	60	72	67	59	100	87	69	30.11	30.03	29.87	10	10	10	8	2	-	0		17
24	66	56	45	51	47	44	100	77	48	30.25	30.19	30.11	10	10	10	17	3	23	0		17
27	69	62	55	59	56	54	97	80	68	30.28	30.18	30.07	10	10	10	10	5	-	0.06	Rain	13
30	77	65	53	66	60	54	100	92	60	30.14	30.06	30.01	10	5	0	14	3	17	0.06	Fog , Rain	15
2	69	54	39	56	46	37	100	91	52	30.22	30.11	29.93	10	6	0	13	3	-	0.03	Fog , Rain , Thunderstorm	15
5	64	57	48	54	52	48	97	77	62	29.96	29.82	29.72	10	10	5	18	11	24	0.08	Rain	18
8	64	52	39	52	45	39	100	89	56	30.44	30.21	30.03	10	5	0	13	2	-	0.02	Fog , Rain	13
11	71	54	39	57	47	39	100	93	54	30.44	30.29	30.12	10	4	0	12	3	-	0	Fog	12
14	75	60	46	64	53	46	100	96	69	29.99	29.87	29.8	10	3	0	9	3	-	0	Fog	13
17	79	67	57	66	62	57	97	85	71	30.14	30.07	30.01	10	10	10	13	5	-	0		13
20	84	69	54	67	63	53	100	85	54	30.02	29.96	29.89	10	7	1	12	5	18	0		18
23	91	76	62	69	66	61	97	76	47	30.13	30.1	30.04	10	9	4	12	4	-	0		12
26	88	72	57	68	62	56	96	75	44	29.99	29.96	29.92	10	10	8	15	6	20	0.05	Rain	16
29	64	56	43	56	50	42	100	76	54	30.44	30.16	29.99	10	10	9	20	8	28	0.05	Rain	20
2	78	63	48	56	50	42	83	63	42	30.28	30.24	30.21	10	10	7	10	7	22	0		15
5	61	50	39	53	46	39	100	80	62	30.26	30.21	30.14	10	10	7	13	6	-	0.01	Rain	14
8	75	64	51	60	56	50	100	81	48	29.85	29.74	29.49	10	10	2	17	9	30	0.02		17
11	62	53	44	49	46	44	100	84	58	30.33	30.26	30.21	10	10	10	14	9	21	0.06	Rain	14
14	57	55	53	56	53	49	100	96	77	30.24	30.08	29.74	10	6	0	16	5	18	0.01	Fog , Rain	21
17	63	50	37	50	45	37	97	78	56	30.19	30.14	30.1	10	10	10	14	5	21	0		20
20	75	57	39	54	46	37	96	70	43	30.21	30.15	30.08	10	10	10	12	6	20	0		22
23	52	49	46	50	49	45	96	94	87	30.05	29.83	29.48	10	9	4	9	2	-	1.74	Rain	30
26	51	38	26	36	29	25	100	86	56	29.99	29.89	29.77	10	6	0	14	4	21	0	Fog	14
29	43	36	30	37	35	30	100	90	70	29.93	29.86	29.73	10	10	5	6	2	-	0.04	Rain	32
1	39	36	33	34	32	29	93	84	67	30.12	30.05	29.94	10	9	2	9	5	16	0.01	Rain	14
4	42	39	36	41	36	29	100	85	70	30.42	30.13	29.88	10	9	4	15	10	20	0	Rain	16
7	43	33	21	35	26	20	97	78	56	30.41	30.38	30.3	10	10	10	12	3	-	0		23
10	26	22	17	16	12	5	86	70	48	30.71	30.55	30.38	10	7	1	18	11	28	0	Snow	18
13	41	34	27	36	31	25	96	84	62	30.48	30.44	30.38	10	8	5	10	2	-	0		25
16	39	34	28	34	29	23	93	82	70	30.33	30.17	29.85	10	8	2	26	16	36	0	Rain , Snow	26
19	35	32	28	30	23	18	87	71	56	30.01	29.91	29.76	10	8	2	21	14	26	0	Rain , Snow	23
22	30	29	28	23	20	18	75	67	64	30.35	30.27	30.15	10	10	9	10	7	20	0	Snow	18
25	48	40	30	46	33	21	97	73	57	30.18	29.82	29.48	10	10	10	18	13	25	0	Rain	18
28	55	50	44	42	35	24	80	56	45	30.12	29.9	29.78	10	10	10	18	12	26	0		23
1	46	34	21	33	28	19	96	78	50	30.29	30.24	30.2	10	10	10	12	4	18	0		14
4	60	52	44	52	43	30	93	72	56	30.1	29.72	29.38	10	9	2	25	12	38	0	Rain , Thunderstorm	28
7	26	24	23	22	18	14	91	79	64	30.08	30	29.92	10	5	1	18	13	25	0	Snow	18
10	28	24	21	23	18	12	86	74	63	30.09	29.95	29.86	10	9	2	14	10	20	0	Snow	26
13	19	17	15	18	14	10	93	85	68	29.9	29.64	29.41	10	3	0	18	8	25	0	Fog , Snow	20
16	27	22	18	20	17	14	92	79	68	30.24	30.03	29.86	10	8	2	13	6	-	0	Snow	14
19	42	38	30	35	28	16	79	66	48	30.07	29.84	29.72	10	10	10	29	16	38	0		29
22	35	31	27	30	27	24	93	85	72	30.09	30.05	29.99	10	8	1	13	7	-	0	Rain , Snow	17
25	21	13	3	16	4	-2	85	73	65	30.38	30.12	29.91	10	3	0	29	20	37	0	Fog , Snow	29
28	12	8	5	7	5	1	92	83	70	30.73	30.57	30.32	10	4	1	12	6	16	0	Snow	20
31	12	6	0	9	2	-4	92	80	61	30.56	30.48	30.41	10	4	0	15	5	23	0	Fog , Snow	15
																					0
																					0
																					0
																					0
																					0
																					0

	Tons
Outdoor Storage Piles	13.47
Unpaved roads	2.60
Paved roads	7.03
Other sources	0.85
Sum	23.95

PLACE NAME & NUMBER	PLACE NAME & NUMBER	PLACE NAME & NUMBER	PLACE NAME & NUMBER	PLACE NAME & NUMBER	PLACE NAME & NUMBER	PLACE NAME & NUMBER	PLACE NAME & NUMBER	PLACE NAME & NUMBER	PLACE NAME & NUMBER
1 GARAGE	16 MAIN OFFICE (ANNEX)	31 CHIP WASHING		61 GAS METER HOUSE					130 NORTH HI-DENSITY CHEST
2 POWER HOUSE	17 MAIN OFFICE (ANNEX)	32 LAKE WATER PUMP HOUSE	47 VEHICLE WASH BUILDING	62 PCB STORAGE BUILDING				116 ISOPAR TANK	
3 POWER HOUSE	18 NO.1 & 2 PULP MILL, UPPER LAB	33 WOOD ROOM – CHIPPING		63 FIRE PUMP HOUSE					
4 POWER HOUSE			49 PRODUCTION CONFERENCE ROOM		79 EMERGENCY EFFLUENT GENERATOR BUILDING			118 #1 REFINER CHEST	148 DIESEL TANK
5 LIQUOR MAKING	20 REACTOR BUILDING	35 NORTH TRUCK DUMPER	50 PAPER TEST LAB					119 FUEL OIL STORAGE	134 ISOPAR STORAGE
6 MAINTENANCE SHOP		36 SOUTH TRUCK DUMPER	51 WASTE PAPER SCREENING	66 EQUIPMENT STORAGE (2 BLDGS)				120 SOUTH HI-DENSITY CHEST	150 #1 AERATION BASIN
7 NO. 1 & 2 PULP MILLS			52 WASTE PAPER PROCESSING		82 EMERGENCY LIFT STATION GENERATOR BLDG.			121 NORTH LOW-DENSITY CHEST	151 #2 AERATION BASIN
8 NO. 1 & 2 PULP MILLS	23 MAINTENANCE BUILDING		53 WASTE PAPER STORAGE		83 SOUTH SCALE HOUSE			122 GASOLINE PUMP (UST)	152 PROPANE TANK
9 NO. 1 & 2 PULP MILLS	24 PIPE SHOP	39 PRIMARY CLARIFIER	54 STORE ROOM					123 #3 BROKE CHEST	153 PROPANE TANK
10 NO.1 & 2 BEATER ROOM		40 EFFLUENT PUMP HOUSE	55 BIO-ENERGY CONDITIONING BLDG.	70 LIFT STATION					139 CLARIFIER NO. 2
11 NO. 1 PAPER MACHINE	26 NO. 3 PULP MILL		56 BIO-ENERGY ANEROBIC TREAT. BLDG.						140 THICKENER
12 NO.1 & 2 ROLL PIT	27 NO. 3 PULP MILL	42 FILTER PLANT	57 MULTIPLEX BUILDING	72 SECONDARY TREATMENT					155 PROPANE TANK
13 NO.1 & 2 ROLL STORAGE	28 NO. 3 PAPER MACHINE	43 RESERVOIR	58 WASTE OIL STORAGE BUILDING	73 AERATION BASIN SUBSTATION					156 PROPANE TANK
14 NO. 2 PAPER MACHINE			59 OUT BUILDING	74 SEC. SLUDGE CONTAINMENT					157 PROPANE TANK
15 NO.1 & 2 SHIPPING	30 CHIP SCREEN BLDG./TRUCK DUMPER		60 GAS METER HOUSE				115 TEMPORARY SLUDGE CONTAINMENT		159 BOILER WATER PRECIPITATOR
									160 BRINE (UST)



REV	DATE	BY	APP.	DESCRIPTION
1	1/7/14	DU	SK	ADDED TRAILER DROP LOT & SECONDARY SLUDGE CONTAINMENT

PACKAGING CORPORATION OF AMERICA

FILER MILL
PLANT MAP SHOWING FUGITIVE DUST CONTROL

SCALE: 1" = 100'	JOB NO: P-0000
DRAWN: D. UHAZIE	DATE: 6-28-10
CHECKED: R. SMITHE	BLDG: 200
FILE: FUGIDUST	DISC:

DRAWING NUMBER
D-0000-200-1-5-7-1

Packaging Corporation of America

Malfunction Abatement Plan

Filer City Containerboard Mill

9-27-2019

Contents

Overview of Requirements

The Packaging Corporation of America Filer City Mill is required under Michigan Rule 336.1911 "Malfunction abatement plans" and Renewable Operating Permit MI-ROP-B3692-2015b to implement and maintain a source-wide Malfunction Abatement Plan (MAP) approved by the Michigan Department of Environment, Great Lakes, and Energy (EGLE) District Supervisor. If the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall revise the MAP within 45 days after such an event occurs. The revised plan shall include procedures for operating and maintaining the process equipment and add-on air pollution control device during similar malfunction events, and a program for corrective action for such events.

As defined in Michigan Rule 336.1113, a "malfunction" means any sudden, infrequent and not reasonable preventable failure of a source, process, process equipment, or air pollution control equipment to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operations are not malfunctions.

Requirements for each emission unit's malfunction abatement plan are summarized as:

- Emission unit name
- Pollution control equipment
- Supervision in charge of operation
- Supervision in charge of maintenance
- Items or conditions requiring inspection and frequency of inspection
- A list of major replacement parts
- A list of monitoring parameters and the range of the conditions
- A procedure for correcting malfunctions

Notification Procedures

When a malfunction or failure is observed for any of the reasons described in each control device section, the actions outlined below will be taken to alert an outside agency:

1. Verification of the value of the operating parameter.
2. Initial correction attempt.
3. Response to unsuccessful correction attempts.
4. Secondary correction attempt.
5. Repair and inspection.
6. Estimate time for safe process shutdown if necessary.
7. Report malfunction to Environmental Manager.
8. Report malfunction to EGLE following the requirements in MI-ROP-B3692-2015b.

Power Boiler #2 (EUBOILER2)

- Emission unit name
  - EUBOILER2
- Pollution control equipment
  - Low NOx Burners
- Supervision in charge of operation
  - Powerhouse Supervisor
  - Powerhouse Superintendent
- Supervision in charge of maintenance
  - Power/Recovery/Environmental Maintenance Supervisor
  - North End Maintenance Superintendent
- Items requiring inspection and frequency of inspection
  - Boiler MACT (Subpart DDDDD) Tune-up annually
  - Mill-Wide shutdown, approximately every 18 months:
    - Check the general cleanliness and operation of the low NOx burners
    - Check the condition of the burners
    - Check the condition of the diffusers
- Major replacement parts
  - Spare parts are maintained to ensure compliant operation
- Monitoring parameters and the range of the conditions
  - General
    - Burner is on and boiler is operating properly according to good general boiler operating practices
  - Boiler CEMS
    - Boiler CEMS are operated and maintained according to the CEMS QA/QC Program
    - Emissions are monitored continuously by boiler operators. Daily boiler reports are evaluated by Mill Technical/Supervisor Staff
    - NO_x and O_2 CEMS daily drift check
      - 0-5% , calibration pass
      - 5-10%, bad calibration
      - >10%, failed calibration
- Procedure for correcting malfunctions
  - Attempt initial correction without reducing load to boiler if there is no risk to safety or environment
  - Contact operation and maintenance supervision to assist in troubleshooting
  - If needed reduce load on boiler and correct issues causing burners to malfunction

Power Boiler #4 (EUBOILER4A)

- Emission unit name
  - EUBOILER4A
- Pollution control equipment
  - Low NOx Burners
- Supervision in charge of operation
  - Powerhouse Supervisor
  - Powerhouse Superintendent
- Supervision in charge of maintenance
  - Power/Recovery/Environmental Maintenance Supervisor
  - North End Maintenance Superintendent
- Items requiring inspection and frequency of inspection
  - Boiler MACT (Subpart DDDDD) Tune-up every 5 years
  - Mill-Wide shutdown, approximately every 18 months:
    - Check the general cleanliness and operation of the low NOx burners
    - Check the condition of the burners
    - Check the condition of the diffusers
- Major replacement parts
  - Spare parts are maintained to ensure compliant operation
- Monitoring parameters and the range of the conditions
  - General
    - Burner is on and boiler is operating properly according to good general boiler operating practices
  - Boiler CEMS
    - Boiler CEMS are operated and maintained according to the CEMS QA/QC Program
    - Emissions are monitored continuously by boiler operators. Daily boiler reports are evaluated by Mill Technical/Supervisor Staff
    - NO_x and O_2 CEMS daily drift check
      - 0-5% , calibration pass
      - 5-10%, bad calibration
      - >10%, failed calibration
- Procedure for correcting malfunctions
  - Attempt initial correction without reducing load to boiler if there is no risk to safety or environment
  - Contact operation and maintenance supervision to assist in troubleshooting
  - If needed reduce load on boiler and correct issues causing burners to malfunction

Brown Stock Wash (EUWASHERS)

- Emission unit name
  - EUWASHERS
- Pollution control equipment
  - LVHC Collection System
  - One of the Following
    - Power Boiler #1
    - Power Boiler #2
    - Power Boiler #4
- Supervision in charge of operation
  - Powerhouse Supervisor
  - Wood Yard Supervisor
  - Powerhouse Superintendent
  - Pulp/Wood Yard Superintendent
- Supervision in charge of maintenance
  - Power/Recovery/Environmental Maintenance Supervisor
  - Pulp/Wood Yard Maintenance Supervisor
  - North End Maintenance Superintendent
- Items or conditions requiring inspection and frequency of inspection
  - Rupture Discs and Bypass Valves in the Closed Position
    - Monitored continuously according to the LVHC Inspection Plan
  - Destruction Device (Power Boiler #1,#2, or #4) available
    - Monitored continuously by operator
  - Monthly visual inspection for leaks
- Major replacement parts
  - Spare parts are maintained to ensure compliance operation
- Monitoring parameters and the range of the conditions
  - Rupture Discs and Bypass Valves are monitored continuously according to the LVHC Inspection Plan
- Procedure for correcting malfunctions
  - Attempt initial correction without reducing load/stopping equipment if there is no risk to safety or environment
  - Contact operation and maintenance supervision to assist in troubleshooting
  - If needed reduce/stop load and correct issues

Subpart S – Digesters, Recovery Evaporators (FGMACT SUBPART S)

- Emission unit name
    - FGMACT SUBPART S
        - EUEVAPFC
        - EUEVAPLTV
        - EUDIGESTORS
- Pollution control equipment
    - LVHC Collection System
    - One of the Following
        - Power Boiler #1
        - Power Boiler #2
        - Power Boiler #4
- Supervision in charge of operation
    - Powerhouse Supervisor
    - Wood Yard Supervisor
    - Powerhouse Superintendent
    - Pulp/Wood Yard Superintendent
- Supervision in charge of maintenance
    - Power/Recovery/Environmental Maintenance Supervisor
    - Pulp/Wood Yard Maintenance Supervisor
    - North End Maintenance Superintendent
- Items or conditions requiring inspection and frequency of inspection
    - Rupture Discs and Bypass Valves in the Closed Position
        - Monitored continuously according to the LVHC Inspection Plan
    - Destruction Device (Power Boiler #1,#2, or #4) available
        - Monitored continuously by operator
    - Monthly visual inspection for leaks
- Major replacement parts
    - Spare parts are maintained to ensure compliance operation
- Monitoring parameters and the range of the conditions
    - Rupture Discs and Bypass Valves are monitored continuously according to the LVHC Inspection Plan
- Procedure for correcting malfunctions
    - Attempt initial correction without reducing load/stopping equipment if there is no risk to safety or environment
    - Contact operation and maintenance supervision to assist in troubleshooting
    - If needed reduce/stop load and correct issues

Wood Chip Transport (EUWOODCHIPTRAN)

- Emission unit name
    - EUWOODCHIPTRAN
- Pollution control equipment
    - Cyclone
- Supervision in charge of operation
    - Wood Yard Supervisor
- Supervision in charge of maintenance
    - Pulp/Wood Yard Maintenance Supervisor
    - North End Maintenance Superintendent
- Items or conditions requiring inspection and frequency of inspection
    - non-certified visible emission observation at outlet of cyclone
- Major replacement parts
    - Spare parts are maintained to ensure compliance operation
- Monitoring parameters and the range of the conditions
    - Cyclone Emissions
        - No visible emissions
- Procedure for correcting malfunctions
    - Attempt initial correction without reducing load/stopping equipment if there is no risk to safety or environment
    - Contact operation and maintenance supervision to assist in troubleshooting
    - If needed reduce/stop load and correct issues
    - If visible emissions are observed, correct and document the problem within 2 hours
    - Re-perform visible emissions check
    - Repeat until no visible emissions are present

Copeland Reactor (EUCOPELAND+DISTANK)

- Emission unit name
  - EUCOPELAND+DISTANK
- Pollution control equipment
  - Venturi Scrubber
  - Mist Eliminator
  - Regenerative Thermal Oxidizer
- Supervision in charge of operation
  - Powerhouse Supervisor
  - Powerhouse Superintendent
- Supervision in charge of maintenance
  - Power/Recovery/Environmental Maintenance Supervisor
  - North End Maintenance Superintendent
- Items or conditions requiring inspection and frequency of inspection
  - During periods of shutdown:
    - Check the general cleanliness of control equipment
    - Change demisting pads if needed
    - Inspect and change RTO saddles if needed
- Major replacement parts
  - Spare parts are maintained to ensure compliant operation
- Monitoring parameters and the range of the conditions
  - Venturi Scrubber
    - Differential pressure is ≥ 38 inches of water when in operation
  - Mist Eliminator
    - Installed when in operation
  - Regenerative Thermal Oxidizer
    - 1 hour average temperature is greater than the most recent established performance test when in operation
    - 2015 test – 1693°F
- A procedure for correcting malfunctions
  - Attempt initial correction without reducing load/stopping equipment if there is no risk to safety or environment
  - Contact operation and maintenance supervision to assist in troubleshooting
  - If needed reduce/stop load and correct issues

Soda Ash Silo (EUSODA-ASH)

- Emission unit name
  - EUSODA-ASH
- Pollution control equipment
  - Baghouse
- Supervision in charge of operation
  - Pulp Mill Supervisor
  - Pulp/Wood Yard Superintendent
- Supervision in charge of maintenance
  - Pulp/Wood Yard Maintenance Supervisor
  - North End Maintenance Superintendent
- Items or conditions requiring inspection and frequency of inspection
  - The baghouse is installed and operating properly
    - Incorporated into Basic Care/Shift Inspections
  - A device for monitoring the differential pressure across the baghouse is installed and operating
    - Monitored continuously
- Major replacement parts
  - Spare parts are maintained to ensure compliance operation
- Monitoring parameters and the range of the conditions
  - Baghouse differential pressure range: 0-15 inches H_2O
- Procedure for correcting malfunctions
  - Attempt initial correction without reducing load/stopping equipment if there is no risk to safety or environment
  - Contact operation and maintenance supervision to assist in troubleshooting
  - If needed reduce/stop load and correct issues

Copeland Reactor Pellet Silo (EUPELLET)

- Emission unit name
  - EUPELLET
- Pollution control equipment
  - Baghouse
- Supervision in charge of operation
  - Powerhouse/Recovery Supervisor
  - Powerhouse/Recovery Superintendent
- Supervision in charge of maintenance
  - Power/Recovery/Environmental Maintenance Supervisor
  - North End Maintenance Superintendent
- Items or conditions requiring inspection and frequency of inspection
  - The baghouse is installed and operating properly
    - Incorporated into Basic Care/Shift Inspections
  - A device for monitoring the differential pressure across the baghouse is installed and operating
    - Monitored continuously
- Major replacement parts
  - Spare parts are maintained to ensure compliance operation
- Monitoring parameters and the range of the conditions
  - Baghouse differential pressure range: 0-6 inches H_2O
- Procedure for correcting malfunctions
  - Attempt initial correction without reducing load/stopping equipment if there is no risk to safety or environment
  - Contact operation and maintenance supervision to assist in troubleshooting
  - If needed reduce/stop load and correct issues

Biogas (FGBIOGASSYSTEM)

- Emission unit name
  - FGBIOGASSYSTEM
    - EUBOILER1
    - EUBOILER2
    - EUBOILER4A
    - EUBIOGASSYSTEM
    - EUBIOGASFLARE
- Pollution control equipment
  - Any one of the following
    - EUBOILER1
    - EUBOILER2
    - EUOBOILER4A
    - EUBIOGASFLARE
- Supervision in charge of operation
  - Power/Recovery Supervisor
  - Power/Recovery Superintendent
- Supervision in charge of maintenance
  - Power/Recovery Maintenance Supervisor
  - North End Maintenance Superintendent
- Items or conditions requiring inspection and frequency of inspection
  - A destruction device is in operation when operating EUBIOGASSYSTEM
    - Basic Care/ Shift Inspections
    - Monitored continuously by operators
- Major replacement parts
  - Spare parts are maintained to ensure compliant operation
- Monitoring parameters and the range of the conditions
  - A destruction device is in operation
- Procedure for correcting malfunctions
  - Attempt initial correction without reducing load/stopping equipment if there is no risk to safety or environment
  - Contact operation and maintenance supervision to assist in troubleshooting
  - If needed reduce/stop load and correct issues

Continuous Emissions Monitoring System

Quality Assurance And Quality Control Plan

Company: Packaging Corp.
Site: Filer City, MI
System: CEMS
Revision Date: August 11, 2017

Table of Contents

Introduction

This Quality Assurance/Quality Control (QA/QC) Plan has been prepared to support the operation of the Continuous Emissions Monitoring System (CEMS) at Packaging Corp., Filer City, MI installed for measurement of pollutant concentrations of nitrogen oxide (NO_X) and Oxygen (O_2).

The EPA has established requirements for monitoring, record keeping, and reporting pollutant levels in flue gases emitted from affected units. The CEMS discussed in this manual are governed by the regulations established under *Title 40 Code of Federal Regulations Part 60* (40 CFR Part 60), Appendix B, Performance Specifications and Appendix F, Quality Assurance Procedures, which include general requirements for the installation, certification, operation, and maintenance of the CEMS.

Definitions of Quality Assurance and Quality Control

The QA procedures consist of two distinct and equally important functions.

Quality Assurance is the series of activities performed to evaluate the overall effectiveness of the maintenance and QC efforts. QC involves those activities undertaken to determine that the product or service is effective in maintaining an accurate and reliable output of CEMS data.

Quality Control functions are the control and improvement of the quality of the CEMS data by implementing QC policies and corrective actions. QC functions are often comprised of a series of frequent internal checks, such as system inspections, periodic calibrations, and routine maintenance. Quality Assurance involves less frequent external checks on product quality and is used to evaluate the total quality control process.

These two functions form a control loop: When the evaluation function indicates that the data quality is inadequate, the control effort must be increased until the data quality is acceptable. In order to provide uniformity in the assessment and reporting of data quality, this procedure explicitly specifies the assessment methods for response drift and accuracy.

External quality assurance evaluations may include independent system audits, third party sampling and analysis, and/or comparisons to known calibration standards.

Quality Assurance Policy

It is the policy of Packaging Corp.'s to efficiently operate and maintain its facilities in accordance with good operating practices (GOP) and applicable environmental regulations. Packaging Corp. is committed to ensuring that all environmental systems are operating within acceptable limits and that its operations are in compliance with operating and environmental permits.

Objective of Quality Assurance Plan

Packaging Corp. recognizes that the reliability and acceptability of CEMS data depends on completion of all activities stipulated in a well-defined QA plan. The objective of this QA plan is to define the necessary activities that guarantee CEMS data quality is maintained at acceptable levels. The plan also provides the framework for implementing QA activities by addressing items such as documentation, training, corrective actions, and preventive maintenance measures.

Scope of Quality Assurance Plan

This QA plan is specific to the operation and maintenance of the CEMS installed at Packaging Corp., Filer City, MI. The QA Plan goal is to obtain and evaluate emissions data of known and acceptable quality in support of the air pollution control equipment operation. The data obtained is used to demonstrate compliance with the following EPA, state and local emission and monitoring regulations:

40 CFR 60, Appendix B, Performance Specifications

40 CFR 60, Appendix F; Quality Assurance Procedures

Packaging Corp. Operating Permit

Additionally, this plan describes the necessary support services and activities, such as manual source testing, data reduction and report preparation, required to maintain data quality. However, this plan is not exhaustive in that some QA/QC activities are not discussed in detail here. Activities not fully discussed may include, but are not limited to, instrument maintenance, plant operating procedures, plant quality control procedures, and plant internal procedures for procurement and inventory control. These activities may be referenced in this QA Plan and may be updated, replaced, or deleted without notice or change to this plan.

Document Control

This QA/QC Plan includes procedures that ensure changes and revisions to this plan are communicated to all appropriate individuals. The Plant Manager will be responsible for ensuring that all changes and revisions are incorporated in the basic document. Periodic review of this QA Plan will help to insure that the QA process is working to provide efficient notice of required actions. Whenever inaccuracies occur for two consecutive quarters, Packaging Corp. must revise the current procedures or modify or replace the CEMS to correct the deficiency causing the excessive inaccuracies. The procedures must be kept on record and available for inspection by the enforcement agency.

This quality assurance plan must be reviewed annually. If revised, the revised QA plan must be submitted with the report of required annual quality assurance activities. Quality assurance plans for monitoring systems approved prior to the effective date of this manual revision must be submitted with the first report of required annual quality assurance activities conducted after such effective date.

Description of Facility and CEMS

Facility

The PCA Filer City Mill is located at 2246 Udell Street in filer City, Michigan and is a semi-chemical mill that produces corrugated medium, which is used as the inner layer in corrugated cardboard. The plant produces the corrugated medium from whole logs, which are debarked and then processed into chips which pass through scalping screens and are transferred to storage piles or storage silos. Purchased chips are also used along with recycled cardboard.

Particulate emissions from processing, conveying and transfer of the chips are controlled by cyclone dust collection systems. The chips are softened in digesters by cooking under high pressure using sodium carbonate solution (white liquor) and mechanical action is used to separate the wood fibers. The fibers are then washed, mixed with various additives in the stock chests and processed on the paper machines into corrugated medium.

Non-condensable gasses (NCGs) from the pulping process are collected by the Low Volume High Concentration (LVHC) system which routes the NCGs to the Mill's No. 1 and 2 boilers where they are thermally oxidized. The resulting solution after the fibers have been removed is referred to as black liquor. The black liquor is burned through a fluidized bed reactor (Copeland reactor) to produce sodium carbonate that is used again to produce white liquor in the process.

Exhaust gasses from the Copeland reactor are controlled by cyclones, a venturi scrubber, and a Regenerative Thermal Oxidizer. A wet electrostatic precipitator (WESP) is located following the venturi scrubber and demister that control the PM emissions from the Copeland reactor. The WESP is located prior to the regenerative thermal oxidizer but only serves to protect the operation of this unit and not to demonstrate compliance with any emission limits. Polished whitewater from the paper machines, black liquor and other process waste streams can be digested in the biogas system by anaerobic microorganisms.

A product of this biological digestion is the generation of methane-rich biogas that is scrubbed and then fired as fuel in Boiler No. 1, Boiler No. 2, and/or Boiler No. 4A. The No. 1 and No. 2 boilers also have the capability to be fired on coal, oil, or natural gas and are controlled by a shared baghouse when burning coal. The No. 4A boiler burns natural gas and biogas and is equipped with low NOx burners.

EUBOILER2 at the stationary source is subject to the New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units promulgated in Title 40 CFR Part 60, Subparts A and Db. It is also subject to the NESHAP for Industrial, Commercial, and Institutional Boilers and Process Heaters in 40 CFR Part 63, Subparts A and DDDDD (Boiler MACT) and the federal CAM rule under 40 CFR Part 64. This emission unit has a control device (baghouse) and potential pre-control emissions of particulate matter greater than the major source threshold level. The CAM monitoring selected for the control device is the existing COMS which was chosen because opacity can be used as a surrogate for PM emissions with appropriate ranges established during PM emissions testing. Additionally, the COMS provides a continuous means of monitoring the process emissions.

Organization and Responsible Individuals

Certain individuals and groups at the facility will have designated responsibilities to ensure that QA/QC activities are performed as required by this QA program. The following is a typical organizational structure of responsibilities.

Operations Supervisor:

- Oversees the CEMS QA/QC program.
- Reviews all plans and reports for accuracy.
- Prepares certification/recertification applications and notifications to required regulatory agencies.
- Stays abreast of EPA regulation updates that may affect the CEMS programs and interprets as required.
- Coordinates and schedules CEMS audits, diagnostic tests and certification/recertification tests as required.
- Reviews the quarterly CEMS reports from each plant prior to submittal.
- Submits quarterly reports and certification/recertification test results to the applicable regulatory agencies.
- Supports and provides training in the administration and maintenance of the CEMS QA program and CEMS Standard Operating Procedures (SOP) documents.
- Reviews CEMS data for validity and makes any necessary corrections so the proper data will be entered in the quarterly reports.
- Ensures records are maintained for out-of-control conditions.
- Notifies the Plant Manager of any abnormal conditions that cannot be resolved within existing CEMS procedures in a reasonable amount of time.
- Maintains files of all plant CEMS data (hardcopy and electronic), reports, calibration gas certificates, etc. for three years as required by the EPA (or as applicable to local regulatory requirements).
- Notifies appropriate plant personnel of scheduled CEMS audits and certification/recertification tests.
- Arranges for support needed by contractor for periodic audits and certification/recertification tests.

- Provides plant resources to assist contractors during audits and certification/recertification testing.

Plant Manager:

- Designates and manages manpower and other resources needed to properly maintain and operate the CEMS.
- Reviews and approves all plant-specific CEMS plans, procedures, and reports.
- Ultimately responsible for ensuring that all routine preventive maintenance is completed on schedule.

Technician or Operator

- Perform the daily checks on CEMS systems.
- Perform regular maintenance on equipment as recommended by each manufacturer.
- Address and report any abnormal conditions to the Plant Manager.
- Make appropriate entries into the maintenance log.
- Maintain the spare parts inventory.
- Maintain calibration gas and audit filter certifications (if applicable).

System Overview

The following figure presents a simplified illustration of CEMS gas flow (reference system drawings for specific component detail). The *Sample probe* extracts a continuous sample of concentrated flue gas. The umbilical *system* transports the extracted sample through a *gas sample conditioner* and then a *gas control panel* distributes the sample to specific *gas analyzers*. The *gas control panel* controls air pressure to the probe purge. The assembly also regulates the flow of calibration gases to the probe during calibration. The *CEMCON* controls the operation and calibration of the CEMS and converts the emissions data for transfer to *CEMDAS*.

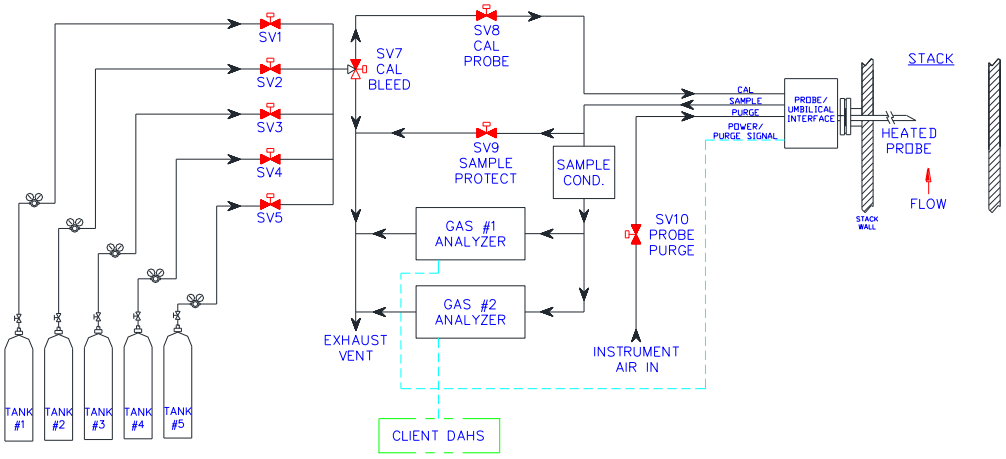


Figure 1. CEMS Overview

The system discussed in this manual consists of the following major interactive subsystems:

CEMS (Continuous Emission Monitoring System) - performs the sampling and measuring of the flue gas. It also generates data in the form of analog or digital signals that are a result of the measurements. Primary components of the CEMS include the gas sampling probe, sample gas conditioner, sample transport umbilical, gas analyzers, and gas control panel.

CEMCON (Continuous Emission Monitoring CONtroller System) receives and stores data generated by CEMS and automatically controls CEMS operations such as system purge, sample air flow, calibration, and detection of alarm conditions. In addition, it provides the communication link between CEMS and CEMDAS. The CEMCON system consists of a PLC controller with power supply and an operator interface.

CEMDAS (Continuous Emission Monitoring Data Acquisition System) retrieves the data stored by the CEMCON and performs the required calculations to determine if the readings are within required limits. The system is designed to provide alarm messages and signals in the event the results do not meet applicable requirements. CEMDAS can also generate the required reports used in EPA audits and in evaluating system operability.

A complete set of operation and maintenance manuals for all components of the system is maintained by the Operations Supervisor. These manuals provide complete descriptions of the system including theory, installation, operation, and maintenance.

Sample Probe

The sample probe performs the extraction of the emission sample from the flue gas flow. The probe is inserted into the gas stream and angled slightly downward. Sample pumps (contained in the sample gas conditioners) extract a gas sample through a filter.

The primary components of the typical probe are: the probe housing where extraction takes place, probe extension, probe heater, thermocouple to monitor temperature, the sample pump, a two (2) micron filter and a small surge tank. The probe extension and heater are constructed of 316L stainless steel.

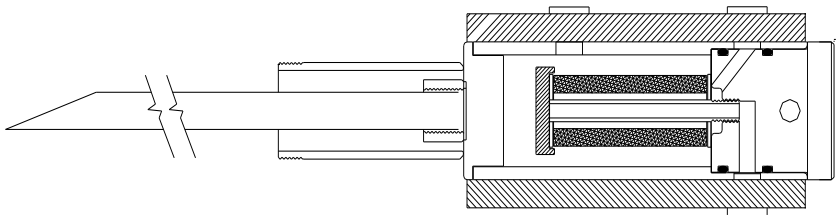


Figure 2. Sample Probe

The Model 34C Heated Filter Probe is designed to be mounted on a stack or duct for use in high particulate applications. Its primary function is to provide a heated environment to maintain sample gas temperatures above dewpoint and remove particulate material from the gas sample. The Model 34C features a standard 2 micron sintered ceramic filter element, an external regulated heater jacket, an integral calibration gas port on both sides of the filter element, a NEMA 4 enclosure, and a single direct blowback system to clean the filter element.

Figure 3. Sample Probe with Stinger

Operation of the sample probe is described in greater detail in the *Baldwin-Series Heated Filter Probes General Purpose Series Model 34C-Monsol Instruction Manual* which is included with the system O&M manual.

Mounting

The Model 34C is designed to be mounted directly on a stack or duct with a 1¼" Schedule 40 male pipe nipple. This pipe nipple can be screwed into a standard ASA flange, either flat or raised face. The probe boot can be heat shrunk to the sample line to eliminate cold spots.

The sample probe will be mounted on a 3-4 degree slope toward the base of the stack to allow moisture to 'run-out'.

Flanging	4" 150# Raised Face-Standard 4" Flat Face - Optional
Probe Stinger Diameter	0.5" (Full Extractive)
Material	316L Stainless Steel
Heater	Maintains probe/filter at 400° F min.
Controller	Heater control with failure alarm and temperature indication
Calibration	Calibration port is designed to insert gas before filter
Filter	2 micron borasilica glass, replaceable without probe removal; changed quarterly. (May also be a 2 micron sintered 316 S.S., replaceable without probe removal. Can be cleaned in an ultrasonic parts cleaner.) 2 micron sintered ceramic, replaceable without probe removal; changed quarterly. May also be a 2 micron borasilica glass or screen type filter. (A stainless steel filter should NOT be used for THC applications.)
Purge System	Accumulator tank for use at a predetermined interval with instrument air. Purge frequency based on process.
Power	120 VAC 60 Hz, Single Phase supplied through the sample umbilical

Blowback (Purge)

The Model 34C comes with a blowback air accumulator tank and 2-way solenoid. To operate blowback, connect a 50-90 psig instrument airline to the blowback air accumulator tank. The customer controls blowback via a PLC or other means determined by customer. The 2-way blowback solenoid is rated high temperature and 100 psig maximum pressure. The valve has a 1/8" orifice and the blowback instantaneous flow rate is 14scfh.

Calibration

To operate calibration gas to the probe, open the user supplied calibration gas control valve, adjust the cylinder pressure not to exceed 35 psig, and adjust the calibration gas flow rate to 125% to 150% of the total gas sample flow rate.

Maintenance Schedule

The typically preventative maintenance required for the probe is to clean or replace the ceramic filter in the probe head. Inspection of all tubing and wiring connections should also be performed. The ceramic filter, o-rings, and blowback solenoid should be considered when determining spare parts requirements.

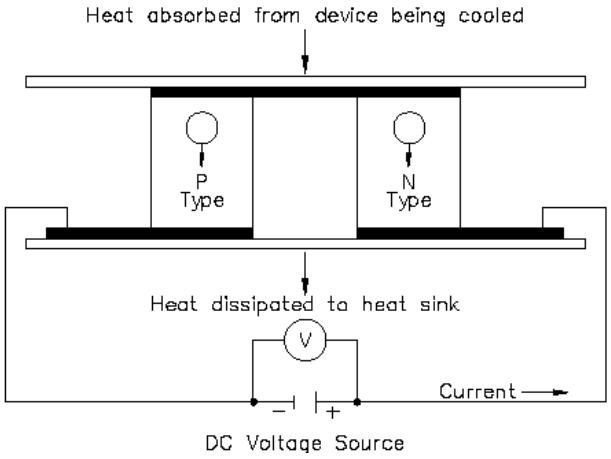
Sample Gas Conditioner

The Perma Pure Model 8210 sample gas conditioner is used to dry and filter the extractive sample of any moisture and other contaminants.

Figure 4. Model 8210 Sample Gas Conditioner

The Heavy Duty Series Thermo-Electric Coolers are specifically designed for high ambient temperature & high water volume applications. The process of sampling stack gas requires a method to remove the moisture from the sample, without removing the gas components of interest.

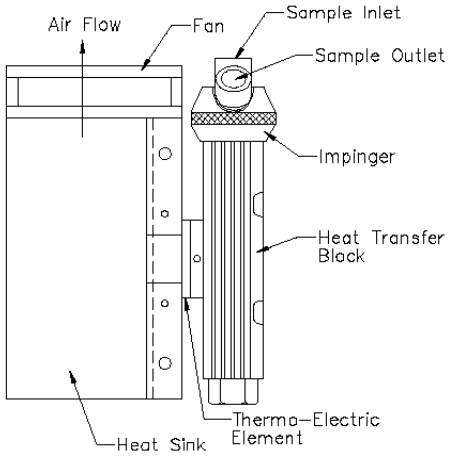
The sample gas is passed to the thermo-electric cooler (to remove moisture) via the heated filter sample probe and heated sample line. The thermo-electric cooler lowers the sample dew point to 5°C (41°F). As the gas cools and the moisture vapor condenses, the condensate exits the heat exchanger through the bottom drain connection. Particulate matter passing through the sample cooler is removed by an optional pre-filter, located downstream from the cooler along with an optional water slip sensor. The conditioned sample gas can then be directed to the gas analyzers.



Thermo-electric element (Peltier)

The coolers use thermo-electric elements (Peltiers) to cool the sample gas to the desired dew point temperature. A thermo-electric cooler is best illustrated as a small heat pump with no moving parts. The Peltiers operate on direct current and may be used for heating or cooling by reversing the direction of current flow. This is achieved by moving heat from one side of the module to the other with current flow and the laws of thermodynamics. A typical single stage Peltier (See Figure) consists of two ceramic plates with p- and n-type semiconductor material (bismuth telluride) between the plates. The elements of semiconductor material are connected electrically in series and thermally in parallel.

When a positive DC voltage is applied to the n-type thermo-electric element, electrons pass from the p- to the n-type thermo-electric element and the cold side temperature will decrease as heat is absorbed. The heat absorption (cooling) is proportional to the current and the number of thermo-electric couples. This heat is transferred to the hot side of the Peltier element where it is dissipated into the heat sink and surrounding environment.



Sample Conditioner Layout

The Thermo-Electric Coolers remove the moisture from the sample gas by cooling the gas as it passes through a laminar impinger (heat exchanger). The heat exchanger, made of 316L stainless steel, Durinert ® (a corrosion-resistant inert coating over 316L stainless steel), PVDF (Kynar), or glass, is mounted within a thermally insulated heat transfer block bored to receive the heat exchanger without a mechanical lock. This assembly allows the easy removal of any heat exchanger simply by slipping it out of the cooling block by hand. The heat transfer block cools the heat exchanger through the heat pumping action of the peltier element. The heat transfer block is on the cold side of the thermo-electric element and the heat sink is on the hot side of the thermo-electric element. The heat from the heat transfer block is pumped to the heat sink where it is then dissipated into the air by the heat sink fan (see figure). The desired temperature is maintained by a closed loop control system, which is implemented through an analog proportional controller.

The controller uses a type K thermocouple in the heat transfer block located very close to the cold side of the peltier element as the input sensor.

The sample gas is passed to the thermo-electric cooler via the heated filter sample probe and heated sample line. The thermo-electric cooler lowers the sample dew point to 5°C (41°F). As the gas cools and the moisture vapor condenses, the condensate exits the heat exchanger through the bottom drain connection. Particulate matter passing through the sample cooler is removed by an optional pre-filter, located downstream from the cooler along with an optional water slip sensor. The conditioned sample gas can then be directed to the gas analyzers.

Maintenance Schedule

The typically preventative maintenance required for the sample conditioner is to clean or replace the ceramic filter, replace the peristaltic pump drain tubing, and service the sample pump (replace the diaphragm and valve) on a quarterly basis or more frequently, if necessary. Inspection of all tubing and wiring connections should also be performed. The ceramic filter, peristaltic tubing, and pump rebuild kit should be considered when determining spare parts requirements.

Umbilical System

The umbilical is a bundle of pneumatic tubes and electrical wires used to interconnect the probe, the gas analyzers and gas transport system. The umbilical is heated to keep it flexible and free of condensation. The umbilical system contains the following lines:

a) One 3/8-in tube for transporting calibration gas to the probe.

b) One 3/8-in tube for transporting sample to the analyzers via the gas control panel and the analyzers.

c) One 3/8-in tube for transporting instrument / purge air to the probe.

Additional components of the umbilical system include the control wiring for the stack J-box, AC voltage for the probe and umbilical heaters, and wiring for the enclosure pressure switch. Two Type "K" thermocouple wires are provided for measuring the temperature of the umbilical and the probe heater. The tube/wire bundle is wrapped in a thermal barrier and is surrounded with thermal insulation. The total umbilical system is enclosed in a flexible fire retardant jacket for protection. The power end is typically marked with yellow tape and the stack end marked with white tape.

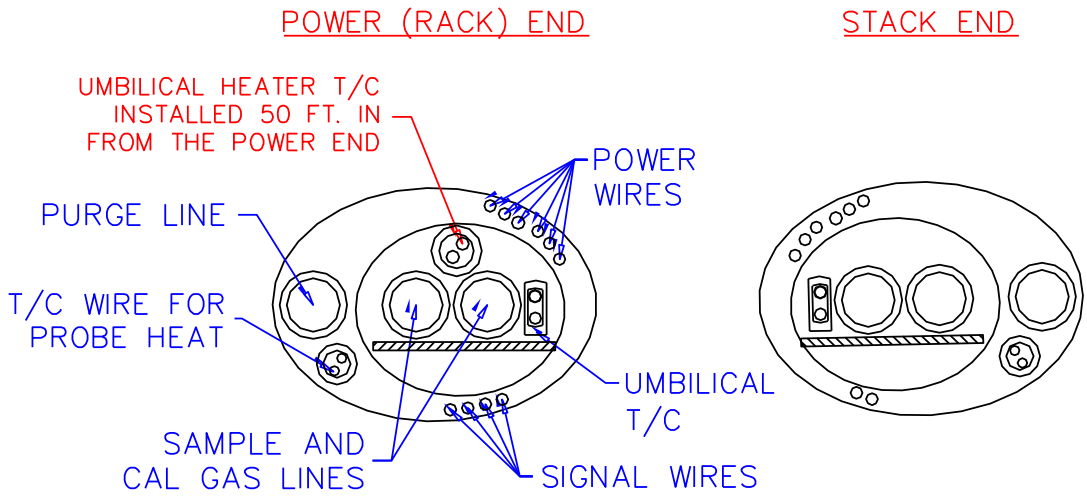


Figure 5. Full Extractive Umbilical

Maintenance Schedule

Preventive maintenance of the umbilical includes a visual inspection of the exterior for any damage or cuts to the outer jacket and any obvious kinking or low spots. Supports should also be considered during the inspection.

Heater Controllers

Figure 6. Auber Temperature Controller

Setup

Temperatures of the umbilical and probe heaters are set by controls located in the system rack.

The umbilical temperature should be set to a point between 275°F and 300°F. If a system is analyzing CO gas emissions, the umbilical temperature setpoint should be set towards the lower end of the range.

The probe temperature setpoint is dependent on the type of probe. The full extractive probe temperature should be set to a point between 300°F and 350°F.

Maintenance Schedule

There is typically no preventative maintenance required for the heater controller assembly. Some systems utilize a solid state relay. Both heater controller and relay should be considered when determining spare parts requirements.

Thermo Electron Corp. Model 42i-HL NO_X Analyzer

Figure 7. TECO Model 42i-HL High Level NOX Analyzer

The NO_X analyzer discussed in the following paragraphs is covered in greater detail by the *Model 42i High Level Chemiluminescence NO-NO_2-NO_X Analyzer Instruction Manual* supplied with this manual. The analyzer is an analytical instrument capable of measuring oxides of nitrogen at levels from 10 to 5000 parts per million. The Model 42i-HL offers fast response time, increased sensitivity, linearity through all ranges, and simplicity of operation. It features a sample pump, independent NO_X ranges, and a replaceable converter cartridge.

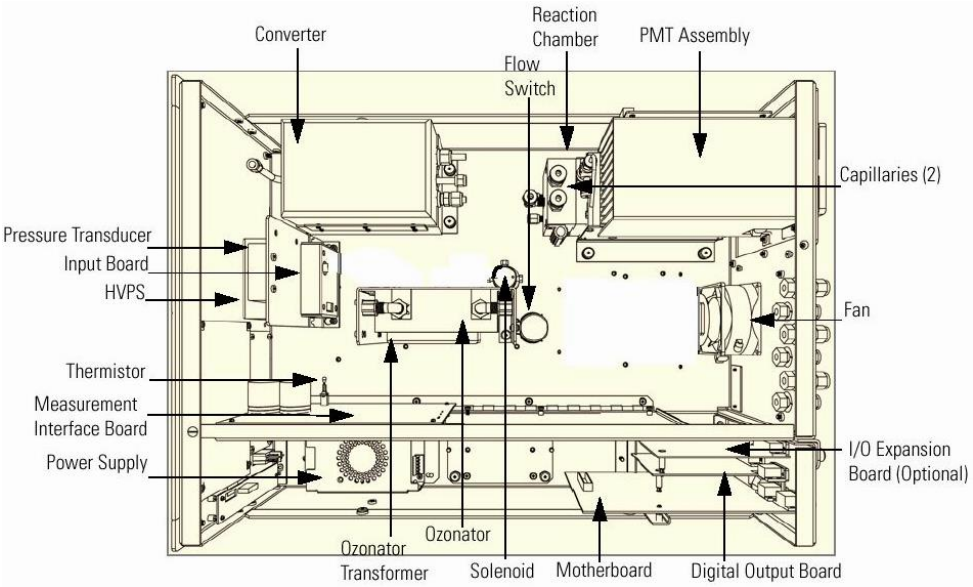


Figure 8. TECO Model 42i-HL NOX Analyzer Component Layout

Principles of Operation

The Model 42i-HL operates on the principle that nitric oxide (NO) and ozone (O_3) react to produce a characteristic luminescence with an intensity linearly proportional to the NO concentration. Infrared light emission results when electronically excited NO_2 molecules decay to lower energy states. Specifically,

$$NO + O_3 \rightarrow NO_2 + O_2 + hv$$

Nitrogen dioxide (NO_2) must first be transformed into NO before it can be measured using the chemiluminescent reaction. NO_2 is converted to NO by a stainless steel NO_2-to-NO converter heated to about 625°C (the optional molybdenum converter is heated to 325°C).

The ambient air sample is drawn into the Model 42i-HL through the sample bulkhead. The sample flows through a capillary, and then to the mode solenoid valve. The solenoid valve routes the sample either straight to the reaction chamber (NO mode) or through the NO_2-to-NO converter and then to the reaction chamber (NO_X mode). A flow sensor prior to the reaction chamber measures the sample flow.

Dry air enters the Model 42i-HL through the dry air bulkhead, passes through a flow switch, and then through a silent discharge ozonator. The ozonator generates the ozone needed for the chemiluminescent reaction. At the reaction chamber, the ozone reacts with the NO in the sample to produce excited NO_2 molecules. A photomultiplier tube (PMT) housed in a thermoelectric cooler detects the luminescence generated during this reaction. From the reaction chamber, the exhaust travels through the ozone (O_3) converter to the pump, and is released through the vent.

The NO and NO_X concentrations calculated in the NO and NO_X modes are stored in memory. The difference between the concentrations is used to calculate the NO_2 concentration. The Model 42i-HL outputs NO, NO_2 and NO_X concentrations to the front panel display, the analog outputs, and also makes the data available over the serial or Ethernet connection.

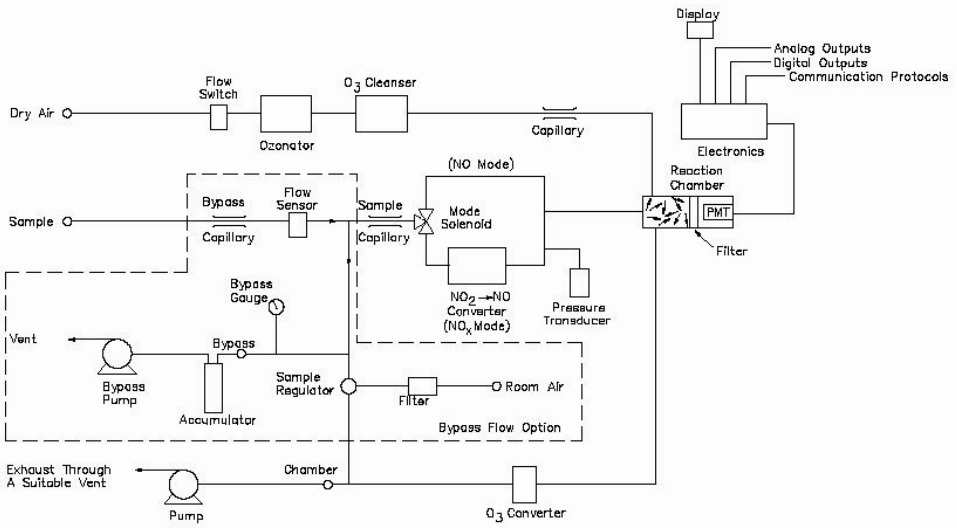


Figure 9. TECO Model 42i-HL NOX Analyzer Flow diagram

The NO_X analyzer discussed in the following paragraphs is covered in greater detail by the *Model 42i High Level Chemiluminescence NO-NO_2-NO_X Analyzer Instruction Manual* supplied with this manual.

Gas Control Panel

Calibration and Purge solenoids

The gas control panel is used to route the calibration gases (both zero air and span gas) to the probe and to regulate the sample flow rate to each analyzer. The sample flow rate is regulated by a flowmeter for each analyzer and should be set to approximately 1.5 lpm for each analyzer. The zero air and the span gas flow are set and monitored by the CALIBRATION GAS flowmeter to approximately 1 lpm above the sum of the analyzer flows when cal to the probe is active.

The switching of the flows of zero, span, and purge gases is performed by solenoids mounted within the solenoid assembly. The high pressure/volume purge is controlled by a purge solenoid located in the stack probe box. High density Teflon tubing is used to interconnect the gas control panel and the solenoids.

Operator Interface Controller

The Operator Interface Controller controls the activation of the calibration and purge solenoids. Two contacts are provided to the client for remote activation of the Daily Calibration Check sequence and the Quarterly CGA sequence. These sequences, as well as activation of individual solenoids, can be performed manually by an operator at the controller.

The frequency and duration of the probe purges is set within the controller. A "First Purge of the Day" purge time is set and subsequent purges occur based on the frequency (in minutes) set in the controller.

Maintenance Schedule

There is typically no maintenance required for the Gas Control Panel, however, the solenoids should be considered when determining spare parts requirements

CEMDAS™ Data Acquisition System

Overview

CEMDAS™ is an automated PC-based data acquisition system custom designed for each client. Its primary functions are the acquisition, processing, storage, and reporting of CEMS data and related information. CEMDAS™ facilitates all of the data reporting requirements necessary to establish compliance with EPA, state, and local operation permit limits. Coupled with a Monitoring Solutions PLC controller, the CEMDAS™ package is a powerful, user-friendly Windows-based system for monitoring, recording, and reporting stack emission information. CEMDAS™ receives analog and status signals from CEMS components such as monitors via the PLC. CEMDAS™ uses these inputs to prepare reports and summarize the data and information derived from the input signals.

Besides the standard reporting features, CEMDAS™ is designed to allow a user to better diagnose and understand their CEMS system. Some of the features include trending, system activity logs, alarm logs, and screen reports.

The typical hardware components included are a Windows-based computer, UPS, monitor, keyboard, mouse, and printer. The specific CEMDAS™ computer configuration is customized for each client and is developed and tested to function with the CEMDAS™ Evolution software.

User Interface

The User Interface (UI) is responsible for providing the user with access to the many features of CEMDAS™. From the UI the user can view real time scan and average data, generate reports, edit system parameters, take monitors out of service, start and stop the flow of calibration gas, and trigger the start of daily or quarterly calibration test cycles.

The typical appearance of the CEMDAS UI is shown below.

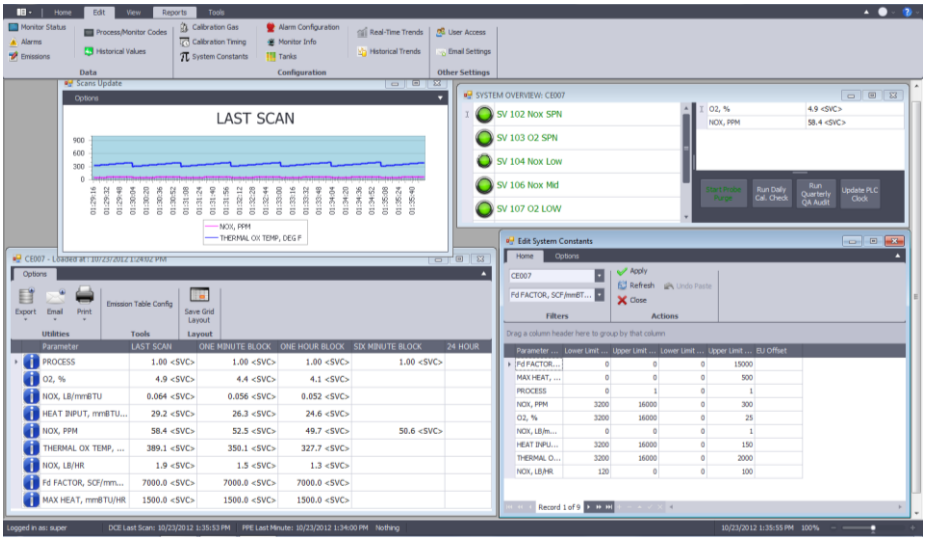


Figure 10. Typical CEMDAS Screen

CEMCON Controller

Programmable Logic Controller (PLC)

CEMDAS™ utilizes a PLC-based CEMCON System Controller, including all necessary I/O. Besides the I/O utilized by the CEMDAS™ software for monitoring and reporting functions, a number of other I/O are available including Digital Inputs, Digital Outputs, Analog Inputs and Analog Outputs.

Maple Systems Model HMI5043L Human Machine Interface

Manual Calibration Checks, as well as purges, can be initiated from the Maple Systems HMI. The HMI allows control of the gas solenoids from the analyzer rack when the CEMDAS™ computer is not located nearby.

Figure 11. Maple Systems Model HMI5043L Operator Interface

CAUTION: Any activity initiated from the HMI unit should be deactivated at the HMI. Switching between the HMI and CEMDAS™ computer may cause the system to fault resulting in a loss of data!

Calibration Overview

During normal operation of the CEMDAS™ Evolution program, the analyzer readings are recorded and displayed on the computer screen for the user to read and evaluate. In order for the readings to be accurate, the analyzers have to be periodically checked with a known standard for comparison. This is done daily per EPA regulations and is known as the "Daily Calibration Check". During the Daily Calibration Check, known values of gases flow to the analyzers and the analyzers' responses are compared to the known values (zero and span gas values are based on federal, state, and local permits). If an analyzers' responses to the known gas values are within tolerances, then the system will continue to operate normally with no action required by the user.

If, during a daily calibration check, an analyzer doesn't read the zero gas or span gas correctly, CEMDAS™ will either indicate a BAD or FAIL status for the calibration on the daily calibration report (typically, ±5% for BAD and ±10% for FAIL). If an analyzer FAILs a daily calibration check, the status of the analyzer will change to MOC (Monitor Out of Control). ***All data collected by CEMDAS™ from this point forward will be considered INVALID for the analyzer that failed its calibration and all data calculated from this analyzer's raw data will also be considered INVALID.***

If the analyzer's response exceeds the permitted limits, the user must take immediate action to bring the analyzer readings back to within limits. Analyzers may have different procedures for performing a manual calibration, but they all must first have the known standard gases flowing to the analyzers so that the analyzers can be calibrated to these known standards.

1) The value of the gas in calibration bottle(s) will vary slightly every time that calibration bottle(s) is changed.

2) Every time a bottle is changed, it is necessary to record the calibration gas value(s) and enter the new value(s) into the CEMDAS™ *Calibration Config* menu.

    - The CEMDAS™ program is compares the analyzer reading with the values entered into the *Calibration Config* menu.

    - If the values in CEMDAS™ are not updated with the new calibration bottle values, the analyzers will read correctly, but the DAILY CALIBRATION REPORT will be incorrect because CEMDAS™ will be comparing with the wrong values.

Calibrations from the System Overview Screen

1) Manually start the flow of calibration gases via the CEMDAS computer.

    a. Access the SYSTEM OVERVIEW screen by selecting the VIEW tab, then selecting System Overview in the ribbon.

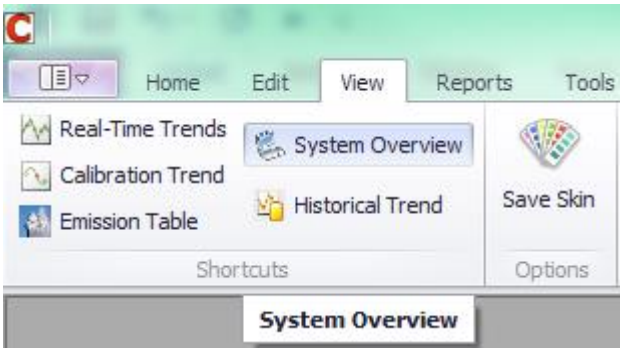


Figure 12. System Overview Select

    b. Once the SYSTEM OVERVIEW screen is open, a graphical representation of the various gas bottles that the system uses will be displayed.

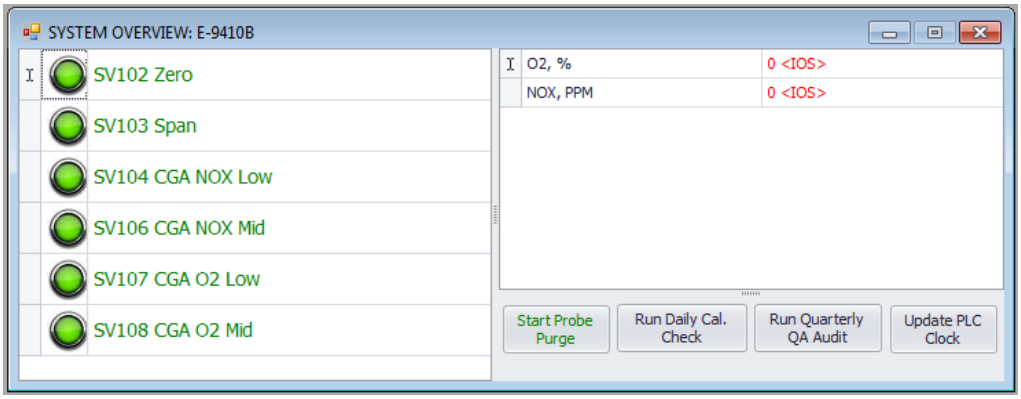


Figure 13. System Overview Screen

c. Each individual gas bottle can be turned on and off from the SYSTEM OVERVIEW screen.

2) Typically, a system will have a ZERO bottle, a DAILY SPAN bottle, a LOW CGA/LIN bottle and a MID CGA/LIN bottle.

a. The exact number of gas bottles in a system, are determined by the type of system and types of analyzers in the system.

b. A system may have more bottles than another system and they may have different labels also.

c. The principles for turning the bottles on and off will be the same regardless of the number of bottles or type of system.

3) Activate a calibration gas bottle.

a. Each bottle will have a green button next to it. Clicking on the green button will bring up a small menu asking if you are sure you want to turn on the selected gas bottle.

b. Select YES to activate the solenoid for that gas bottle and the selected gas will begin flowing to the probe for sampling by the system analyzers.

i. Anytime calibration gases are flowing, the analyzers are no longer sampling stack gases, therefore the readings from the analyzers are not representative of what is in the stack and the status of the analyzers will change from SVC (In Service) to MOS (Monitor Out of Service).

ii. Once YES has been selected and the gas has begun to flow, the button next to the selected bottle will become a red button.

c. Select the red button to turn off the selected gas bottle. A small menu will pop up asking if you are sure you want to turn off the selected gas bottle.

d. Select YES to de-activate the solenoid for that gas bottle and stop the flow of the selected gas to the probe.

   i. The status of the analyzers will change from MOS to NSA (No Sample Available) when the gas flow to the probe is stopped. This is a recovery period, approximately 2 minutes, and allows the system to clear the calibration gases, begin to bring the stack gases down from the probe, and stabilize again so that the analyzer readings are representative of what is in the stack.

   ii. The status will then return to SVC indicating that the data being collected is valid.

Always leave the SYSTEM OVERVIEW screen open while flowing calibration gases from the SYSTEM OVERVIEW screen!

Closing the SYSTEM OVERVIEW screen while a gas bottle is turned on can potentially cause problems, and when the SYSTEM OVERVIEW screen is re-opened to turn the bottles off, the screen will indicate the <u>opposite</u> state of the gas bottle.

Once all gases are turned off, it is safe to close the SYSTEM OVERVIEW screen.

Calibrations from the HMI (Human-Machine Interface)

These general guidelines apply to CEMDAS™ systems utilizing Maple Systems Human-Machine Interface Model HMI5043L touchscreen display unit.

1) Upon power up of the PLC to which the HMI is connected, the first screen to appear after its initialization will display "Monitoring Solutions" and the Date "MM/DD/YYYY" and time "HH:MM:SS".

2) Pressing the Close Screen text at the bottom of any screen will take the user one screen back.

3) Begin by touching the *Press to Login* button. The system options screen will be displayed.

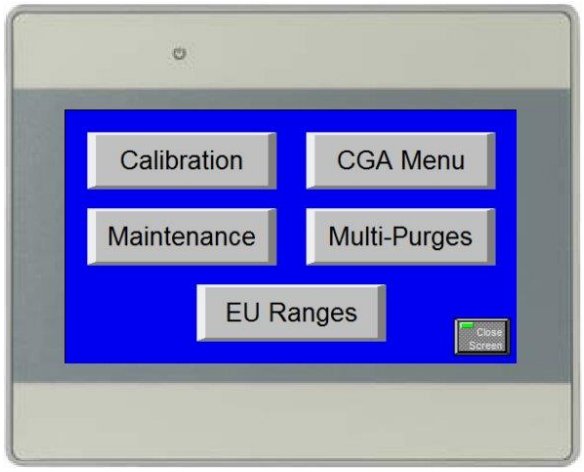


Figure 14. HMI System Options

Manual Calibrations

1) Select the Maintenance button to navigate to the Maintenance Menu. From this menu, a user can manually activate a calibration gas solenoid or purge solenoid(s).

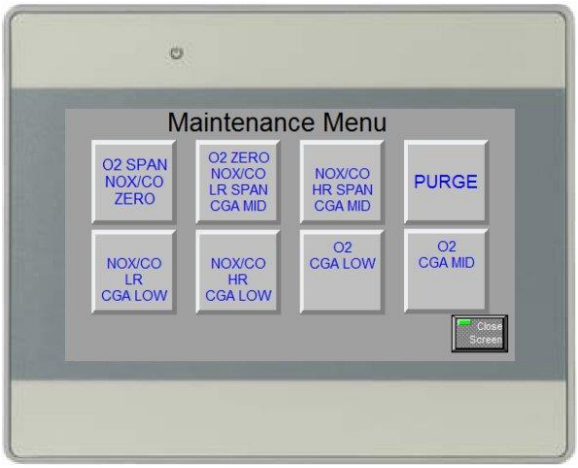


Figure 15. HMI Maintenance Menu

2) Select the desired solenoid. The solenoid activate/deactivate screen will be displayed.

Figure 16. HMI Solenoid Activate Screen

3) A user can toggle the solenoid ON and OFF by pressing the appropriate button. The text and color of the button will switch to correspond to the state of the solenoid. Select the ON button. A click should be heard from the corresponding calibration solenoid, allowing calibration gas to flow from the corresponding gas cylinder.

   a. The *Calibration Gas Rotometer* on the front panel of the analyzer rack allows the gas flow to the corresponding analyzer to be observed and adjusted. The ball in a rotometer indicates gas flow to the analyzer and should be approximately 2 liters/minute for dilution systems and approximately 10-12 liters/minute for full extractive systems.

> ***CAUTION! All calibration gas bottles toggled ON from the HMI must be toggled OFF from the HMI also. Never turn bottles on from the HMI and attempt to turn off from the CEMDAS OVERVIEW screen or vice versa. ALWAYS TURN BOTTLES ON AND OFF FROM THE SAME LOCATION!***

   b. Once the span calibration gas is flowing, allow the analyzers to stabilize for a few minutes so that the calibration gas being sent up to the probe will have time to return back down to the system. This may take a long time if the probe is a very long distance from the analyzer rack. Adjustments and readings may then be taken from the analyzers. (Each analyzer may have different calibration procedures, but will typically involve entering a calibration menu on the analyzer and scrolling to the appropriate screen and forcing the analyzer to output the value of the span calibration gas in the corresponding bottle for its reading.)

4) Once the analyzers are correctly reading the calibration gas, turn off the calibration gas.

Figure 17. HMI Solenoid Deactivate Screen

a. Again, the click of the corresponding solenoid should be heard each time the calibration bottle is toggled on or off.

b. Observe the ball in the *Calibration Gas Rotometer* to verify that calibration gas flow has stopped.

c. It will take approximately 2 minutes for the system to recover and stabilize and for the status of the analyzers to change from NSA to SVC as indicated on the CEMDAS™ *System Overview* screen.

d. In order to activate a different calibration gas bottle, turn OFF the current solenoid. Touch the Close Screen button to go back to the Maintenance Menu.

e. Regardless of whether the calibration gases were manually activated and the analyzers have been calibrated and are reading the calibration gases correctly, if the previous *Automatic* Daily Calibration Check FAILED, the analyzer status will still be MOC.

f. In order to clear the MOC status and return the analyzer(s) status to SVC, the system needs to be run successfully through another *Automatic* Daily Calibration Check.

Automatic Daily Calibration Check cycle

1) From the *System Options* screen, select *Calibration*. This will provide the user with options for manually starting an Automatic Daily Calibration Check cycle.

Figure 18. HMI Calibration Screen

2) Pressing the *Daily* button will initiate a full Automatic Daily Calibration Check cycle.

    a. A Purge will ALWAYS be performed at the end of an Automatic Daily Calibration Check cycle.

    b. A typical sequence would include a Zero check, Span check, and then a Purge. Reference the system drawings for sequence details.

CGA (Cylinder Gas Audit)

1) From the *System Options* screen, select *CGA Menu*. This will display a screen that will allow the user to change the number of CGA runs that will cycle when the CGA is initiated. The typical number of runs is three, however, being able to change the number of runs provides an option for troubleshooting.

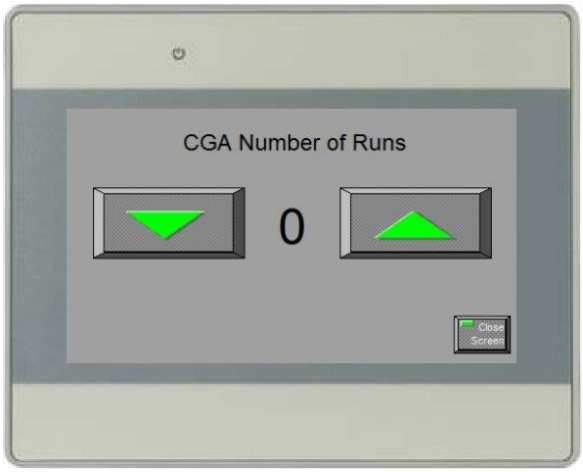


Figure 19. HMI CGA Number of Runs Screen

   a. Use the Up and Down arrow keys to select the desired number of runs.

   b. Once the desired number is displayed, press the *Close Screen* button and the number will be stored.

2) From the *System Options* screen, select *Calibration*. This will provide the user with options for starting a CGA.

   a. Pressing the CGA button will initiate a full CGA Calibration Check cycle sequence and will perform the sequence repeatedly based on the number of runs selected in the *CGA Number of Runs* screen. Some systems require a change of cylinders and a second CGA Calibration Check cycle sequence. Reference the system drawings to see if a second sequence is required.

   b. Once the CGA is initiated, it ***CANNOT*** be stopped!

Multi-Purges

The system can be setup via the HMI so that a purge is performed multiple times throughout the day.

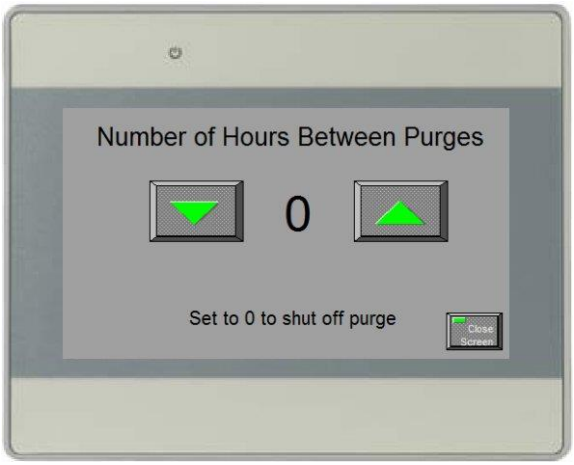


Figure 20. HMI Multi-Purge Setup Screen

1) From the *System Options* screen, select *Multi-Purges*. This will provide the user with options for setting the frequency of the purges.

2) The number that is entered is equal to the number of hours ***BETWEEN*** purges.

> ***CAUTION: If power is lost to the HMI, the purge frequency will return to its default setting upon power up and values will, if previously changed, need to be re-entered.***

DTR (Downtime Recovery) for CEMDAS Evolution

Some systems are equipped with an additional external device that will perform in conjunction with the PLC to store data and provide a utility to recover the data in the event that there are issues with the CEMDAS™ computer. Monitoring Solutions' approach to collecting data when the Computer has lost its connection to the PLC, due to a network problem, the computer being shut down, or a computer failure, is to store as much as 90 days of data in a local storage device located near the PLC. The external device is a Red Lion modular controller with data collection and storage. Data is collected every 2 seconds and stored as a CSV (Comma Separated Variable) type file. The connection between the Red Lion storage device and the PLC will depend on the type of PLC being used and the ports available. In most cases this will be an Ethernet communications. The Red Lion device will communicate with the CEMDAS™ computer via Ethernet communications in all cases.

The CEMDAS™ computer is set up as a time server and as an FTP server. The DTR device will write the data to the CEMDAS™ computer into a subdirectory location of "C:\Cemdas\DTR\logs". A file will be generated for each day. The file will be updated on a periodic basis to the CEMDAS™ computer.

The DTR device will synchronize its time with the CEMDAS™ computer so that the times will match on the two devices. The scan data on the DTR Device will be transferred on a periodic basis from the DTR device to the CEMDAS™ computer DTR subdirectory by the Sync Manager function in the DTR device. If the CEMDAS™ computer has not been communicating with the PLC, the data from the DTR subdirectory will be used to fill in the missing scan Data.

Caution: A user should wait at least 15 minutes after the CEMDAS™ application has been launched prior to performing any down time recovery process to allow for the CEMDAS™ application and the DTR to completely sync any missing data.

A user must have the proper access rights to initiate the Downtime Recovery process. The following procedure should be followed:

1) Within the CEMDAS™ application, select the *Tools* tab, then select the *Downtime Recovery* option in the menu ribbon.

Figure 21. Downtime Recovery Select

2) The Downtime Recovery window will pop up. The timeframe shown is typically the last timeframe for which CEMDAS™ detected missing data. Select the desired Start Date and Time and the End Date and Time.

Caution: Do not select a timeframe that contains valid data as this may potentially overwrite valid data depending on the reason for the missing data.

Do NOT perform RECALC while the down time recovery process is running.

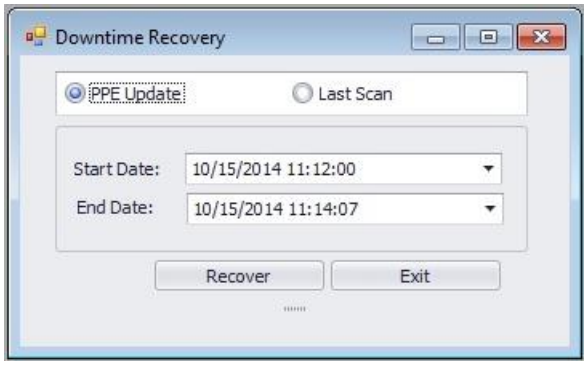


Figure 22. Manual Downtime Recovery Initiate

3) Left click on the Recover button to initiate the process.

CEMDAS™ will then read in the CSV files data for the period of time selected and perform a conversion of the data from the "raw" CSV file into the appropriate engineering units and status information. During this conversion, any calibration data missed will also be converted and stored into the CEMDAS™ database. All averages will be calculated and the data added to the SQL data bases. This process will take a few minutes. The time required will vary depending on the number of PLC's and the time period for which data must be recovered.

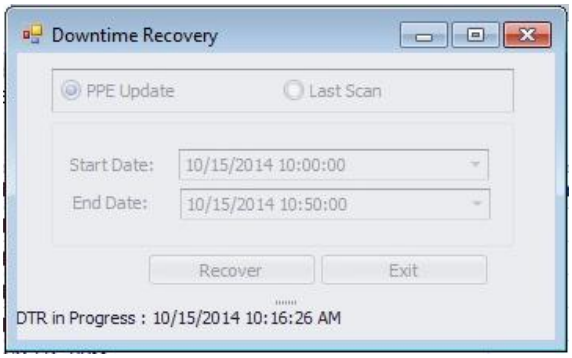


Figure 23. Downtime Recovery In Process

During the recovery time period, there may be a number of alarms generated as CEMDAS™ converts all the data collected during the period the program was not running. All of the alarms will be stored in the CEMDAS™ database for use in reporting.

At the end of the Downtime Recovery process, CEMDAS™ will return to normal operation. The DTR device will also continue to collect data and transfer it to the CEMDAS™ computer for future use when, or if, it is needed.

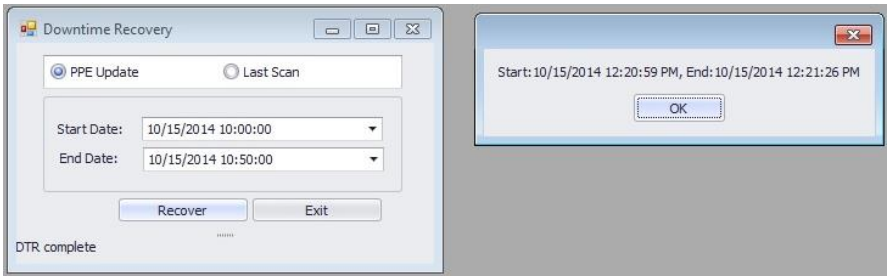


Figure 24. Downtime Recovery Complete

The functions and operation of the CEMDAS™ Evolution program are covered in greater detail by the ***Continuous Emissions Monitoring Data Acquisition System Operation and Manual*** supplied on the CEMDAS™ computer and in the Appendix of the CEMS O&M Manual.

Quality Assurance Activities

Overview

The purpose of these procedures is to ensure that the CEMS installed at the Packaging Corp. - Filer City, MI facility operates in such a manner as to provide accurate and reliable data.

CEMS Analyzer Summary

Table 1. CEMS Analyzer Summary

Measured Parameter	Full Scale Range	Analyzer Mfg	Model
NO_X	0-500ppm	TECO	42i-HL
O_2	0-25%	Brand Gaus	4705

Daily Calibration Drift Check

Calibration Gases

Calibration gases shall be NIST/EPA approved Standard Reference Materials, Certified Reference materials per 40 CFR 60, Appendix F, Section 5.1.2 (3). A separate calibration gas cylinder must be used for each concentration.

Multicomponent mixtures are acceptable provided that none of the components interferes with the analysis of other components and provided that individual components must not react with each other or with the balance gas.

Calibration Error Test for Pollutant and Diluent Monitors – Part 60

Perform a two-point calibration error test on each pollutant and diluent gas monitor at least once per unit operating day (24 hours). A separate calibration gas cylinder must be used for each audit point. The following concentrations must be used:

Table 2. Daily Calibration gas allowable ranges

Audit Level	40 CFR 60
Low-level	0-20% of span
High-level	50-100% of span

Dynamic calibration checks challenging the entire sampling and analysis of the CEMS automatically occur once every 24 hours and are controlled by the PLC. The PLC controls solenoids that open and close to allow low and mid-level calibration gases to be alternately introduced to the pollutant analyzers. Each gas passes through all components used during normal sampling, including the sample probe. Gas is injected until a stable reading is obtained. All analyzer responses during calibration are recorded by CEMDAS Evolution. Calibration gas can be manually initiated at any time.

The results of the CD check are calculated as the measurement device reading minus the value of the calibration gas used.

If a post-maintenance zero or calibration drift checks show drift in excess of twice the applicable performance specifications, recalibration must be conducted in accordance with the quarterly calibration error check procedures.

For CEMS, the zero (low-level) and high-level calibration drifts shall not deviate from the reference value of the calibration gas by more than two times the specification for five consecutive days, or four times the specification for one day.

If a monitor fails a calibration error test, corrective action must be performed and documented, and a successful daily calibration error test performed before data can be considered valid. The CEMS calibration must, as minimum, be adjusted whenever the daily zero (or low-level) CD or the daily high-level CD exceeds two times the limits of the applicable PS. The Monitoring Solutions CEMS Operations and Maintenance Manual provides detailed calibration procedures.

Out-of-Control Period for Pollutant and Diluent Analyzers – Part 60

An out-of-control period occurs for a pollutant or diluent analyzers when the daily low-level or daily mid-level CD exceeds two times the limit for five consecutive days, or four times the limit for one day.

Table 3. Out of Control Limits for Pollutant and Diluent Analyzers

Pollutant or Diluent	Daily Calibration Drift	Out-of Control	
		Five (5) consecutive daily calibrations	Any daily calibration
NO_X	≤ 2.5 % of Span	≥ 5.0 % of Span	≥ 10.0% of Span
O_2	≤ 0.5% by volume	≥ 1% by volume	≥ 2.5% by volume

Monitor adjustments, calibration, or repairs must be performed whenever CD limits are exceeded. The CD check must be repeated after any adjustment or repair. Whenever the CD is exceeded, a warning is displayed on the computer screen and a message is logged to a printable alarm file.

The beginning of the out-of-control period is the time corresponding to the completion of the fifth, consecutive daily CD check with a failed CD or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a failed CD. The end of the out-of-control period is the time corresponding to the completion of appropriate adjustment and subsequent successful CD check.

Any time the CEMS is declared "out of control" or "out of service", it cannot be used to show compliance with permit limits or data capture requirements and shall be considered downtime for reporting purposes. Therefore, corrective action must be performed as soon as possible after determining that the CEMS is not operating to within required specifications.

Quarterly Audit: CEMS – Pt 60

Conduct the test for calibration error on each range of each measurement device, except for fuel flow meters, in accordance with the procedures in 40CFR60 App. B Performance Specifications.

An audit shall be performed on each pollutant analyzer at least once every calendar quarter in which the source operates for 168 hours or more, except that if four consecutive calendar quarters elapse after the last audit, the test must be performed within 168 source operating hours (If source did not operate at all, the provisions of the Extended outage/Shutdown will apply). Successive quarterly audits shall occur no closer than 2 months.

Calibration Gases – Pt 60

Calibration gases shall comply with per 40 CFR 60, Appendix F, Section 5.1.2 (3). Use audit gases that have been certified by comparison to National Bureau of Standards (NBS) gaseous Standard Reference Materials (SRM's) or NBS/EPA approved gas manufacturer's Certified Reference Materials (CRM's) following EPA Traceability Protocol No. 1. As an alternative to Protocol No. 1 audit gases, CRM's may be used directly as audit gases. A separate calibration gas cylinder must be used for each audit point. The following concentrations must be used:

Table 4. Calibration gas allowable ranges – Part 60

Audit Level	Pollutant Monitors	O2
Low-level	20 - 30 % of span	4-6% by volume
Mid-level	50 - 60 % of span	8-12% by volume

Procedure

The known gases are individually injected at the probe to be sampled through the entire sampling train, as the path used in extracting from the process. Gas is injected until a stable reading is obtained.

The procedure is conducted as follows:

1) Connect all quarterly gas cylinders to the system and turn them on.

2) Verify/Set the corresponding calibration gas cylinder values in the calibration configuration menu in the DAS.

3) Then initiate the sequence by selecting the CGA option on the CEMDAS screen or the OIT.

4) Each gas is routed through the system until a stable response is achieved.

5) Values are recorded as the system is allowed to operate in a normal sampling and analysis manner without adjustment.

6) The sequence is repeated through three audit runs.

For each audit cylinder (or audit point), the percent accuracy is determined by using the following equation:

$$A = \frac{(Cm - Ca)}{Ca} x100$$

Where:

A = Accuracy of CEMS (%)

Cm = Average CEMS response during audit in units of applicable standard or concentration

Ca = Average audit (cylinder gas certified value) in units of applicable standard or concentration

Accuracy (A) value of ±15% or less is considered acceptable for criteria pollutants gas. If excessive inaccuracies occur for two consecutive quarters, Packaging Corp. must revise the QC procedures or modify or replace the CEMS.

Measurements are calculated and recorded by the PLC. The audits serve as verification of the accuracy of the CEMS data. Various reports can be generated to support audits and are kept on file by Packaging Corp.. The manufacturer's certification statement (if applicable) for the calibration gases are also included.

Periodic Audit

Relative Accuracy Test Audit

At least once in every four calendar quarters, conduct a Relative Accuracy Test Audit (RATA), as described in 40 CFR 60, App. B, PS 2, to assess the accuracy of the CEMS relative to the appropriate EPA reference methods used in determining pollutant concentrations. Measured inaccuracy exceeding 20% of the mean value of the reference method results or 10% of the applicable standard, whichever is greater, requires corrective action to be taken. When appropriate, additional audits are conducted to demonstrate the effectiveness of the repair or adjustment.

RATA Preparation

A number of quality assurance activities are undertaken before, during, and after each audit. The following paragraphs detail the quality control techniques, which are rigorously followed during the testing projects.

Each instrument's response is checked and adjusted in the field prior to the collection of data via multi-point calibration. The instrument's linearity is checked by first adjusting its zero and span responses to the zero nitrogen and an upscale calibration gas in the range of the expected concentrations. The instrument response is then challenged with other calibration gases of known concentrations and accepted as being linear if the response of the other calibration gases agreed within ±2 percent of range of the predicted value.

After each test run, the analyzers are checked for zero and span drift. This allows each test run to be bracketed by calibrations and documents the precision of the data just collected. Data is considered acceptable if the instrument drift is no more than 3 percent of the full-scale response. Quality assurance worksheets are prepared to document the multipoint calibration checks and zero and span checked performed during the tests.

The sampling systems are leak checked by demonstrating that a vacuum greater than 10 in Hg could be held for at least 1 minute with a decline of less than 1 in Hg. A leak test is conducted after the sample system is set up and before the system is dismantled. These checks are performed to ensure that ambient air has not diluted the sample. Any leakage detected prior to the tests would be repaired and another leak check conducted before testing commenced.

The absence of leaks in the sampling system is also verified by a sampling system bias check. The sampling system's integrity is tested by comparing the responses of the analyzers to the calibration gases introduced via two paths. The first path is directly into the analyzer and the second path via a sample system at the sample probe. Any difference in the instrument responses by these two methods is attributed to sampling system bias or leakage. The criteria for acceptance is agreement within 5% of the span of the analyzer.

RATA Activities - CEMS

1) Verify that all plant operations will be normal (e.g., no scheduled maintenance) and that no other condition exists which could prevent testing emissions under representative operating conditions.

2) Verify the availability of all personnel required to perform testing.

3) Verify that test location conditions are adequate for testing, and that necessary support services are available.

4) Verify that all scheduled maintenance on the CEMS has been performed.

5) Perform the following procedures immediately prior to, during, and following RATA testing:

6) Perform and document a pre-test calibration of the CEMS.

7) Notify appropriate levels of management of testing.

8) Verify CEMS operating conditions are normal by conducting walk-through audits.

9) Verify load remains stable and at least 50% of maximum prior to, and during, testing.

10) Perform and document a post-test calibration of the CEMS.

Quality Control Activities

Quality control activities are performed to ensure that the CEMS operation and maintenance are adequate and appropriate. Application of these activities ranges from installation to data handling and reporting procedures. Quality control activities rely upon a qualified and well-trained staff.

Installation of the CEMS has been carried out in strict accordance with specifications submitted by Packaging Corp.. A complete set of Operation and Maintenance manuals for all components of the CEMS are provided with the CEMS. These manuals provide complete descriptions of the system including theory, installation, operation and maintenance including procedures used for initial start-up, debugging, and inspection.

Training

Training is an essential element of a successful QA/QC program. It provides the basic knowledge required to accomplish a procedure correctly. Training also provides an understanding in a given task or procedure, thereby enabling the individual involved to make effective decisions. Training is the framework about which activities are performed in a consistent manner regardless of who completes them.

General Training

General training may be viewed as providing a foundation. It is not intended as much to deliver detailed and specific knowledge, as it is to provide an understanding of the overall system and program goals. General training is common to all individuals directly involved in the CEMS program.

Quality Assurance/Quality Control Plan

Each source owner or operator must develop and implement a QC program. As a minimum, each QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1) Calibration of CEMS.

2) CD determination and adjustment of CEMS.

3) Preventive maintenance of CEMS (including spare parts inventory).

4) Data recording, calculations, and reporting.

5) Accuracy audit procedures including sampling and analysis methods.

6) Program of corrective action for malfunctioning CEMS.

7) Clients must develop and have an approved QA/QC procedure for their COMS. The QA/QC procedure must have a corrective action program for a COMS system that is malfunctioning. The corrective action program must address routine and/or preventative maintenance and various types of analyzer repairs. The corrective action program must establish what type of diagnostic testing must be performed after each type of activity to ensure the COMS is collecting valid data.

All employees involved in the CEMS program must read this QA/QC Plan.

Standard Operating Procedures

As with the QA Plan, all affected employees must, at a minimum, be familiar with and review appropriate SOP's as they are developed with experience.

Periodic and Refresher Training

Special and refresher training is presented annually. Each affected employee receives appropriate training as SOP's, operating parameters, or as personnel changes are made.

Record Keeping

The Operations Supervisor will be responsible for training as the need arises. Training records are maintained for each affected employee.

QC Activities

An activity matrix summarizing various routine recommended maintenance activities is presented in the following tables.

Activity: Quality Control	Daily	Quarterly	As Required
DAS Alarms Status	X		
Analyzer Alarms Status	X		
Zero Value Cal Check Passed/Record	X		
Span Value Cal Check Passed/Record	X		
Calibration gas cylinder(s) >250psi	X		
Walk-through Audit		X	
Clean/Replace Filters - Analyzers		X	
Clean/Inspect Sample Conditioner		X	
Replace/Clean Filters - Probe		X	
Change Air System Filters/Scrubbers		X	X
Clean Interior of Enclosure/Rack		X	X
Printer Maintenance			X

Daily Activities

Once every day, the Maintenance Personnel will:

1) Verify that the Pollutant and Diluent Daily Calibration checks have PASSED and that the zero and span calibration values are recorded in CEMDAS.

2) Verify that the calibration cylinders have pressures greater than 250psi and the certifications have not expired.

3) Check/address any CEMDAS/analyzer/monitor alarms. If any parameter is found to be out of tolerance, appropriate corrective actions will be initiated promptly.

Quarterly Activities

1) Perform Walk-through Audit

   The walk-through audit involves a general inspection of the monitoring system. The walk-through audit is used to provide a quick assessment of the availability of data, general effectiveness of operation and maintenance, and the completeness of record keeping procedures.

   The walk-through audit is conducted at least once every quarter and is documented on a walk-through audit sheet.

   Prior to performing any scheduled maintenance on the CEMS, the Maintenance Personnel (or a hired contractor) will notify the Plant Manager so that any necessary steps can be taken to adjust the process, so as to not cause any excess air emissions during the scheduled maintenance.

   The Walk-Through Audit involves the following (May be completed by contractor):

2) Administrative

   a. Maintenance logs - Check for timeliness of work, completion of entries.

   b. Record keeping - Check that all records are available and complete.

   c. Data system - Verify correct span values entered.

   d. Check maintenance logs for timely and complete repairs.

   e. Ensure all maintenance log entries are current and contain all maintenance performed.

3) Technical

   a. Check that printer and strip chart recorder are operational, output is legible, and readings consistent with process conditions.

   b. Check that shelter cabinets are clean and the area maintained; monitor enclosure clean and all systems operational (i.e., heating/cooling).

   c. Check computer disc drive and clean as necessary.

   d. Clean/Replace sample inlet filters on all analyzers. Clean the analyzer screens.

   e. Clean/Inspect sample conditioner. Check the filter bowl for excess moisture. Replace the peristaltic tubing.

   f. Clean/Replace filter on the sample probe.

   g. Replace filter elements and scrubbers on the air clean up system.

CEMS Maintenance

All maintenance of the CEMS can be classified into one of these three areas:

1) Routine preventive maintenance. This is a regularly scheduled set of activities designed to prevent problems before they develop.

2) Non-routine preventive maintenance. This set of activities is designed to prevent problems, which cannot be predicted. These procedures are performed on an as-needed basis. For example, if sample vacuum on the analyzer drops from its normal reading, the pump, gauge or sample capillaries should be replaced or cleaned. Non-routine preventive maintenance is not discussed in this plan since the procedural methods must be developed as the need dictates.

3) Corrective Maintenance. Those activities required to correct problems that occur due to equipment malfunction. Corrective maintenance actions are determined and performed by the Monitoring Solutions maintenance technician or other qualified personnel based on the nature of the malfunction.

All preventive maintenance is scheduled and performed in a timely manner by the Operations Supervisor.

Spare Parts Inventory

The Technician or Operator will:

1) Maintain a spare parts inventory adequate to meet the normal operating requirements.

2) Maintain the spare parts inventory based on vendor recommended lists.

3) Modify the current inventory on an "as required" basis.

A list of the parts recommended to adequately maintain the normal operating requirements of the CEMS is located in the *Monitoring Solutions CEMS Operations and Maintenance Manual*. Contact Monitoring Solutions at (317) 856-9400, fax (317) 856-9410 for information on pricing and availability.

Data Recording and Reporting

General Requirements

An effective quality assurance program communicates the results of QA/QC activities to all affected parties. This QA plan makes provisions for the proper recording and communication of QA and QC information and provides the necessary mechanisms for triggering corrective actions based on the contents of QA/QC reports.

Documentation of QA/QC data and information is an integral part of this QA Plan. This section describes reports and other records that provide appropriate documentation of QA/QC activities. Packaging Corp. utilizes two primary means of documentation:

1) Data Acquisition System - CEMDAS Evolution

2) Manually prepared QA/QC forms, logs and reports.

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 renewable operating permit.

All reporting is to be on an Eastern Standard Time basis.

The data acquisition system must be capable of reading all values over the full range of each measurement device and must create a permanent record of all required raw and calculated data for storage, review and reporting. In addition, a continuous readout in units of each applicable emission standard or operating criteria is required.

Notification, Reporting and Record Keeping requirements

1) In the event of any malfunction or breakdown of process or emission control equipment for a period of four hours or more which results in increased emissions, the owner or operator shall submit a written report which describes the cause of the breakdown, the corrective actions taken, and the plans to prevent future occurrences. This report must be submitted by means that would insure the District Office's receipt of the report by no later than seven days after the occurrence. The information submitted shall be adequate to allow the District Office to determine if the increased emissions were due to a sudden and unavoidable breakdown. Such a report shall in no way serve to excuse, otherwise justify or in any manner affect any potential liability or enforcement action.

2) Packaging Corp. shall maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility, any malfunction of the air pollution control equipment or any periods during which a continuous monitoring system or monitoring device is inoperative.

3) Packaging Corp. shall submit a written report postmarked within 30 days after the semiannual period as prescribed by the District Office semiannual. The semiannual periods shall cover the periods of January 1 to June 30 and July 1 to December 31. The report shall contain as a minimum, the following:

    a) The nature and cause of the deviation, the time and date of occurrences, and any initial and final corrective action taken.

    b) A summary of any days for which any of the required operation and maintenance surveillance checks were not made and the reason for such failure to perform the surveillance.

    c) Any corrective actions taken to prevent any further deviations.

Maintenance Record

The Maintenance Record is maintained by the Operations Supervisor, who enters descriptions of preventive and remedial actions performed on the monitoring system components. These entries are kept in the maintenance files. This record also documents the use of spare parts. A periodic review of the CEMS maintenance record provides a guide to possible problem trends with the CEMS and input as to the needs of the spare parts inventory.

CEMDAS Evolution records an Alarm/Message at the time of the alarm to provide a real-time mechanism for alerting operating personnel to excess emissions and monitoring system problems. When alarm messages are received, Plant Operations personnel advise the Operations Supervisor and appropriate inspection/maintenance activities are initiated. The alarm/message provides for automated and also manually entered documentation of the CEMS operating status during alarm conditions.

Component Addition, Maintenance or Replacement

Maintenance

1) Zero and calibration drift checks should be conducted immediately prior to any maintenance, if possible.

2) Zero and calibration drift checks must be conducted immediately following any maintenance.

3) If the post-maintenance zero or calibration drift checks show drift in excess of twice the applicable performance specifications, recalibration must be conducted in accordance with the quarterly calibration error check procedures.

Addition or Replacement

Scheduled addition of or replacement of components or software programs with components or software programs of different makes or models requires submittal of the record of proposed maintenance prior to such change. For unscheduled addition of or replacement of components or software programs with components or software programs of different makes or models, submittal of the record of conducted maintenance must be made as soon as possible after such replacement. Successful completion of performance testing may be required prior to use of data from the monitoring system. Contact the Department for specific instructions.

Addition of or replacement of components or software programs with like makes and models may require successful completion of performance testing prior to use of data from the monitoring system. Contact the Department for specific instructions.

Troubleshooting

Recommended troubleshooting procedures are located in the *Monitoring Solutions CEMS Operations and Maintenance Manual*. Contact Monitoring Solutions at (317) 856-9400, fax (317) 856-9410 for service and parts.

Glossary of Terms and Acronyms

A-B	Family of Programmable Logic Controllers used in the CEMCON. Manufactured by Allen-Bradley Products.
Accuracy	The measure of the closeness of a measurement to its true value. Although the true value of gas is not known, it can be approximated by the use of an appropriate standard of reference. For example, a National Institute of Standard and Technology Standard (formerly NBS) Reference Material (NIST-SRM) is a primary standard used to assess accuracy. Secondary standards are also used as an approximation to the "true value" although errors may be introduced using these secondary standards.
Analyzer	Instrument that measures concentration of a specific gas - such as CO_2, CO, O_2, NO_x, or SO_2 - in a flue gas sample.
ANSI	American National Standards Institute - a standards-making organization.
ASTM	American Society for Testing and Materials
Audit	An audit is an independent assessment of the accuracy of data. Independence is achieved by having the audit performed by an operator other than the person conducting the routine measurements and by using audit standards and procedures different from those routinely used in the monitoring.
CAI	California Analytical Instruments. Manufacturer of the NOx, CO, CO2, and THC analyzers in the CEMS
Calibration Drift (CD)	The difference in the CEMS output reading from a reference value after a period of operating during which no unscheduled maintenance, repair, or adjustment took place. For opacity, the reference value is supplied by a reflecting mirror and a neutral density filter or screen which can be automatically or manually inserted into the light beam path of the monitor. For pollutant analyzers, the reference value is supplied by injecting gases of known values into the system. The CD error is calculated as the difference between the correct value and the observed value for the zero and upscale calibration value.
Calibration Error Test (CE)	A calibration error test is a performance audit of a CEMS in which a three point audit is conducted. For opacity, three certified neutral density filters (low, mid, and high-range) are placed in the monitor light beam five nonconsecutive times and the monitor responses are recorded from the opacity data recorder. For CEMS analyzers, three known reference gases are used. From the data, a calibration error is calculated.
cc	cubic centimeter - A unit measure of volume equal to 1 milliliter (ml).

Carulite	Scrubbing media used in the Air Clean Up system to filter Carbon Monoxide. Should always be placed after a drying media, such as Drierite, as moisture will damage the scrubbing media.
CEMCON	CEM Controller - A sub system that provides control logic for numerous activities, including daily automatic calibration error check and quarterly cylinder gas audit. The CEMCON collects and passes test data to the CEMDAS for processing.
CEMDAS	Continuous Emissions Monitoring Data Acquisition System.
CEMS	Continuous Emissions Monitoring System. The total equipment required for the determination of pollutant gas concentrations, flow, or opacity on a continuous basis.
CFR	Code of Federal Regulations. The CEMS is designed to help the user meet their applicable requirements.
CGA	Cylinder Gas Audit.
chip	Integrated Circuit - a microelectronic semiconductor device.
CU	Count Units – The scaling factor used by a DAS to coincide the analog input/output signal with the engineering units or range.
DAS	Data Acquisition System - a shortened version of CEMDAS.
DIP Switch	A group of subminiature switches, usually slide switches, housed in a Dual In-line Package (integrated circuit header) configuration.
Drierite	Indicating granular silica gel desiccant used as a dryer in the air cleanup units.
DTR	Down Time Recovery – Refers to the process of recovering data lost to the main CEMDAS computer via means of a backup or secondary collection method.
Flue Gas	The gas produced as a result of combustion or some other industrial process. The gas may be made up of multiple components such as particulate matter, liquids, condensed solids, vapors, and gases. The flue gas may also be referred to as: stack gas, duct gas or smoke.
EPA	Environmental Protection Agency; regulating body that oversees and controls environmental issues.
EU	Engineering Units
FET	Field Effect Transistor - an active three terminal semiconductor device.
HMI	Human Machine Interface – Operator interface typically mounted at the equipment location to assist in maintenance activities. See also MDU.

In Hg	Inches of mercury, a unit measure of pressure (One atmosphere = 14.696 psi = 0 psig = 29.921 in Hg = 406.8 in WC).
In WC	in H_2O, Inches of Water (Column), a unit measure of pressure. See In Hg, above.
LED	Light Emitting Diode - a solid state miniature indicator light.
LPM (l/min)	Liters per minute
Maple	See MDU
MDU	Message Display Unit (Maple) - The operator interface panel on the CEMCON PLC. Manufactured by Maple Systems, Inc.
Millivolt (mv)	An electrical unit of measure equal to 1×10^{-3} volt.
MMBtu	One million Btus.
Monitor	Instrument that measures a flue gas characteristic such as opacity or flow.
Monitor Malfunction	Any interruption in the collection of data as a result of the failure of any component of the CEMS to operate within specifications of the manufacturer or Performance Specification.
MSDS	Material Safety Data Sheet - Standardized format sheet containing health, safety, fire, first aid, chemical properties and other necessary information supplied by manufacturer of hazardous materials.
Nanometer (nm)	A unit measure of length equal to 1×10^{-9} meter. Commonly used to describe wavelengths of light.
NBS	National Bureau of Standards - an agency of the US government chartered to maintain standards of measurement.
NEMA	National Electrical Manufacturers Association - a standards-making organization. CEMS enclosures (e.g., junction boxes, instrument racks, switch boxes, etc.) are rated by their manufacturers to meet various NEMA standards.
NO_X	Oxides of Nitrogen
OIT	Operator Interface Terminal
OSHA	Occupational Safety and Health Administration.
Out-Of-Control Period	The time period which the CEMS may not be collecting valid data; or data which may not be used to demonstrate compliance.

Performance Audit	A quantitative evaluation of CEMS operation. Usually the accuracy of the CEMS is determined by using known reference standard.
PLC	Programmable Logic Controller - the heart of the CEMCON.
PMT	Photomultiplier Tube - an electronic device used to convert light energy into electrical energy. In the CEMS, a PMT is used in the Model 42i series Analyzer to measure NO_X concentration.
Pot	Potentiometer, a 3-terminal variable resistor. Position of sliding contact can be adjusted by rotating a shaft or screw or by sliding a control tab or knob. Miniature screw-adjusted units are commonly called trimpots; multi-turn knob-adjusted units are called helipots; linear-adjusted units are called slidepots.
PPM (or ppm)	Parts per million, a measure of concentration (1000 ppm = 0.1%).
psi	Pounds per square inch - a unit of measure of pressure.
psia	Pounds per square inch absolute.
psig	Pounds per square inch gauge.
psiv	Pounds per square inch vacuum.
Purafil	An expendable material used in the Monitoring Solutions Air Clean-Up System as a scrubber for SO_2 and NO_X.
QA/QC	Quality Assurance/Quality Control
RATA	Relative Accuracy Test Audit (performed semi-annually or annually, depending on results from the previous RATA).
Routine Maintenance	An orderly program of actions designed to prevent the failure of monitoring parts and systems during their use.
SOP	Standard Operating Procedure.
Span (Daily)	Refer to Upscale Calibration Value.
ss (or SS)	Stainless steel - Standard abbreviation is CRES (Cold Rolled Electroless Steel).
Systems Audit	A qualitative evaluation of CEMS Operation. Emissions data, logs, QA/QC data and the operational information are reviewed by regulator officials or by a corporate environmental auditor in order to determine the operational status of the CEMS relative to the applicable regulations or to the company's objectives.

Upscale Calibration Value	Sometimes referred to as the span or daily span. The calibration check of the CEMS is performed by simulating an upscale condition. For pollutants and diluents, the upscale value is simulated with a calibration gas. For opacity, the upscale calibration value is simulated with a calibrated filter or screen.
Zero	A simulated or actual level where the system value is at zero (0) percent. For opacity, a simulated zero is initiated daily when a mirror in the transceiver unit moves into the light path. An actual zero may be performed when the opacity is mounted on the stack and no emissions are in the stack or duct (clean stack conditions) or by removing the opacity (transceiver and retro reflector) from the stack to achieve the actual zero. For CEMS analyzers, zero is simulated using known standards, typically calibration gases, where the value is at zero (0).

Attachments

Attachment 1. *CEMDAS Minute Report sample printout*

CLIENT

LOCATION

Minute Report

04/07/2016 07:00 - 04/07/2016 15:02

Created on : Apr 07, 2016 15:03:20

UNIT

04/07/2016	Fc FACTOR, SCF/mmBTU	DIESEL Hc, BTU/GAL	PROCESS	NOX LR, PPM	NOX HR, PPM	CO LR, PPM	CO HR, PPM
07							
07:00:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:01:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:02:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:03:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:04:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:05:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:06:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:07:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:08:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:09:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:10:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:11:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:12:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:13:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:14:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:15:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:16:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:17:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:18:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:19:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:20:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:21:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:22:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:23:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:24:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:25:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:26:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:27:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:28:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:29:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC
07:30:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.4 MOC	0.0 MOC	0.0 MOC

Status Code Definitions

MOC = MONITOR OUT OF CONTROL SVC = MONITOR IN SERVICE UNO = UNIT NOT OPERATING

CEMDAS Evolution™

Page 1 of 51

Attachment 2. CEMDAS Emissions sample printout

CLIENT

Emissions Report

Created on : Apr 07, 2016 15:04:43

LOCATION

04/04/2016 00:00 - 04/07/2016 15:00

UNIT

04/07/2016	Fc FACTOR, SCF/mmBTU	DIESEL Hc, BTU/GAL	PROCESS	NOX LR, PPM	NOX HR, PPM	CO LR, PPM	CO HR, PPM
00:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
01:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
02:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
03:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
04:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
05:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
06:00	1420.0 SVC	128488.0 SVC	0.0 UNO	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
07:00	1420.0 SVC	128488.0 SVC	0.3 SVC	0.1 MOC	1.3 MOC	0.0 MOC	0.0 MOC
08:00	1420.0 SVC	128488.0 SVC	1.0 SVC	0.3 MOC	1.3 MOC	0.1 MOC	0.9 MOC
09:00	1420.0 SVC	128488.0 SVC	1.0 SVC	0.6 MOC	1.2 MOC	0.3 MOC	2.1 MOC
10:00	1420.0 SVC	128488.0 SVC	1.0 SVC	289.0 NSA	1732.3 NSA	115.5 NSA	1731.8 NSA
11:00	1420.0 SVC	128488.0 SVC	1.0 SVC	289.0 SVC	1732.3 SVC	115.5 SVC	1731.8 SVC
12:00	1420.0 SVC	128488.0 SVC	1.0 SVC	289.0 SVC	1732.3 SVC	115.5 SVC	1731.8 SVC
13:00	1420.0 SVC	128488.0 SVC	1.0 SVC	289.8 SVC	1734.9 SVC	109.5 SVC	1734.3 SVC
14:00	1420.0 SVC	128488.0 SVC	1.0 SVC	289.8 SVC	1734.9 SVC	109.5 SVC	1734.3 SVC

Totals:	11360.0	1027904.0	7.3	1157.6	6934.4	450.0	6932.2
Maximum:	1420.0	128488.0	1.0	289.8	1734.9	115.5	1734.3
Minimum:	1420.0	128488.0	0.3	289.0	1732.3	109.5	1731.8
Average:	1420.0	128488.0	0.9	289.4	1733.6	112.5	1733.1
Valid / Oper hrs:	8 / 8	8 / 8	8 / 8	4 / 8	4 / 8	4 / 8	4 / 8

Status Code Definitions

MOC = MONITOR OUT OF CONTROL NSA = NO SAMPLE AVAILABLE SVC = MONITOR IN SERVICE

UNO = UNIT NOT OPERATING

CEMDAS Evolution™

Page 10 of 12

Attachment 3. CEMDAS Daily Calibration Report Sample Printout

CLIENT

LOCATION

Calibration Report

04/07/2016 - 04/07/2016

Created on : Apr 07, 2016 12:48:08

UNIT

Date	Timestamp	Parameter	Type	Measured	Expected	Error	Result
04/07/2016							
	06:19:02	CO HR, PPM	Zero	0.4	0.0	0.0	Pass
	06:19:02	CO LR, PPM	Zero	-1.9	0.0	1.0	Pass
	06:19:02	CO2, %	Zero	0.1	0.0	0.1	Pass
	06:19:02	NOX HR, PPM	Zero	-1.9	0.0	0.1	Pass
	06:19:02	NOX LR, PPM	Zero	-0.4	0.0	0.1	Pass
	06:23:01	CO LR, PPM	Span	-2.0	111.0	56.5	Fail
	06:23:01	NOX LR, PPM	Span	-0.3	275.7	55.2	Fail
	06:27:03	CO HR, PPM	Span	0.4	1,658.0	55.3	Fail
	06:27:03	CO2, %	Span	0.1	12.1	12.0	Fail
	06:27:03	NOX HR, PPM	Span	-2.0	1,693.0	56.5	Fail
	10:56:07	CO HR, PPM	Zero	6.7	0.0	0.2	Pass
	10:56:07	CO LR, PPM	Zero	0.4	0.0	0.2	Pass
	10:56:07	CO2, %	Zero	0.0	0.0	0.0	Pass
	10:56:07	NOX HR, PPM	Zero	6.4	0.0	0.2	Pass
	10:56:07	NOX LR, PPM	Zero	1.1	0.0	0.2	Pass
	11:00:06	CO LR, PPM	Span	115.5	116.2	0.4	Pass
	11:00:06	NOX LR, PPM	Span	289.0	291.1	0.4	Pass
	11:04:05	CO HR, PPM	Span	1,632.8	1,744.4	3.7	Pass
	11:04:05	CO2, %	Span	11.6	11.6	0.0	Pass
	11:04:05	NOX HR, PPM	Span	1,734.1	1,743.7	0.3	Pass

CEMDAS Evolution™

Page 1 of 1

Attachment 4. CEMDAS Alarms Report sample printout

CLIENT

Alarms Report

Created on : Apr 07, 2016 14:52:18

LOCATION

04/04/2016 - 04/07/2016

UNIT

Date	Timestamp	Parameter	Alarm Value	Alarm Type	Alarm Description	Limit	Reason Code	Comment
04/04/2016								
	15:13:47				CEMDAS IN		9	
	15:13:48	NOX LR, PPM	0		UMBILICAL FAULT		9	
	15:13:48	NOX HR, PPM	0		UMBILICAL FAULT		9	
	15:13:48	CO LR, PPM	0		UMBILICAL FAULT		9	
	15:13:48	CO HR, PPM	0		UMBILICAL FAULT		9	
	15:13:48	CO2, %	0		UMBILICAL FAULT		9	
	15:13:48	NOX, PPM	0		UMBILICAL FAULT		9	
	15:13:48	CO, PPM	0		UMBILICAL FAULT		9	
	15:13:48	NOX, LB/mmBTU	0		UMBILICAL FAULT		9	
	15:13:48	CO, LB/mmBTU	0		UMBILICAL FAULT		9	
	15:13:48	NOX, LB/HR	0		UMBILICAL FAULT		9	
	15:13:48	CO, LB/HR	0		UMBILICAL FAULT		9	
	15:13:48				I/O SYS IN		9	
04/05/2016								
	07:21:43				CEMDAS IN		9	
	07:21:44				I/O SYS IN		9	
	09:43:02	NOX LR, PPM	0		MONITOR FAULT		9	
	09:43:02	NOX HR, PPM	0		MONITOR FAULT		9	
	09:43:02	NOX, PPM	0		MONITOR FAULT		9	
	09:43:02	NOX, LB/mmBTU	0		MONITOR FAULT		9	
	09:43:02	NOX, LB/HR	0		MONITOR FAULT		9	
	09:43:22	CO LR, PPM	0		MONITOR FAULT		9	
	09:43:22	CO HR, PPM	0		MONITOR FAULT		9	

Reason Code Definitions

9 = Unknown

CEMDAS Evolution™

Page 1 of 23

Attachment 5. CEMDAS Availability Report sample printout

CLIENT

Availability Report

Created on : Apr 07, 2016 14:53:45

LOCATION

04/04/2016 - 04/07/2016

UNIT

Start Time	End Time	NOX LR, PPM Status	Reason Code	Comments
04/04/2016 00:00:00	04/04/2016 15:12:59	COS		
04/04/2016 15:13:00	04/04/2016 15:15:59	UTF	9	
04/04/2016 15:16:00	04/05/2016 07:20:59	COS		
04/05/2016 09:44:00	04/05/2016 09:45:59	FLT		
04/05/2016 13:24:00	04/05/2016 13:25:59	IAF		
04/05/2016 13:31:00	04/05/2016 13:45:59	FLT		
04/05/2016 13:46:00	04/05/2016 13:48:59	IAF		
04/05/2016 13:52:00	04/05/2016 13:55:59	MOS	9	
04/05/2016 15:11:00	04/05/2016 15:12:59	FLT		
04/06/2016 06:21:00	04/06/2016 07:42:59	MOC		
04/06/2016 07:43:00	04/06/2016 07:44:59	FLT	9	
04/06/2016 07:45:00	04/06/2016 07:45:59	COS		
04/06/2016 07:46:00	04/06/2016 08:06:59	IOS		
04/06/2016 08:07:00	04/06/2016 08:19:59	FLT		
04/06/2016 08:20:00	04/06/2016 11:59:59	MOC		
04/06/2016 12:04:00	04/06/2016 12:28:59	MOC		
04/06/2016 12:29:00	04/06/2016 14:04:59	COS		
04/06/2016 14:05:00	04/06/2016 15:59:59	MOC		
04/06/2016 16:04:00	04/06/2016 19:59:59	MOC		
04/06/2016 20:04:00	04/06/2016 23:59:59	MOC		
04/07/2016 00:04:00	04/07/2016 03:59:59	MOC		

Reason Code Definitions

9 = Unknown

CEMDAS Evolution™

Page 1 of 44

CLIENT

Availability Report

Created on : Apr 07, 2016 14:53:45

LOCATION

04/04/2016 - 04/07/2016

UNIT

Start Time	End Time	NOX LR, PPM Status	Reason Code	Comments
04/07/2016 04:04:00	04/07/2016 06:04:59	MOC		
04/07/2016 06:21:00	04/07/2016 07:59:59	MOC		
04/07/2016 08:05:00	04/07/2016 08:17:59	MOC		
04/07/2016 08:18:00	04/07/2016 08:18:59	MOS		
04/07/2016 08:21:00	04/07/2016 08:26:59	MOC		
04/07/2016 08:27:00	04/07/2016 08:28:59	MOS	9	
04/07/2016 08:31:00	04/07/2016 08:32:59	MOC		
04/07/2016 08:33:00	04/07/2016 08:33:59	MOS		
04/07/2016 08:36:00	04/07/2016 08:36:59	MOC		
04/07/2016 08:37:00	04/07/2016 08:38:59	MOS	9	
04/07/2016 08:39:00	04/07/2016 08:40:59	UTF		
04/07/2016 08:41:00	04/07/2016 08:48:59	MOS	9	
04/07/2016 08:50:00	04/07/2016 08:52:59	MOS	9	
04/07/2016 08:55:00	04/07/2016 09:10:59	MOC		
04/07/2016 09:11:00	04/07/2016 09:11:59	MOS		
04/07/2016 09:14:00	04/07/2016 09:16:59	MOC		
04/07/2016 09:17:00	04/07/2016 09:19:59	MOS	9	
04/07/2016 09:22:00	04/07/2016 09:23:59	MOC		
04/07/2016 09:24:00	04/07/2016 09:27:59	MOS	9	
04/07/2016 09:30:00	04/07/2016 09:33:59	MOC		
04/07/2016 09:34:00	04/07/2016 09:38:59	MOS	9	

Reason Code Definitions

9 = Unknown

CEMDAS Evolution™

Page 2 of 44

CLIENT

Availability Report

Created on : Apr 07, 2016 14:53:45

LOCATION

04/04/2016 - 04/07/2016

UNIT

Start Time	End Time	NOX LR, PPM Status	Reason Code	Comments
04/07/2016 09:40:00	04/07/2016 09:47:59	MOC		
04/07/2016 09:48:00	04/07/2016 09:55:59	MOS	9	
04/07/2016 09:57:00	04/07/2016 09:58:59	MOS	9	
04/07/2016 10:01:00	04/07/2016 10:04:59	MOC		
04/07/2016 10:05:00	04/07/2016 10:06:59	MOS	9	
04/07/2016 10:08:00	04/07/2016 10:39:59	MOC		
04/07/2016 12:49:00	04/07/2016 13:05:59	MOC		

Reason Code Definitions

9 = Unknown

CEMDAS Evolution™

Page 3 of 44

CLIENT

Availability Report

Created on : Apr 07, 2016 14:53:45

LOCATION

04/04/2016 - 04/07/2016

UNIT

Availability Summary for NOX LR, PPM

CEMDAS OUT OF SERVICE <COS>	for	32 hours	55 minutes (37.89%)
UMBILICAL FAULT <UTF>	for	0 hours	5 minutes (0.10%)
MONITOR FAULT <FLT>	for	0 hours	34 minutes (0.65%)
CONVERTER FAULT <IAF>	for	0 hours	5 minutes (0.10%)
MONITOR OUT OF SERVICE <MOS>	for	0 hours	46 minutes (0.88%)
MONITOR OUT OF CONTROL <MOC>	for	24 hours	38 minutes (28.35%)
I/O SYS OUT <IOS>	for	0 hours	21 minutes (0.40%)
PROBE TEMP FAULT <PTF>	for	0 hours	0 minutes (0.00%)
MOISTURE FAULT <MST>	for	0 hours	0 minutes (0.00%)

MONITOR AVAILABLE 27 hours 29 minutes (31.63%)

Reason Code Definitions

CEMDAS Evolution™

Page 4 of 44

Attachment 6. CEMDAS Monthly Average & Total Report sample printout

CLIENT

Average and Totals Report

Created on : Apr 07, 2016 14:59:10

LOCATION

04/01/2016 - 04/07/2016

UNIT

Date	PROCESS Daily Block		PROCESS, Hrs Daily Total
04/01/2016	0.0		0.0
04/02/2016	0.0		0.0
04/03/2016	0.0	UNO	0.0
04/04/2016	0.0	UNO	0.0
04/05/2016	0.0	SVC	0.3
04/06/2016	0.0	UNO	0.0
04/07/2016	0.0		0.0
	0.0		0.3

Status Code Definitions

SVC = MONITOR IN SERVICE UNO = UNIT NOT OPERATING

CEMDAS Evolution™

Page 1 of 7

CLIENT

Average and Totals Report

Created on : Apr 07, 2016 14:59:10

LOCATION

04/01/2016 - 04/07/2016

UNIT

Date	DIESEL FLOW, GAL/HR Daily Block		DIESEL FLOW, GALs Daily Total
04/01/2016	0.000		0.000
04/02/2016	0.000		0.000
04/03/2016	0.000	COS	0.000
04/04/2016	0.000	NSA	0.000
04/05/2016	0.000	NSA	0.000
04/06/2016	0.012	NSA	0.000
04/07/2016	0.000		0.000
	0.000		0.000

Status Code Definitions

COS = CEMDAS OUT OF SERVICE NSA = NO SAMPLE AVAILABLE

CEMDAS Evolution™

Page 2 of 7

CLIENT

Average and Totals Report

Created on : Apr 07, 2016 14:59:10

LOCATION

04/01/2016 - 04/07/2016

UNIT

Date	DIESEL HEAT, mmBTU/HR Daily Block		DIESEL HEAT, mmBTUs Daily Total
04/01/2016	0.0		0.0
04/02/2016	0.0		0.0
04/03/2016	0.0	COS	0.0
04/04/2016	0.0	NSA	0.0
04/05/2016	0.0	NSA	0.0
04/06/2016	0.0	NSA	0.0
04/07/2016	0.0		0.0
	0.0		0.0

Status Code Definitions

COS = CEMDAS OUT OF SERVICE NSA = NO SAMPLE AVAILABLE

CEMDAS Evolution™

Page 3 of 7

CLIENT

Average and Totals Report

Created on : Apr 07, 2016 14:59:10

LOCATION

04/01/2016 - 04/07/2016

UNIT

Date	NOX, LB/mmBTU Daily Block		NOX, LB/mmBTU 30-Day Rolling
04/01/2016	0.000		0.000
04/02/2016	0.000		0.000
04/03/2016	0.000	COS	0.000
04/04/2016	0.000	COS	0.000
04/05/2016	0.000	FLT	0.000
04/06/2016	0.000	NSA	0.000
04/07/2016	0.000		0.000
	0.000		

Status Code Definitions

COS = CEMDAS OUT OF SERVICE FLT = MONITOR FAULT NSA = NO SAMPLE AVAILABLE

CEMDAS Evolution™

Page 4 of 7

CLIENT

Average and Totals Report

Created on : Apr 07, 2016 14:59:10

LOCATION

04/01/2016 - 04/07/2016

UNIT

Date	CO, LB/mmBTU Daily Block		CO, LB/mmBTU 30-Day Rolling
04/01/2016	0.000		0.000
04/02/2016	0.000		0.000
04/03/2016	0.000	COS	0.000
04/04/2016	0.000	COS	0.000
04/05/2016	0.196	FLT	0.000
04/06/2016	0.000	NSA	0.000
04/07/2016	0.000		0.000
	0.000		

Status Code Definitions

COS = CEMDAS OUT OF SERVICE FLT = MONITOR FAULT NSA = NO SAMPLE AVAILABLE

CLIENT

Average and Totals Report

Created on : Apr 07, 2016 14:59:10

LOCATION

04/01/2016 - 04/07/2016

UNIT

Date	NOX, LB/HR Daily Block		NOX, LB/HR 30-Day Rolling	NOX, LBs Daily Total
04/01/2016	0.00		0.00	0.00
04/02/2016	0.00		0.00	0.00
04/03/2016	0.00	COS	0.00	0.00
04/04/2016	0.00	COS	0.00	0.00
04/05/2016	0.00	FLT	0.00	0.00
04/06/2016	0.00	NSA	0.00	0.00
04/07/2016	0.00		0.00	0.00
	0.00			0.00

Status Code Definitions

COS = CEMDAS OUT OF SERVICE FLT = MONITOR FAULT NSA = NO SAMPLE AVAILABLE

CLIENT

Average and Totals Report

Created on : Apr 07, 2016 14:59:10

LOCATION

04/01/2016 - 04/07/2016

UNIT

Date	CO, LB/HR Daily Block		CO, LB/HR 30-Day Rolling	CO, LBs Daily Total
04/01/2016	0.00		0.00	0.00
04/02/2016	0.00		0.00	0.00
04/03/2016	0.00	COS	0.00	0.00
04/04/2016	0.00	COS	0.00	0.00
04/05/2016	0.00	FLT	0.00	0.00
04/06/2016	0.00	NSA	0.00	0.00
04/07/2016	0.00		0.00	0.00
	0.00			0.00

Status Code Definitions

COS = CEMDAS OUT OF SERVICE FLT = MONITOR FAULT NSA = NO SAMPLE AVAILABLE

Attachment 7. CEMDAS Excess Emissions Report sample printout

CLIENT

Excess Emissions Report

Created on : Apr 07, 2016 15:14:52

LOCATION

04/01/2016 - 04/07/2016

UNIT

Timestamp	NOX, LB/mmBTU 30 Day Rolling Limit Based Hi Hi	Limit	Reason Code	Comments

There were no periods in excess of standard.

Total exceedance incidents during the period: 0

Reason Code Definitions

CEMDAS Evolution™

Page 1 of 2

Attachment 8. CEMDAS Uptime Report sample printout

CLIENT

Uptime Report

Created on : Apr 07, 2016 15:12:23

LOCATION

04/01/2016 - 04/07/2016

UNIT

Fc FACTOR, SCF/mmBTU

Start Time	End Time	Status	Reason Code	Comments

There were no invalid periods of 'Fc FACTOR, SCF/mmBTU' downtime during unit operation.

Reason Code Definitions

CEMDAS Evolution™

Page 1 of 32

CLIENT

Uptime Report

Created on : Apr 07, 2016 15:12:23

LOCATION

04/01/2016 - 04/07/2016

UNIT

Uptime Summary for Fc FACTOR, SCF/mmBTU

```
MONITOR OUT OF SERVICE <MOS>                for     0 hours (  0.00%)
UNKNOWN STATUS (PRESUMED INVALID) <UNK>     for     0 hours (  0.00%)
CEMDAS OUT OF SERVICE <COS>                 for     0 hours (  0.00%)
I/O SYS OUT <IOS>                           for     0 hours (  0.00%)
PURGE CALIB <PRG>                           for     0 hours (  0.00%)
LOW QTRLY CALIBRATION <LOW>                 for     0 hours (  0.00%)
MID QRTLY CALIBRATION <MID>                 for     0 hours (  0.00%)
HI QRTLY CALIBRATION <HIL>                  for     0 hours (  0.00%)
PROBE FAULT <PRB>                           for     0 hours (  0.00%)
HEATER FAULT <HTR>                          for     0 hours (  0.00%)
MOISTURE FAULT <MST>                        for     0 hours (  0.00%)
MONITOR FAULT <FLT>                         for     0 hours (  0.00%)
CALIBRATION <CAL>                           for     0 hours (  0.00%)
SPAN CALIBRATION <SPN>                      for     0 hours (  0.00%)
ZERO CALIBRATION <ZER>                      for     0 hours (  0.00%)
INTERFERENCE FAULT <INT>                    for     0 hours (  0.00%)
NO SAMPLE AVAILABLE <NSA>                   for     0 hours (  0.00%)
MONITOR OUT OF CONTROL <MOC>                for     0 hours (  0.00%)
MONITOR OUT OF RANGE <MOR>                  for     0 hours (  0.00%)
HOLD LAST VALUE <HLD>                       for     0 hours (  0.00%)
EXCLUDED ALARM <XCL>                        for     0 hours (  0.00%)
MONITOR IN SERVICE <SVC>                    for     9 hours (100.00%)
CONVERTER FAULT <IAF>                       for     0 hours (  0.00%)
                TOTAL ELAPSED TIME WAS   : 159 hours
                UNIT OPERATING FOR       : 9 hours
                UNIT NOT OPERATING FOR   : 150 hours

                MONITOR UPTIME PERCENTAGE        : 100.00%
```

Reason Code Definitions

CEMDAS Evolution™

Page 2 of 32

Attachment 9. CEMDAS Quarterly CGA Report sample printout

CLIENT

CGA Report

Created on : Apr 07, 2016 12:48:40

LOCATION

04/07/2016 - 04/07/2016

UNIT

Date	Parameter	Run#	Timestamp	Type	Expected	Measured	Low Difference	Mid Difference
04/07/2016								
	CO HR, PPM	1	12:28:13	QTR_LOW	749.6	1,731.8	982.2	
	CO HR, PPM	1	12:30:15	QTR_MID	1,658.0	1,731.8		73.8
	CO HR, PPM	2	12:36:22	QTR_LOW	749.6	1,731.8	982.2	
	CO HR, PPM	2	12:38:24	QTR_MID	1,658.0	1,731.8		73.8
	CO HR, PPM	3	12:44:29	QTR_LOW	749.6	1,731.8	982.2	
	CO HR, PPM	3	12:46:31	QTR_MID	1,658.0	1,731.8		73.8

Arithmetic Mean of Quarterly Low: 1731.8
Calibration Error of Quarterly Low: 131.0

Arithmetic Mean of Quarterly Mid: 1731.8
Calibration Error of Quarterly Mid: 4.5

Calibration Tolerance: 15.0
Calibration Result : Fail

CEMS Type : Full Extractive
Manufacturer: CAI
Model Number : 602
Serial Number: C01012-M
Monitor Certification Date:

Tested By : _____

Date: _____

CEMDAS Evolution™

Page 1 of 5

CLIENT

CGA Report

Created on : Apr 07, 2016 13:31:20

LOCATION

04/07/2016 - 04/07/2016

UNIT

Date	Parameter	Run#	Timestamp	Type	Expected	Measured	Low Difference	Mid Difference
04/07/2016								
	CO HR, PPM	1	13:12:01	QTR_LOW	484.0	476.4	7.6	
	CO HR, PPM	1	13:14:04	QTR_MID	1,744.4	1,736.8		7.6
	CO HR, PPM	2	13:20:10	QTR_LOW	484.0	475.2	8.8	
	CO HR, PPM	2	13:22:13	QTR_MID	1,744.4	1,735.6		8.8
	CO HR, PPM	3	13:28:17	QTR_LOW	484.0	473.9	10.1	
	CO HR, PPM	3	13:30:20	QTR_MID	1,744.4	1,734.3		10.1

Arithmetic Mean of Quarterly Low: 475.2
Calibration Error of Quarterly Low: 1.8

Arithmetic Mean of Quarterly Mid: 1735.6
Calibration Error of Quarterly Mid: 0.5

Calibration Tolerance: 15.0
Calibration Result : Pass

CEMS Type : Full Extractive
Manufacturer: CAI
Model Number : 602
Serial Number: C01012-M
Monitor Certification Date:

Tested By : _____

Date: _____

CEMDAS Evolution™

Page 1 of 5

Attachment 10. CEMDAS RATA Audit Results sample printout

CLIENT

RATA Data Report

Created on : Apr 07, 2016 15:13:28

LOCATION

4/7/2016 2:52:14 PM - 4/7/2016 3:12:14 PM

UNIT

Time	Fc FACTOR, SCF/mmBTU	DIESEL Hc, BTU/GAL	PROCESS	NOX LR, PPM	NOX HR, PPM	CO LR, PPM	CO HR, PPM
14:52:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
14:53:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
14:54:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
14:55:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
14:56:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
14:57:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
14:58:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
14:59:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:00:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:01:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:02:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:03:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:04:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:05:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:06:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:07:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:08:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:09:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:10:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:11:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
15:12:00	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3
Average :	1420.0	128488.0	1.0	289.8	1734.9	109.5	1734.3

* Invalid Status

RATA Run # 1

Verified By: _____

CEMDAS Evolution™

Page 1 of 3

Attachment 11. CEMDAS System Constants Sample Report

CLIENT

LOCATION

System Constants

Created on : Apr 12, 2016 15:03:50

Parameter	Lower Limit CU	Upper Limit CU	Lower Limit EU	Upper Limit EU	EU Offset	Maximum Operation	Minimum Operation	Potential Maximum	Maximum Recorded
Fc FACTOR, SCF/mmBTU	0	0	0	15000	0	0	0	0	0
DIESEL Hc, BTU/GAL	0	0	0	200000	0	0	0	0	0
SPARE, 1	0	0	0	100	0	0	0	0	0
PROCESS	0	1	0	1	0	0	0	0	0
NOX LR, PPM	-23839	-55	0	500	0	0	0	0	0
NOX HR, PPM	-23831	-17	0	3000	0	0	0	0	0
CO LR, PPM	-23822	2	0	200	0	0	0	0	0
CO HR, PPM	-23824	29	0	3000	0	0	0	0	0
CO2, %	-23821	22	0	20	0	0	0	0	0
NOX, PPM	0	0	0	3000	0	0	0	0	0
CO, PPM	0	0	0	3000	0	0	0	0	0
DIESEL FLOW, GAL/HR	-29788	29834	0	296.042	0	0	0	0	0
DIESEL HEAT, mmBTU/HR	0	0	0	250	0	0	0	0	0
NOX, LB/mmBTU	0	0	0	1	0	0	0	0	0
CO, LB/mmBTU	0	0	0	10	0	0	0	0	0
NOX, LB/HR	0	0	0	200	0	0	0	0	0
CO, LB/HR	0	0	0	200	0	0	0	0	0
Fc FACTOR, SCF/mmBTU	0	0	0	15000	0	0	0	0	0
DIESEL Hc, BTU/GAL	0	0	0	200000	0	0	0	0	0
SPARE, 1	0	0	0	100	0	0	0	0	0
PROCESS	0	1	0	1	0	0	0	0	0
NOX LR, PPM	-23834	-67	0	500	0	0	0	0	0
NOX HR, PPM	-23836	-53	0	3000	0	0	0	0	0
CO LR, PPM	-23823	-46	0	200	0	0	0	0	0
CO HR, PPM	-23821	24	0	3000	0	0	0	0	0

CEMDAS Evolution™

Page 1 of 11

Continuous Emissions Monitoring System EU Boiler 4A

Quality Assurance And Quality Control Plan

Company: Packaging Corp. of America
Site: Filer City, MI
System: Boiler 4A Full Extractive CEMS
Revision Date: January 24, 2014

Table of Contents

Section 1 Introduction

This Quality Assurance/Quality Control (QA/QC) Plan has been prepared to support the operation of the Continuous Emissions Monitoring System (CEMS) at Packaging Corp. of America, Filer City, MI installed for measurement of effluent pollutant concentrations of NO_X and O_2 .

The EPA has established requirements for monitoring, record keeping, and reporting pollutant levels in flue gases emitted from affected units. The CEMS discussed in this manual are governed by the regulations established under *Title 40 Code of Federal Regulations Part 60* (40 CFR Part 60), Appendix B, Performance Specifications and Appendix F, Quality Assurance Procedures, which include general requirements for the installation, certification, operation, and maintenance of the CEMS.

A.) Definitions of Quality Assurance and Quality Control

The QA procedures consist of two distinct and equally important functions.

Quality Assurance is the series of activities performed to evaluate the overall effectiveness of the maintenance and QC efforts. QC involves those activities undertaken to determine that the product or service is effective in maintaining an accurate and reliable output of CEMS data.

Quality Control functions are the control and improvement of the quality of the CEMS data by implementing QC policies and corrective actions. QC functions are often comprised of a series of frequent internal checks, such as system inspections, periodic calibrations, and routine maintenance. Quality Assurance involves less frequent external checks on product quality and is used to evaluate the total quality control process.

These two functions form a control loop: When the evaluation function indicates that the data quality is inadequate, the control effort must be increased until the data quality is acceptable. In order to provide uniformity in the assessment and reporting of data quality, this procedure explicitly specifies the assessment methods for response drift and accuracy.

External quality assurance evaluations may include independent system audits, third party sampling and analysis, and/or comparisons to known calibration standards.

B.) Quality Assurance Policy

Packaging Corp. of America's policy is to efficiently operate and maintain its facilities in accordance with good operating practices (GOP) and applicable environmental regulations.

C.) Objective of Quality Assurance Plan

The objective of this QA plan is to define the necessary activities that guarantee CEMS data quality is maintained at acceptable levels. The plan also provides the framework for implementing QA activities by addressing items such as documentation, training, corrective actions, and preventive maintenance measures.

D.) Scope of Quality Assurance Plan

The QA Plan goal is to obtain and evaluate emissions data of known and acceptable quality in support of the air pollution control equipment operation. The data obtained is used to demonstrate compliance with the following EPA, state and local emission and monitoring regulations:

40 CFR 60, Appendix B, Performance Specification 2 & 3
40 CFR 60, Appendix F; Quality Assurance Procedures
Packaging Corp. of America Operating Permit

E.) Document Control

This QA/QC Plan includes procedures that ensure changes and revisions to this plan are communicated to all appropriate individuals. The Plant Manager will be responsible for ensuring that all changes and revisions are incorporated in the basic document. Periodic review of this QA Plan will help to insure that the QA process is working to provide efficient notice of required actions. Whenever inaccuracies occur for two consecutive quarters, Packaging Corp. of America must revise the current procedures or modify or replace the CEMS to correct the deficiency causing the excessive inaccuracies. The procedures must be kept on record and available for inspection by the enforcement agency.

Section 2 Description of Facility and CEMS

A.) Facility

EU Boiler 4A is a Natural Gas and Biogas Fired Babcock and Wilcox Model No. FM120-97 boiler. The boilers maximum capacity is 227 MMBtu/hr and is equipped with low NOx burners.

B.) Organization and Responsible Individuals:

Certain individuals and groups at the facility will have designated responsibilities to ensure that QA/QC activities are performed as required by this QAP program. The following is a typical organizational structure of responsibilities.

Mill Manager
Engineering/Technical Services Manager
Technical Services Manager
Environmental Manager
Electrical Maintenance Superintendent

Environmental Manager:

- Oversees the CEMS QA/QC program.
- Reviews all plans and reports for accuracy.
- Prepares certification/recertification applications and notifications to required regulatory agencies.
- Stays abreast of EPA regulation updates that may affect the CEMS programs and interprets as required.
- Coordinates and schedules CEMS audits, diagnostic tests and certification/recertification tests as required.
- Reviews the quarterly CEMS reports from each plant prior to submittal.
- Submits quarterly reports and certification/recertification test results to the applicable regulatory agencies.
- Support and provides training in the administration and maintenance of the CEMS QAP and generic CEMS Standard Operating Procedures (SOP) documents.
- Reviews CEMS data for validity and makes any necessary corrections so the proper data will be entered in the quarterly reports.
- Ensures records are maintained for out-of-control conditions.
- Notifies the Plant Manager of any abnormal conditions that cannot be resolved within existing CEMS procedures in a reasonable amount of time.
- Maintains files of all plant CEMS data (hardcopy and electronic), reports, calibration gas certificates, etc. for three years as required by the EPA (or as applicable to local regulatory requirements).
- Notifies appropriate plant personnel of scheduled CEMS audits and certification/recertification tests.
- Arranges for support needed by contractor for periodic audits and certification/recertification tests.
- Provides plant resources to assist contractors during audits and certification/recertification testing.

Plant Manager:

- Designates and manages manpower and other resources needed to properly maintain and operate the CEMS.
- Reviews and approves all plant-specific CEMS plans, procedures, and reports.
- Ultimately responsible for ensuring that all routine preventive maintenance is completed on schedule.

Technician or Operator:

- Perform the daily checks on CEMS systems.
- Perform regular maintenance on equipment as recommended by each manufacturer.
- Address and report any abnormal conditions to the Plant Manager.
- Make appropriate entries into the maintenance log.
- Maintain the spare parts inventory.
- Maintain audit filter certifications, if applicable.

C.) CEMS Overview

The CEMS is an integrated system manufactured by Monitoring Solutions, Inc. whose headquarters are based in Indianapolis, IN. The following figure presents a simplified illustration of CEMS gas flow (reference system drawings for specific component detail).

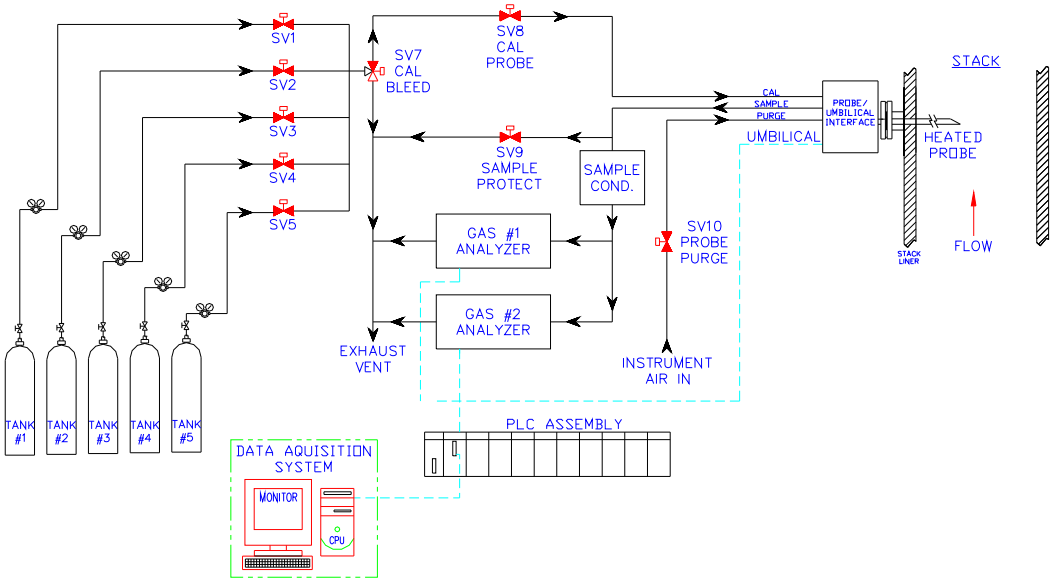


Figure 2-1. General CEMS Overview

CEMS (Continuous Emission Monitoring System) - performs the extractive sampling and measuring of the flue gas. The *Sample probe* is inserted into the gas stream and extracts a continuous sample of concentrated flue gas. The sample pump creates a pressure differential (vacuum) used to extract gas from the stack. The extracted sample is transported via the *umbilical system* through a *gas sample conditioner* and *gas control panel* to specific *gas analyzers*.

CEMCON (Continuous Emission Monitoring CONtroller System) - receives and stores data generated by the CEMS and automatically controls CEMS operations such as system purge, sample air flow, calibration, and detection of alarm conditions. In addition, it provides the communication link between CEMS and CEMDAS. The CEMCON system consists of a PLC controller with power supply and a multifunction keypad for operator interface.

CEMDAS (Continuous Emission Monitoring Data Acquisition System) - retrieves the data stored by the CEMCON and performs the required calculations to determine if the readings are within required limits. The system is designed to provide alarm messages and signals in the event the results do not meet applicable requirements. CEMDAS can also generate the required reports used in EPA audits and in evaluating system operability.

A complete set of operation and maintenance manuals for all components of the system is maintained by the Electrical Maintenance Superintendent. These manuals provide complete descriptions of the system and components including theory, installation, operation, and maintenance.

D.) Brand-Gaus Model 4705 O_2 Analyzer

Figure 2-2. Brand-Gaus Model 4705 O2 Analyzer

1) Specifications

Measurement technology	Zirconium oxide cell
Measurement range	0 to 25 % O2
Full scale range	25.0 % O2
Zero noise	< 0.02 %O2
Zero calibration drift	Better than ± 0.1 %O2
Span noise	< 0.02 %O2
Span calibration drift	Better than ± 0.1 %O2
Linearity error	< 1% of high calibration gas value
Interference (sum of all interferences	< 1% of measured value for typical applications
Response time	T95 < 10 seconds
Sample Flow rate	0.2 to 10 SLPM

2) Theory of Operation

The oxygen measurement makes use of the fact that zirconium conducts oxygen ions when heated above 600ºC. Platinum electrodes on the interior and exterior of a zirconium oxide tube provides a catalytic surface for the exchange of oxygen molecules and are transported through the body of the zirconium oxide. This charge transport ultimately sets up an electric potential across the electrodes that is proportional to the log of the ratio of oxygen concentrations on each side of the oxide. Thus, if a reference gas (usually instrument air at 20.9 %O2) flows across the inner electrode, the concentration of sample gas flowing across the outer electrode can be determined. In a conventional zirconium-oxide oxygen analyzer, this voltage is exponentiated to determine the concentration. This is done within the on-board microprocessor.

In the Brand-Gaus Model 4705, a second zirconium-oxide cell is ganged together to pump oxygen into the first cell, which is maintained at a constant voltage. The amount of oxygen needed to maintain the primary cell at the operating point is a more sensitive measurement of sample concentration, and allows for measurement at zero oxygen. This pump signal is carefully measured and related back to the sample concentration

3) Front Panel Controls

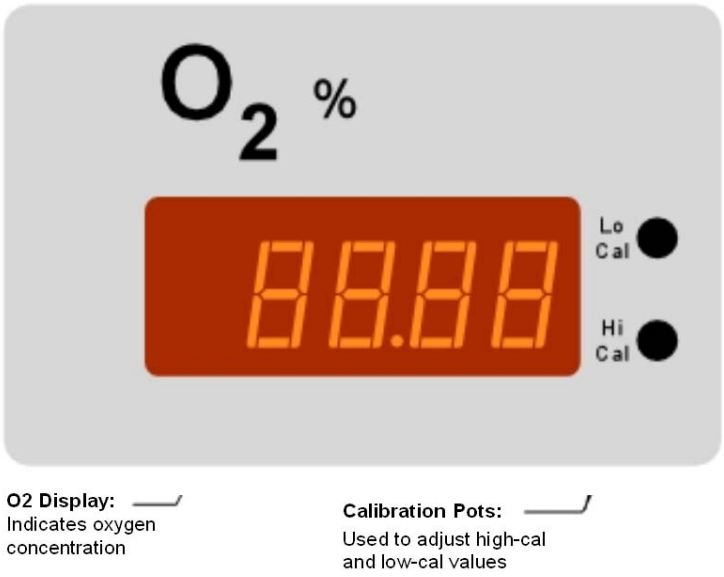


Figure 2-3. Model 4705 Front Panel Controls

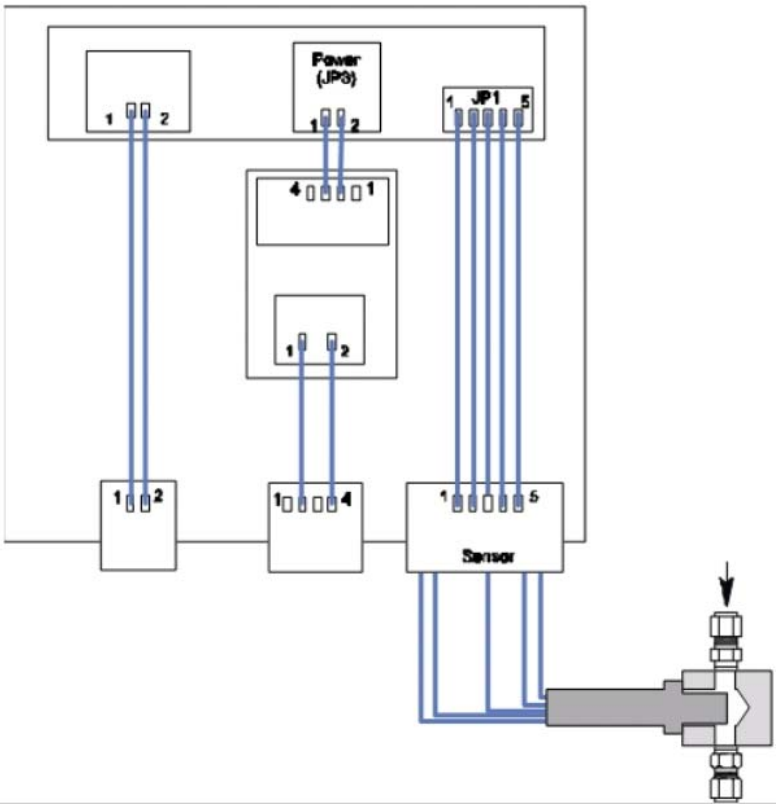


Figure 2-4. Model 4705 Wiring Diagram

4) Analyzer Setup

To ensure the quickest and most reliable startup, please follow the steps below in the order shown.

a.) Apply power and sample to analyzer

(1) Connect sensor (if external), analog signals, and AC wiring to the analyzer as depicted in the accompanying wiring diagram.

(2) Supply a metered amount of sample to the analyzer and verify the Sample flow. Meter should read be between 0.2 and 10 SLPM.

(3) Apply power to the instrument (85 to 250 VAC, 50-60 Hz).

Warning: This instrument is designed for use with 85 to 250 AC input power only. Serious equipment damage and/or injury will occur if it is connected to improper power.

(4) After a few seconds, the oxygen concentration display will illuminate. The display will move from zero up to the approximate sample value in about one minute. It will fully warm-up in approximately 30 to 60 minutes.

b.) Calibrate the analyzer.

5) Calibration

After installation and at least a 1-hour warm up period, the instrument can be calibrated via the following procedure.

> **Note:** The Brand-Gaus oxygen analyzer calibrations are generally very stable. If the calibration appears to have drifted significantly, or requires frequent adjustment, do not recalibrate the unit. Check for analyzer malfunction and/or check the sample delivery system for leaks or other problems.

c.) High calibration:

(1) Flow high calibration gas through the sample handling system and analyzer.
(2) Wait approximately two minutes or until reading settles.
(3) Adjust the reading with the HIGH CAL adjustment until the display indicates the concentration of the calibration gas. The calibration value is then stored.

d.) Low calibration:

(1) Flow low calibration gas through the sample handling system and analyzer. See note above, do not attempt to calibrate the analyzer below 1%.
(2) Wait approximately two minutes or until reading settles.
(3) Adjust the reading with the LOW CAL adjustment pot until the display indicates the concentration of the calibration gas. The calibration value is then stored.

e.) Check the high calibration point and recalibrate if required. It may be necessary to repeat the first two steps iteratively if the calibration has been changed dramatically for some reason.

E.) Thermo Fisher Scientific Corp. Model 42i-LS NO_X Analyzer

Figure 2-5. Model 42i Low Source NO-NO_2-NO_X Analyzer

1.) Principle of Operation

The analyzer is an analytical instrument capable of measuring oxides of nitrogen at levels from 0 to 500 parts per million. The Model 42i-LS offers fast response time, increased sensitivity, linearity through all ranges, and simplicity of operation. It features a sample pump, independent NO_X ranges, and a replaceable converter cartridge.

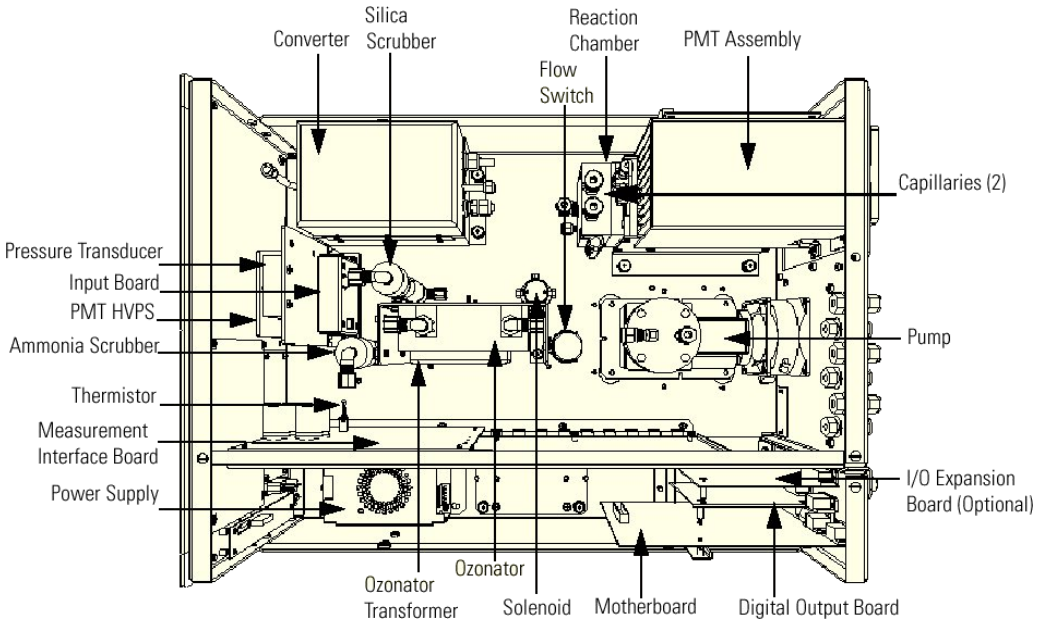


Figure 2-6. Component Layout

The Model 42i-LS operates on the principle that nitric oxide (NO) and ozone (O_3) react to produce a characteristic luminescence with an intensity linearly proportional to the NO concentration. Infrared light emission results when electronically excited NO_2 molecules decay to lower energy states. Specifically,

$$NO + O_3 \rightarrow NO_2 + O_2 + hv$$

Nitrogen dioxide (NO_2) must first be transformed into NO before it can be measured using the chemiluminescent reaction. NO_2 is converted to NO by a stainless steel NO_2-to-NO converter heated to about 625°C (the optional molybdenum converter is heated to 325°C).

The ambient air sample is drawn into the Model 42i-LS through the sample bulkhead. The sample flows through a capillary, and then to the mode solenoid valve. The solenoid valve routes the sample either straight to the reaction chamber (NO mode) or through the NO_2-to-NO converter and then to the reaction chamber (NO_X mode). A flow sensor prior to the reaction chamber measures the sample flow.

A permeation dryer provides a continuous stream of dry air to the ozonator (using the selective water permeation characteristics of the dryer.) The ozonator generates the ozone needed for the chemiluminescent reaction. At the reaction chamber, the ozone reacts with the NO in the sample to produce excited NO_2 molecules. A photomultiplier tube (PMT) housed in a thermoelectric cooler detects the luminescence generated during this reaction. From the reaction chamber, the exhaust travels through the ozone (O_3)converter to the pump, and is released through the vent.

The NO and NO_X concentrations calculated in the NO and NO_X modes are stored in memory. The difference between the concentrations is used to calculate the NO_2 concentration. The Model 42i-LS outputs NO, NO_2 ,and NO_X concentrations to the front panel display, the analog outputs, and also makes the data available over the serial or Ethernet connection.

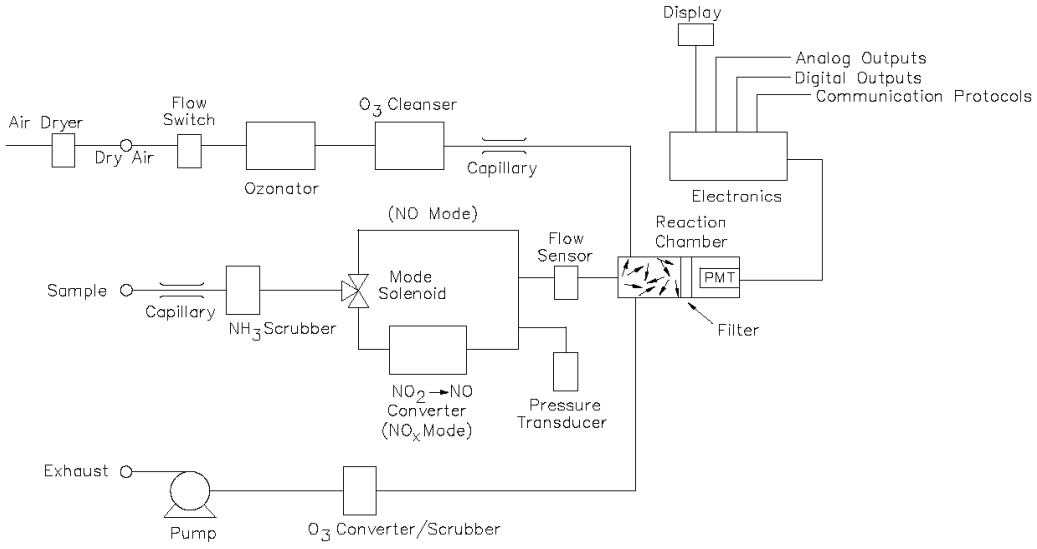


Figure 2-7. Internal Flow Schematic

2.) Maintenance Schedule

The typical preventative maintenance required for the analyzer involves changing the teflon filter at the sample inlet, typically on a quarterly basis, but more frequently if necessary. This part should be considered when determining spare parts requirements.

Operation of the Thermo Fisher Scientific Corp. Model 42i-LS NO_X analyzer is described in greater detail in the ***Thermo Fisher Scientific Corporation Model 42i Low Source Instruction Manual, NO-NO_2-NO_X Analyzer*** which is included with this manual.

F.) CEMDAS 2000™ Data Acquisition System

CEMDAS 2000™ is an automated PC-based data acquisition system custom designed for each client. Its primary functions are the acquisition, processing, storage, and reporting of CEMS data and related information. CEMDAS 2000™ facilitates all of the data reporting requirements necessary to establish compliance with EPA, state, and local operation permit limits. Coupled with a Monitoring Solutions PLC controller, the CEMDAS 2000™ package is a powerful, user-friendly Windows-based system for monitoring, recording, and reporting stack emission information. CEMDAS 2000™ receives analog and status signals from the CEMS components such as monitors and the PLC. CEMDAS 2000™ uses these inputs to prepare reports, summarize the data and information derived from the input signals.

CEMDAS performs two primary reporting functions: providing a picture in real time of the emissions process and generating reports of current and historic data. Current status may be viewed and reports requested at the system console and accessed by phone via modem (external phone line required for modem access). Reports can be generated automatically or manually, and sent to a printer, the screen, or a disk file. Available reports include minute, hourly, daily, monthly and quarterly reports, along with RATA and CGA/Linearity reports.

Section 3 Quality Assurance Activities

A.) Overview

The purpose of these procedures is to ensure that the CEMS installed at the Packaging Corp. of America - Filer City, MI facility operates in such a manner as to provide accurate and reliable data.

Table 3-1. Quality Assurance Checklist

Activity: Quality Assurance	Quarterly	Annual
Calibration Gas Audit	X*	
RATA		X

*3 out of 4 quarters

B.) CEMS Analyzer Summary

Table 3-2. CEMS Analyzer Summary

Pollutant or Diluent	**Full Scale Range**	**Full Scale Span**	**Analyzer Mfg**	**Model**
NOx	0-1000ppm	500ppm	TECO	42C
O_2 Analyzer	0-25%	25%	Brand Gaus	4705

C.) Daily Calibration Drift Check

1.) Calibration Gases

Calibration gases shall be NIST/EPA approved Standard Reference Materials, Certified Reference materials per 40 CFR 60, Appendix F, Section 5.1.2 (3). A separate calibration gas cylinder must be used for each concentration.

2.) Calibration Error Test for Pollutant and Diluent Monitors – Part 60

Perform a two-point calibration error test on each pollutant and diluent gas monitor at least once per unit operating day (24 hours). A separate calibration gas cylinder must be used for each audit point. The following concentrations must be used in accordance with 40 CFR Part 60, Appendix B, Performance Specification 2, Section 6.1.2:

Table 3-3. Daily Calibration gas allowable ranges

Audit Level	**40 CFR 60**
Low-level	0-20% of span
High-level	50-100% of span

If a monitor fails a calibration error test, corrective action must be performed and documented, and a successful daily calibration error test performed before data can be considered valid. The CEMS calibration must, as minimum, be adjusted whenever the daily zero (or low-level) CD or the daily high-level CD exceeds two times the limits of the applicable PS. The Monitoring Solutions CEMS Operations and Maintenance Manual provides detailed calibration procedures.

3.) Out-of-Control Period for Pollutant and Diluent Analyzers – Part 60

An out-of-control period occurs for a pollutant or diluent analyzers when the daily low-level or daily mid-level CD exceeds two times the limit for five consecutive days, or four times the limit for one day.

Table 3-4. Out of Control Limits for Pollutant and Diluent Analyzers

Analyzer	Daily Calibration Drift	Out-of Control	
		Five (5) consecutive daily calibrations	Any daily calibration
NO_X	≤ 2.5 % of Span	≥ 5.0 % of Span	≥ 10.0% of Span
O_2	≤ 0.5% O_2 (Absolute)	≥ 1% O_2 (Absolute)	≥ 2.5% O_2 (Absolute)

Monitor adjustments, calibration, or repairs must be performed whenever CD limits are exceeded. The CD check must be repeated after any adjustment or repair. Whenever the CD is exceeded, a warning is displayed on the computer screen and a message is logged to a printable alarm file.

The beginning of the out-of-control period is the time corresponding to the completion of the fifth, consecutive daily CD check with a failed CD or the time corresponding to the completion of the daily CD check preceding the daily CD check that results in a failed CD. The end of the out-of-control period is the time corresponding to the completion of appropriate adjustment and subsequent successful CD check.

Any time the CEMS is declared "out of control" or "out of service", it cannot be used to show compliance with permit limits or data capture requirements and shall be considered downtime for reporting purposes. Therefore, corrective action must be performed as soon as possible after determining that the CEMS is not operating to within required specifications.

D.) Cylinder Gas Audit: CEMS – Part 60

A quarterly cylinder gas audit must be performed on each CEMS at least once every calendar quarter, during three quarters of every year. Each CGA shall not be performed during a quarter in which a RATA is being performed.

Calibration Gases – Part 60

Calibration gases shall comply with per 40 CFR 60, Appendix F, Section 5.1.2 (3). Use audit gases that have been certified by comparison to National Bureau of Standards (NBS) gaseous Standard Reference Materials (SRM's) or NBS/EPA approved gas manufacturer's Certified Reference Materials (CRM's) following EPA Traceability Protocol No. 1. As an alternative to Protocol No. 1 audit gases, CRM's may be used directly as audit gases. A separate calibration gas cylinder must be used for each audit point.

1.) Procedure

The known gases are individually injected at the probe to be sampled through the entire sampling train, as the path used in extracting effluent from the process. Gas is injected until a stable reading is obtained.

The procedure is conducted as follows:

a) Connect all quarterly gas cylinders to the system and turn them on.
b) Verify/Set the corresponding calibration gas cylinder values in the calibration configuration menu in the DAS.
c) Then initiate the sequence by selecting the CGA option on the CEMDAS screen or the OIT.
   i) Each gas is routed through the system until a stable response is achieved.
   ii) Values are recorded as the system is allowed to operate in a normal sampling and analysis manner without adjustment.
d) The sequence is repeated through three audit runs.

For each audit cylinder (or audit point), the percent accuracy is determined by using the following equation:

$$A = \frac{(Cm - Ca)}{Ca} x100$$

Where:
A = Accuracy of CEMS (%)
Cm = Average CEMS response during audit in units of applicable standard or concentration
Ca = Average audit (cylinder gas certified value) in units of applicable standard or concentration

Accuracy (A) value of $\pm$15% or less is considered acceptable for criteria pollutants gas. If excessive inaccuracies occur for two consecutive quarters, Packaging Corp. of America must revise the QC procedures or modify or replace the CEMS.

Measurements are calculated and recorded by the PLC. The audits serve as verification of the accuracy of the CEMS data. Various reports can be generated to support audits and are kept on file by Packaging Corp. of America. The manufacturer's certification statement (if applicable) for the calibration gases are also included.

E.) Relative Accuracy Test Audit

1.) Relative Accuracy Test Audit

At least once in every four calendar quarters (except during a quarter in which the unit either did not run or in which a CGA is performed), conduct a Relative Accuracy Test Audit (RATA), as described in 40 CFR 60, App. B, PS 2, to assess the accuracy of the CEMS relative to the appropriate EPA reference methods used in determining effluent concentrations. Measured inaccuracy exceeding 20% of the mean value of the reference method results or 10% of the applicable standard, whichever is greater, requires corrective action to be taken. When appropriate, additional audits are conducted to demonstrate the effectiveness of the repair or adjustment.

Section 4 Quality Control Activities

A complete set of Operation and Maintenance manuals for all components of the CEMS are kept in the Maintenance Department.

Quality Assurance/Quality Control Plan

Each source owner or operator must develop and implement a QC program. As a minimum, each QC program must include written procedures which should describe in detail, complete, step-by-step procedures and operations for each of the following activities:

1. Calibration of CEMS.
2. CD determination and adjustment of CEMS.
3. Preventive maintenance of CEMS (including spare parts inventory).
4. Data recording, calculations, and reporting.
5. Accuracy audit procedures including sampling and analysis methods.
6. Program of corrective action for malfunctioning CEMS.

A.) QC Activities

An activity list summarizing various routine activities is presented in the following table. The Plant Manager is ultimately responsible for scheduling routine maintenance and ensuring that all routine preventive maintenance is completed on schedule.

Table 4-1. Quality Control Checklist

Activity: Quality Control
DAS Alarms Status
Analyzer Alarms Status
Zero Value Cal Check Passed/Record
Span Value Cal Check Passed/Record
Calibration gas cylinder(s)
Clean/Replace Filters - Analyzers
Clean/Inspect Sample Conditioner
Replace/Clean Filters - Probe
Change Air System Filters/Scrubbers
Clean Interior of Enclosure/Rack
Printer Maintenance

B.) CEMS Maintenance

All maintenance of the CEMS can be classified into one of these three areas:

1. Routine preventive maintenance. .
2. Non-routine preventive maintenance.
3. Corrective Maintenance.

C.) Spare Parts Inventory

The Mill minimizes monitoring equipment downtime by maintaining spare parts for "routine" repairs or otherwise predictable malfunctions. The spare parts inventory was established based on manufacturers' recommendations and past operating history. The spare parts inventory is maintained in a common equipment area and is managed by the Maintenance Department. A spare parts list is available upon request from the Maintenance Department.

Section 5 Data Recording and Reporting

A.) General Requirements

An effective quality assurance program communicates the results of QA/QC activities to all affected parties. This QA plan makes provisions for the proper recording and communication of QA and QC information and provides the necessary mechanisms for triggering corrective actions based on the contents of QA/QC reports.

Documentation of QA/QC data and information is an integral part of this QA Plan. This section describes reports and other records that provide appropriate documentation of QA/QC activities. *PACKAGING CORP. OF AMERICA* utilizes two primary means of documentation:

1. Data Acquisition System - CEMDAS 2000™
2. Manually prepared QA/QC forms, logs and reports.

All data must be available for review for a minimum of five (5) years from the date of each record and be available to the Division upon request at any time. It can be presented as either a computerized database or printed emission logs.

All reporting is to be on an Eastern Standard Time basis.

The data acquisition system must be capable of reading all values over the full range of each measurement device and must create a permanent record of all required raw and calculated data for storage, review and reporting. In addition a continuous readout in units of each applicable emission standard or operating criteria is required.

B.) Monitoring/Recordkeeping

Monitoring and recordkeeping requirements are defined in Renewable Operating Permit, MI-ROP-B3692-2009, incorporated here by reference.

C.) Reporting Requirements

Reporting requirements are defined in Renewable Operating Permit, MI-ROP-B3692-2009, incorporated here by reference.

GREENHOUSE GAS MONITORING PLAN

PREPARED IN ACCORDANCE WITH 40 CFR PART 98

Filer City, MI Mill

Prepared by:

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Version 4.0

Prepared for:

PACKAGING CORPORATION OF AMERICA

FILER CITY, MI MILL

Updated August 2019

TABLE OF CONTENTS

APPENDICES

LIST OF TABLES

1. INTRODUCTION

Packaging Corporation of America (PCA) owns and operates a corrugating medium manufacturing facility located in Filer City, Manistee County, Michigan (Filer City Mill, or Mill). The Filer City Mill is subject to the requirements of the U.S. Environmental Protection Agency (U.S. EPA) Mandatory Reporting of Greenhouse Gas (GHG) Rule that is codified at 40 CFR Part 98. The GHG reporting rule applies to facilities such as the Filer City Mill that emit GHG in excess of 25,000 metric tons of carbon dioxide equivalent ($MTCO_2e$) annually. As of January 1, 2010, the Filer City Mill is required to inventory its annual GHG emissions and to report those emissions and provide supporting information to the U.S. EPA by March 31st of each subsequent year, or as prescribed by U.S. EPA. Included as part of the GHG reporting rule is the requirement to prepare and maintain this GHG Monitoring Plan.

This GHG Monitoring Plan provides specific information regarding the applicability of the GHG reporting rule to the Filer City Mill and documents how the Mill will manage its GHG inventory and reporting program. This GHG Monitoring Plan identifies the quality assurance/quality control procedures (QA/QC) that are followed as part of the inventorying and reporting of data, and outlines the specific methodology that the Mill will follow in the calculation of the GHG emissions. This GHG Monitoring Plan includes the following sections:

- Section 2: Filer City Mill Description and Applicability of 40 CFR Part 98.
- Section 3: Approach to GHG Calculations.
- Section 4: QA/QC.
- Section 5: Data Reporting and Archiving.

The Filer City Mill has prepared this GHG Monitoring Plan to be consistent with the requirements of 40 CFR Part 98. In addition, the Filer City Mill has reviewed guidance documents that were prepared by U.S. EPA in response to industry's questions and comments related to the GHG reporting rule. The Filer City Mill has incorporated the U.S. EPA guidance into the GHG Monitoring Plan as appropriate. This GHG Monitoring Plan also reflects existing Mill QA/QC documents and Mill operating practices. As necessary, the GHG Monitoring Plan will be updated and will continue to be a usable document that can be referenced by the

appropriate Mill personnel to ensure that all inventorying, reporting, and QA/QC activities that are associated with the GHG reporting rule are completed correctly.

2. MILL DESCRIPTION AND APPLICABILITY OF 40 CFR PART 98

This section of the GHG Monitoring Plan provides a general description of the Filer City Mill and discusses the applicability of the various subparts of 40 CFR Part 98. The Mill recognizes that additional operations at the Mill could become subject to subparts of the rule that were not promulgated as of December 2017. The Filer City Mill will update this section and other sections of the monitoring plan as future rulemaking warrants.

2.1 MILL DESCRIPTION

The Mill operates two identical continuous tube-type digesters that operate in parallel to produce wood fibers (pulp) from wood chips. The digesters are pressurized with steam and the chip feed forms a plug flow into the system. Each digester tube has an internal screw that controls the rate at which the chips move through the tube. Pressure in each digester "blows" the cooked chips out of the last tube, through separate defibrators, and then through blow lines to the blow tower. In the defibrators, the chips pass between refiner plates, one rotating and one stationary. The defibrators mechanically reduce the chips to fiber bundles. This mechanical action is a necessary part of the pulping process; hence it is referred to as a semi-chemical process because it is also semi-mechanical.

Steam and other vapor from the blow tower pass through a cyclone separator to remove entrained pulp and liquid, and then pass on through a direct contact condenser. The non-condensable gases (NCG) leaving the blow tower are routed from the condenser to the low volume high concentration (LVHC) collection system where they are thermally oxidized in either EUBOILER1 (Boiler No. 1) or EUBOILER2 (Boiler No. 2). These two boilers, along with a third boiler, EUBOILER4A (Boiler No. 4A), produce steam for Mill operations.

Pulp collected in the blow tower is washed with process water to rinse the spent cooking liquors from the pulp. The spent cooking liquor collected in the washing process is called black liquor. The Filer City Mill currently utilizes two rotary pulp washers operating in series. Each washer is

designed with a total enclosure system. Gases are collected from the washers and routed to Boilers No. 1 and 2 for destruction via the LVHC collection system.

The black liquor that is washed from the pulp contains wood lignin and may also contain recoverable chemicals. The black liquor is sent to the recovery area. In the recovery area, the weak black liquor is sent to evaporator systems where water is driven off and it is concentrated into heavy black liquor, and ultimately spent liquor solids. The spent liquor solids are fired in EUCOPELAND (Copeland Reactor) where non-combustible chemicals are recovered for re-use in the pulping process.

The washed pulp is sent to the paper mill. Polished whitewater from the paper machines is biologically treated in the biogas system before being sent to the Mill's wastewater treatment plant. A byproduct of this biological treatment process is the generation of methane-rich biogas that is scrubbed and then fired in EUBOILER2 and/or EUBOILER4A, or EUBIOGASFLARE.

A list of the combustion and process emissions units at the Mill that are subject to 40 CFR Part 98 is provided in Table 2-1. A brief description of each emissions unit is also provided in Section 3.

2.2 RULE APPLICABILITY

Pursuant to §98.2(a)(2), the applicability of 40 CFR Part 98 is triggered when the actual annual emissions of GHG gases from all covered sources meets or exceeds a 25,000 $MTCO_2e$ threshold. To assess a facility's GHG emissions against the 25,000 $MTCO_2e$ threshold, annual emissions of the six GHG gases for which calculation methodologies are provided in 40 CFR Part 98 must be summed. The six GHG gases are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and sulfur hexafluoride (SF_6). Since each GHG has a different Global Warming Potential (GWP), each GHG must be normalized to the GWP of CO_2. Consequently, CH_4 emissions are multiplied by 25 and N_2O emissions are multiplied by 298 to equate to CO_2 equivalent emissions. Biogenic emissions of CO_2 are not

included in the emissions total to determine applicability of 40 CFR Part 98; however, biogenic CO_2 emissions must be reported if the 25,000 $MTCO_2e$ threshold is triggered.

Table 2-1
Process and Combustion Units Subject to 40 CFR Part 98
Packaging Corporation of America - Filer City, MI Mill

Emission Unit Name	Unit Type	Fuel/Throughput Type
EUBOILER1	Combustion	Natural Gas
EUBOILER2	Combustion	Natural Gas, Biogas
EUBOILER4A	Combustion	Natural Gas, Biogas
EUBIOGASFLARE	Combustion	Biogas, Propane
WWTP Building	Combustion	Propane
EUCOPELAND	Process and Combustion	Natural Gas, Spent Liquor Solids (Hardwood)
Biogas Reactor	Process	Polished Paper Machine Whitewater

The Filer City Mill has reviewed 40 CFR Part 98 and determined which sections of the rule apply to the Mill. There are three specific sections of 40 CFR Part 98 that currently apply to the Filer City Mill. Subpart A of 40 CFR Part 98 contains general provisions and definitions that apply to all industrial facilities. Subpart C includes requirements for combustion sources. As a pulp and paper mill, the Filer City Mill is further subject to the requirements of 40 CFR Part 98, Subpart AA (Pulp and Paper Manufacturing) and as an industrial facility with an anaerobic wastewater treatment process the Mill is subject to 40 CFR Part 98, Subpart II (Industrial Wastewater Treatment). A summary of the applicable Part 98 rules is listed in Table 2-2.

In addition, the following subsections have been identified as being potentially applicable to pulp and paper mills: Subpart U (Miscellaneous Uses of Carbonate), and Subpart TT (Industrial Waste Landfills). Subpart U does not apply to the Mill since the source category does not apply to equipment that uses carbonates or carbonate-containing minerals that are consumed in the production of pulp and paper. Subpart TT does not apply since an on-site landfill is not located at the Filer City Mill.

In general, the applicability of 40 CFR Part 98 requires that the Mill quantify fossil fuel combustion-related and process-related emissions of CO_2, N_2O, and CH_4. For biomass materials that are combusted or processed, the Mill also needs to calculate the biogenic CO_2, N_2O, and CH_4 emissions. The fossil fuel and biogenic GHG emissions must be reported on a facility-wide basis, as well as on an individual emissions unit(s) basis for those sources not electing to take advantage of any reporting alternatives available at §98.36(c). The individual totals of GHG must be speciated (i.e., annual tons of CO_2, N_2O, and CH_4).

Table 2-2
Applicability of 40 CFR Part 98
Packaging Corporation of America - Filer City, MI Mill

Subpart	Citation	Citation Title
Subpart A - General Provisions	§98.1	Purpose and Scope
	§98.2	Who must report?
	§98.3	What are the general monitoring, reporting, recordkeeping, and verification requirements of this part?
	§98.4	Authorization and Responsibilities of the Designated Representative
	§98.5	How is the report submitted?
	§98.6	Definitions
	§98.7	What standardized methods are incorporated by reference into this part?
	§98.8	What are the compliance and enforcement provisions of this part?
	§98.9	Addresses
Subpart C - General Stationary Fuel Combustion Sources	§98.30	Definition of the source category
	§98.31	Reporting threshold
	§98.32	GHGs to report
	§98.33	Calculating GHG emissions
	§98.34	Monitoring and QA/QC requirements
	§98.35	Procedures for estimating missing data
	§98.36	Data reporting requirements
	§98.37	Records that must be retained
	§98.38	Definitions
Subpart AA - Pulp and Paper Manufacturing	§98.270	Definition of Source Category
	§98.271	Reporting threshold
	§98.272	GHGs to report
	§98.273	Calculating GHG emissions
	§98.274	Monitoring and QA/QC requirements
	§98.275	Procedures for estimating missing data
	§98.276	Data reporting requirements
	§98.277	Records that must be retained
	§98.278	Definitions
Subpart II - Industrial Wastewater Treatment	§98.350	Definition of Source Category
	§98.351	Reporting threshold
	§98.352	GHGs to report
	§98.353	Calculating GHG emissions
	§98.354	Monitoring and QA/QC requirements
	§98.355	Procedures for estimating missing data
	§98.356	Data reporting requirements
	§98.357	Records that must be retained
	§98.358	Definitions

3. APPROACH TO GHG CALCULATIONS

This section of the GHG Monitoring Plan describes the approach that the Mill will follow to determine and report the annual GHG emissions that are generated by combustion and process sources. As part of the approach, the Mill has evaluated the ability to streamline the reporting process by using guidance and reporting options provided by U.S. EPA (e.g., aggregation of emissions units). The supporting information and the calculation approach that is utilized for reporting purposes under Part 98 are identified in the following subsections.

3.1 GENERAL CO_2 CALCULATION PROCEDURES

The procedures related to determining GHG emissions include calculation methodologies for determining CO_2 emissions as well as CH_4 and N_2O emissions. For CO_2 emissions from combustion sources, there are four different tiers of calculations which can be used: Tier 1, Tier 2, Tier 3, and Tier 4. The use of a particular tier is determined by the size of the emissions unit, the type of fuel combusted, the use of a Continuous Emissions Monitoring System (CEMS), and to a degree, the preference of the facility. Different tiers can be used for different fuels on the same emissions unit. GHG emissions do not need to be calculated for emissions units that meet the definition of portable or emergency generators/equipment as defined at 40 CFR §98.6. Additionally, GHG emissions from flares do not need to be considered per Subpart C unless required by another subpart. A brief description of each tier is provided in the following paragraphs.

The Tier 1 CO_2 calculation methodology uses a default fuel-specific high heating value (HHV), a default fuel-specific CO_2 emission factor, and an annual amount of fuel combusted. The Tier 1 calculation methodology can only be used for those fuels for which default HHV and CO_2 values are provided under 40 CFR Part 98. Generally, if an emissions unit's heat input capacity is greater than 250 million British Thermal Units per hour (MMBtu/hr), or if HHV values for combusted fuels are routinely obtained at the minimum frequency established in §98.34, or at a greater frequency, then the Tier 1 CO_2 calculation methodology may not be used. However,

pursuant to amendments dated November 29, 2013, Tier 1 may be used for the combustion of a fuel listed in Table C-1 if the fuel is combusted in a unit with a maximum rated heat input capacity greater than 250 MMBtu/hr (or, pursuant to §98.36(c)(3), a group of units served by a common supply pipe, having at least one unit with a maximum rated heat input capacity greater than 250 MMBtu/hr), provided that both of the following conditions apply:

1) The use of Tier 4 is not required.
2) The fuel provides less than 10 percent of the annual heat input to the unit, or if §98.36(c)(3) applies, to the group of units served by a common supply pipe.

The Tier 2 CO_2 calculation methodology is similar to the Tier 1 approach except that HHV values are used that are specific to the facility or emissions unit. The Tier 2 CO_2 calculation methodology can be used for emissions units greater than 250 MMBtu/hr only if pipeline quality natural gas or distillate fuel oil is used to fire these large emissions units.

The Tier 3 CO_2 calculation methodology is a refinement on Tiers 1 and 2 and incorporates a fuel-specific measured carbon content (CC) and molecular weight of the fuel. The Tier 3 CO_2 calculation methodology may be used for an emissions unit regardless of the heat input rating and will be used for a unit maximum rated heat input capacity greater than 250 MMBtu/hr that combusts any type of fuel listed in Table C-1 of the rule (except Municipal Solid Waste), unless the use of Tier 1 or 2 is permitted or the use of Tier 4 is required. Tier 3 will also be used for a fuel not listed in Table C-1 of the rule if the fuel is combusted in a unit with a maximum rated heat input capacity greater than 250 MMBtu/hr (or in a group of units served by a common supply pipe, having at least one unit with a maximum rated heat input capacity greater than 250 MMBtu/hr), provided that the use of Tier 4 is not required and the fuel provides 10% or more of the annual heat input to the unit or the group of units served by a common supply pipe. Tier 3 is also required when use of the tier is specified in another subpart, regardless of the unit's size.

The Tier 4 CO_2 calculation methodology must be used if the emissions unit fulfills each of the following six criteria cited at §98.33(b)(4), which reflects the use of CEMS measurements:

1) The unit has a maximum rated heat input capacity greater than 250 MMBtu/hr, or if the unit combusts municipal solid waste and has a maximum rated input capacity greater than 600 tons per day of MSW.

2) The unit combusts solid fossil fuel or MSW as the primary fuel.
3) The unit has operated for more than 1,000 hours in any calendar year since 2005.
4) The unit has installed CEMS that are required either by an applicable Federal or State regulation or the unit's operating permit.
5) The installed CEMS include a gas monitor of any kind or a stack gas volumetric flow monitor, or both and the monitors have been certified, either in accordance with the requirements of 40 CFR Part 75, Part 60 of this chapter, or an applicable State continuous monitoring program.
6) The installed gas or stack gas volumetric flow rate monitors are required, either by an applicable Federal or State regulation or by the unit's operating permit, to undergo periodic quality assurance testing in accordance with either Appendix B to 40 CFR Part 75, Appendix F to 40 CFR Part 60, or an applicable State continuous monitoring program.

3.2 GENERAL CH_4 AND N_2O CALCULATION PROCEDURES

There are no specific calculation tiers associated with determining the annual emissions of CH_4 and N_2O. The calculation tier that is used for calculating emissions of CO_2 determines the equation to be used for calculating emissions of CH_4 and N_2O. In all cases for CH_4 and N_2O, U.S. EPA emissions factors are used in the calculations.

3.3 CALCULATION AND REPORTING ALTERNATIVES

U.S. EPA provides calculation and reporting alternatives at §98.36(c) for certain configurations of stationary fuel combustion units. Certain facilities may be able to calculate and report GHG emissions for two or more qualified units on a combined basis if the units either combust common fuel(s), are served by the same fuel supply line or pipe, or share a monitored stack. These reporting alternatives are discussed in detail below.

3.3.1 Aggregation of Units

The Aggregation of Units reporting alternative at §98.36(c)(1) may be utilized by facilities containing two or more combustion units, each of which has a maximum rated heat input

capacity of 250 MMBtu/hr or less, provided that Tier 4 is not required or elected for any of the units and the units use the same tier for any common fuels combusted. The Filer City Mill takes advantage of the Aggregation of Units Approach in accordance with 40 CFR §98.36(c)(1). A list of the emissions units that the Mill reports GHG emissions according to the Aggregation of Units Approach along with each unit's heat input rating are provided in Table 3-1. The following subsections, which are organized according to fuel type, discuss the calculation tier methodologies and general monitoring requirements which apply to each group of aggregated units listed in Table 3-1.

3.3.1.1 Natural Gas

The Filer City Mill operates multiple natural gas-fired stationary combustion sources that utilize the Aggregation of Units Approach. Each of these units has a maximum rated heat input capacity of 250 MMBtu/hr or less. These units are supplied purchased natural gas via two independent supply lines that are each equipped with a unique fuel billing meter. As listed in Table 3-1, the natural gas-fired sources reporting under the Aggregation of Units Approach are identified as Group ID GP-001 and include EUBOILER1 (Boiler No. 1), EUBOILER2 (Boiler No. 2), and EUBOILER4A (Boiler No. 4A).

Since the Mill receives HHV data from each of the respective natural gas distribution companies at a frequency that meets the requirements of 40 CFR §98.34(a)(2)(i) (i.e., at least semi-annually), the Tier 2 calculation methodology is utilized to calculate GHG emissions for GP-001. The Mill determines the annual throughput of natural gas to the GP-001 aggregated source group in accordance with the Tier 2 requirements of §98.33(a)(2)(i), which in this case consists of monthly fuel billing meter records. In accordance with §98.33(a)(2)(ii)(A), the Mill determines the weighted annual average HHV of natural gas fired by GP-001 based upon measured HHV data that is received at least semi-annually and the natural gas throughput of GP-001 during each sample period.

A summary of the specific equations that are used to calculate GHG due to firing natural gas in GP-001, as well as example calculations for each type of GHG, are provided in Table 3-2.

3.3.1.2 Biogas

The Filer City Mill operates biogas-fired stationary combustion sources that each have a maximum rated heat input capacity of 250 MMBtu/hr or less, and utilizes the Aggregation of Units Approach. As listed in Table 3-1, the biogas-fired sources reporting under the Aggregation of Units Approach are identified as Group ID GP-002 and include Boiler No. 2, Boiler No. 4A, and EUBIOGASFLARE (Biogas Flare).

Since the Mill does not receive HHV data at a frequency that meets the requirements of 40 CFR §98.34(a)(2)(iii) (i.e., at least once per calendar quarter), the Tier 1 calculation methodology is utilized to calculate GHG emissions for GP-002. In accordance with the Tier 1 requirements of §98.33(a)(1)(i), the facility determines the annual throughput of biogas fired by GP-002 based on company records. Company records, in the case of GP-002, are quality-assured readings via Mill-owned fuel flow meters.

A summary of the specific equations that are used to calculate GHG due to firing biogas in GP-002, as well as example calculations for each type of GHG, are provided in Table 3-3.

3.3.2 Monitored Common Stack or Duct Configurations

The Monitored Common Stack or Duct Configuration approach at 40 CFR §98.36(c)(2) may be utilized when the gases from two or more stationary fuel combustion units at a facility are combined together in a common stack or duct before exiting to the atmosphere and if a CEMS is used to continuously monitor CO_2 mass emissions at the common stack or duct according to the Tier 4 Calculation Methodology. Although Boiler No. 1 and Boiler No. 2 share a common stack, a CEMS does not continuously monitor CO_2 mass emissions at this common stack. Therefore, this reporting alternative is not utilized for Boiler No. 1 and Boiler No. 2, or any other sources at the Mill.

3.3.3 Common Pipe Configurations

The Common Pipe Configuration approach at 40 CFR §98.36(c)(3) may be utilized for emissions units that are supplied a gaseous or liquid fuel via a common pipe, provided that the total amount of fuel combusted by the units is accurately measured at the common pipe or supply line using a

fuel flow meter (or, for natural gas, the amount of fuel combusted may be obtained from gas billing records), and there is no requirement for those units to use a Tier 4 CO_2 calculation methodology (see Section 3.1). Although the local natural gas distribution companies deliver natural gas to the Filer City Mill via two common pipelines and the billing records from these local distribution companies are used to determine natural gas throughput, the Mill has elected to report GHG emissions from certain natural gas-fired sources according to the Aggregation of Units approach in lieu of the Common Pipe Configuration approach.

3.4 SUBPART C INDIVIDUAL EMISSIONS UNIT CALCULATIONS

U.S. EPA provides calculation methodologies for stationary fuel combustion units at §98.33 and for pulp and paper manufacturing process sources at §98.273. A list of the Mill's individual combustion emissions units and process emissions units that are subject to 40 CFR Part 98 is provided in Table 2-1. These emissions units are discussed in further detail below.

3.4.1 EUBOILER1

EUBOILER1 (Boiler No. 1) is fired with multiple fuels and has a heat input rating of 240 MMBtu/hr. The only gaseous fuel that is fired in Boiler No. 1 is natural gas, which is accounted for under Aggregated Source Group GP-001. The calculations that the Mill uses to determine CO_2, CH_4, and N_2O emissions from Aggregated Source Group GP-001 are provided in Tables 3-2 and 3-4.

The Mill is permitted to fire coal in Boiler No. 1; however, coal is not currently combusted at the Mill due to Boiler Maximum Achievable Control Technology (MACT) compliance considerations (as per 40 CFR Part 63, Subpart DDDDD). The Mill is also permitted to fire No. 6 fuel oil and biogas in Boiler No. 1; however, Boiler No. 1 is not currently physically capable of firing either of these fuels. This GHG Monitoring Plan will be updated in the future should Boiler No. 1 commence firing of either coal, No. 6 fuel oil, or biogas.

3.4.2 EUBOILER2

EUBOILER2 (Boiler No. 2) is fired with multiple fuels and has a heat input rating of 186 MMBtu/hr. The gaseous fuels combusted in Boiler No. 2 are natural gas and biogas, where firing of natural gas is accounted for under Aggregated Source Group GP-001 and firing of biogas is accounted for under Aggregated Source Group GP-002. The calculations that the Mill uses to determine CO_2, CH_4, and N_2O emissions associated with natural gas combustion under Aggregated Source Group GP-001 are provided in Tables 3-2 and 3-5. The calculations that the Mill uses to determine CO_2, CH_4, and N_2O emissions associated with biogas combustion under Aggregated Source Group GP-002 are provided in Tables 3-3 and 3-5.

The Mill is permitted to fire coal in Boiler No. 2; however, coal is not currently combusted at the Mill due to Boiler MACT compliance considerations. The Mill is also permitted to fire No. 6 fuel oil in Boiler No. 2; however, Boiler No. 2 is not currently physically capable of firing this fuel.

The GHG Monitoring Plan will be updated in the future should Boiler No. 2 commence firing of coal or No. 6 fuel oil.

3.4.3 EUBOILER4A

EUBOILER4A (Boiler No. 4A) is fired with multiple fuels and has a heat input rating of 227 MMBtu/hr. Boiler No. 4A does not fire solid or liquid fuel; the gaseous fuels combusted are natural gas and biogas.

The calculations that the Mill uses to determine CO_2, CH_4, and N_2O emissions associated with natural gas combustion under Aggregated Source Group GP-001 are provided in Tables 3-2 and 3-6. The calculations that the Mill uses to determine CO_2, CH_4, and N_2O emissions associated with biogas combustion under Aggregated Source Group GP-002 are provided in Tables 3-3 and 3-6.

3.4.4 EUBIOGASFLARE

EUBIOGASFLARE (Biogas Flare) is used to burn biogas when Boiler No. 2 and Boiler No. 4A are not operating. The Biogas Flare has a heat input rating of 97 MMBtu/hr. The gaseous fuels combusted are biogas and a small amount of propane for the pilot burner. However, emissions from the pilot burner are exempt from reporting per 40 CFR §98.30(b)(4). The calculations that the Mill uses to determine CO_2, CH_4, and N_2O emissions associated with biogas combustion under Aggregated Source Group GP-002 are provided in Tables 3-3 and 3-7.

3.4.5 WWTP Building

A variety of small propane-fired combustion sources exist in the WWTP Building. Approximately 80% of this combustion is used to prevent waterlines and chemicals within the WWTP Building from crystallizing. The remaining combustion provides heat to the laboratory. Each combustion source within the WWTP Building has a heat input of less than 250 MMBtu/hr. The Mill utilizes the Tier 1 calculation methodology to calculate GHG emissions associated with the combustion of propane in the WWTP Building. In accordance with the Tier 1 requirements of §98.33(a)(1)(i), the Mill utilizes default values provided in 40 CFR Part 98 for HHV and determines the annual throughput of propane to the WWTP Building based on company records. Company records, in this case, consist of purchase records. The calculations that the Mill uses to determine CO_2, CH_4, and N_2O emissions, as well as example calculations using representative data for the WWTP Building, are provided in Table 3-8.

3.5 SUBPART AA INDIVIDUAL EMISSIONS UNIT CALCULATIONS

The procedures related to determining GHG emissions from pulp and paper mill process units under 40 CFR Part 98, Subpart AA include calculation methodologies for determining CO_2 emissions as well as CH_4 and N_2O emissions. At the Filer City Mill, the Copeland Reactor is the only emissions unit that is subject to 40 CFR Part 98, Subpart AA. In addition, the Filer City Mill adds sodium carbonate (Na_2CO_3) to the pulp for pH control and therefore triggers the requirements associated with 40 CFR §98.273(d).

3.5.1 EUCOPELAND

EUCOPELAND (Copeland Reactor) fires spent liquor solids derived from hardwood to recover pulping chemicals and is considered a "chemical recovery combustion unit at a stand-alone semi-chemical facility" under Subpart AA. The Copeland Reactor is capable of firing up to 50,000 lbs spent liquor solids/hr and has a rated heat input of 178.3 MMBtu/hr. All CO_2 emissions from black liquor solids (BLS) firing are biogenic. To calculate CO_2 emissions associated with the combustion of spent liquor solids in the Copeland Reactor, the Mill analyzes the CC of the spent liquor solids at least annually and monitors the mass of spent liquor solids fired using an online measurement system. To calculate CH_4 and N_2O emissions associated with the combustion of spent liquor solids in the Copeland Reactor, the Mill analyzes the HHV of the spent liquor solids at least annually and monitors the mass of spent liquor solids fired using an online measurement system. Per 40 CFR §98.273(b), as a stand-alone semichemical facility, PCA calculates CH_4 and N_2O emissions using default CH_4 and N_2O emissions factors for Kraft facilities in Table AA-1 of the rule.

Emissions from the Copeland Reactor are controlled by a natural gas-fired thermal oxidizer, which has a rated heat input of 50 MMBtu/hr. For start-up, shut-down, and load stabilization, the Copeland Reactor also fires natural gas.

Per 40 CFR §98.273 to Subpart AA, the Filer City Mill uses a Subpart C Tier 2 CO_2 calculation methodology, and the corresponding Subpart C calculation methodology for CH_4 and N_2O, to calculate natural gas combustion-related GHG emissions for the Copeland Reactor. Company records (i.e., from quality-assured natural gas fuel flow meters) are used to measure the volume of natural gas fired by the Copeland Reactor and thermal oxidizer.

A summary of the specific calculation methodologies and equations that are used for the Copeland Reactor with thermal oxidizer control, along with example calculations, are provided in Table 3-9.

3.5.2 Carbonate Make-up Chemical Usage

Under Subpart AA, the amount of carbonate make-up chemical usage per year must be determined. As indicated in Section 3.5, the Mill currently purchases Na_2CO_3 for use in the digesters for pH control. However, Calcium carbonate ($CaCO_3$) is not currently added to the Mill's pulping process. A summary of the specific equations that are used to calculate emissions of GHG due to carbonate make-up chemical usage is provided in Table 3-10.

3.6 SUBPART II INDIVIDUAL EMISSIONS UNIT CALCULATIONS

The procedures related to determining GHG emissions from industrial wastewater treatment plants under 40 CFR Part 98, Subpart II include calculation methodologies for determining CH_4 emissions. At the Filer City Mill, the Biogas Reactor is the only emissions unit that is subject to 40 CFR Part 98, Subpart II.

3.6.1 Biogas Reactors

The Mill's biogas generation system consists of a pre-acidification tank, a recycle/rapid mix tank, bioreactors, a biogas holder, a sludge tank, feed tanks, a biogas collection system with scrubber, and a sludge system. The bioreactors (Biogas Reactors) are considered anaerobic wastewater treatment reactors because they treat polished whitewater from the paper machines prior to being sent to the actual wastewater treatment plant. The actual wastewater treatment plant does not contain any anaerobic processes that are subject to Subpart II.

To quantify CH_4 emissions associated with the anaerobic treatment of polished whitewater, PCA Filer City monitors and records the following:

- Cumulative weekly volume of whitewater sent to Biogas Reactors.
- Weekly Average concentration of whitewater Chemical Oxygen Demand (COD) entering Biogas Reactors.
- Weekly average CH4 concentration of biogas (wet).
- Weekly average temperature at which biogas flow to EUBIOGASFLARE is measured.

- Cumulative weekly volumetric flow of biogas to EUBOILER2 and/or EUBOILER4A and/or EUBIOGASFLARE (wet).

Note that to determine the weekly volumetric flow of biogas to EUBIOGASFLARE, PCA relies upon measurements of biogas flow duration to EUBIOGASFLARE and the assumption that the rate of biogas flow from the reactors to EUBIOGASFLARE (when such flow occurs) is equivalent to the rate of biogas flow to EUBOILER4A during the same period of time. Specifically, PCA first monitors the duration of time that the temperature of EUBIOGASFLARE exceeds 400 degrees Fahrenheit (deg F), and regards temperatures above 400 deg F as biogas flow events to EUBIOGASFLARE. Next, PCA determines what fraction of the month's total hours included times of biogas flow to EUBIOGASFLARE and the fraction of the month's total hours that included times of biogas flow to EUBOILER4A. Once these respective fractions are known, PCA uses the calculated fractions along with the measured flowrate of biogas flow to EUBOILER4A (recorded by a flow meter installed immediately after the reactors and bypass to the flare, but prior to the powerhouse) to calculate the portion of biogas flow that was sent to EUBIOGASFLARE.

A summary of the specific equations that are used for the Biogas Reactors (Equations II-1, II-4, II-5, and II-6), along with example calculations, are provided in Table 3-11.

3.7 EXEMPT SOURCES AND FUELS

The Mill has identified several emissions units and "fuels" that are not required to be part of the GHG reporting program. Currently, the GHG rule exempts emissions units that qualify as portable and as emergency back-up units. The criteria that must be met for a unit to be classified as "portable" or as "emergency back-up" are listed in Table 3-12.

Other emissions units at the Mill that are not required to be included in the GHG reporting program are those sources for which U.S. EPA has not yet established reporting requirements within 40 CFR Part 98. The Mill recognizes that additional operations at the Mill could become

subject to subparts of the rule in the future that were not promulgated as of August 2019. The Mill will update the GHG Monitoring Plan as additional source categories applicable to operations at the Mill are regulated.

The GHG reporting rule does not require GHG emissions to be calculated for certain types of fuels. Guidance provided by U.S. EPA exempted non-condensable gases (NCGs), stripper off-gases (SOGs), and concentrated vent gases (CVGs) from being included as fuels for which GHG emissions must be calculated. In addition, fuels not listed in Table C-1 of 40 CFR Part 98 that meet both of the following criteria do not need to be included:

- The fuel is fired in a combustion unit not required to utilize Tier 4 methodology, and
- For Tier 3 units, the fuel supplies less than 10% of the annual heat input to either the emissions unit or a group of emissions units that are reporting according to the common pipe configuration approach.

3.8 PROCEDURES FOR REPLACING MISSING DATA

Summaries of the types of data that the Filer City Mill is required to measure pursuant to 40 CFR Part 98 are included as Table 3-13 through Table 3-17. These summaries may be utilized by the Mill for the purposes of day-to-day recordkeeping activities and for identifying those circumstances when it is necessary to utilize missing data procedures in GHG calculations.

The Mill will use source-specific procedures for replacing missing data. The requirements of 40 CFR §98.35 address missing data related to stationary fuel combustion, the requirements of 40 CFR §98.275 address missing data associated with pulp and paper manufacturing, and the requirements of 40 CFR §98.355 address missing data associated with industrial wastewater treatment. The Filer City Mill recognizes that missing data are due to uncontrollable circumstances and not a failure on the part of the Mill to maintain equipment, to operate equipment properly, to plan for foreseeable problems, or to have personnel follow proper procedures. The missing data procedures apply to required parameters that are subject to some form of QA and are used in the computation of GHG emissions.

U.S. EPA requires additional information to justify and explain the circumstances involving the replacement of missing data. Specifically, annual records will be kept of multiple items, including a list of missing data elements, how missing data were replaced, actions to restore malfunctioning equipment, and actions taken to prevent future malfunctions. Periods of data that are missing due to calibrations and maintenance activities will also be treated as missing data. The Mill will supply the appropriate information concerning missing data as part of the annual GHG inventory submittal.

3.8.1 Missing Data for Stationary Fuel Combustion (Subpart C)

The missing data requirements for stationary fuel combustion apply to two general types of emissions units: emissions units subject to or required to report following the Acid Rain Program (ARP) and emissions units subject to CO_2 calculation methodologies listed at 40 CFR §98.33(a)(1)-(4). The Filer City Mill does not report any emissions in accordance with the Acid Rain Program (ARP); therefore, all emissions units reporting GHG are subject to the missing data procedures related to 40 CFR §98.33(a)(1)-(4).

Emissions units at the Filer City Mill use a combination of Tier 1 and Tier 2 Calculation Methodologies since all of the fuels fired are identified in Table C-1 of 40 CFR Part 98 and there are no CEMS installed. As a result, the types of missing data that could occur are limited to HHV (natural gas) and fuel usage data (natural gas, biogas, and propane).

Missing HHV Data (Subpart C)

The Tier 2 calculation methodology requires that HHV data for each Tier 2 fuel fired be analyzed (by either the supplier or Mill) according to the frequencies and methods provided in §98.34. Per §98.34(a)(2)(1)(i), semi-annual sampling and analysis of natural gas HHV is required (i.e., twice per calendar year, with consecutive samples taken at least four months apart). Since the Mill obtains HHV data directly from its natural gas suppliers, it is not necessary for the Mill to coordinate analysis of its natural gas. However, it is necessary for the Mill to average HHV data received from its suppliers, or replace missing data in accordance with 40 CFR Part 98 requirements.

As specified in §98.33, if the results of fuel sampling and analysis are received less frequently than monthly, then the annual average HHV for that fuel will be calculated as either the arithmetic average HHV for all values for the year (including valid samples and substitute data values under §98.35) or as a weighted annual average per Equation C-2b of Subpart C. If the results of fuel sampling are received monthly or more frequently, then the Mill must use Equation C-2b to determine a weighted annual average HHV of natural gas.

For each fuel-specific HHV that is missing, an arithmetic average will be used as a replacement value. The arithmetic average will be calculated using the quality-assured HHV value immediately preceding and immediately following the missing data incident. If a quality-assured "after" value has not been obtained by the time the GHG emissions report is due, then the quality-assured "before" value for missing data substitution or the best available estimate of the parameter, based on all available process data (e.g., electrical load, steam production, operating hours), will be used. If no quality-assured "before" value is available prior to the missing data incident, then the substitute data value will be the first quality-assured value obtained after the missing data period.

Missing Fuel Usage Data (Subpart C)

The Mill utilizes fuel usage data for natural gas, biogas, and propane to calculate emissions under the Tiers 1 and 2 calculation methodologies. For missing natural gas, biogas, or propane fuel usage data, the Mill will substitute missing data with the best available estimate of fuel usage based on all available process data. The Mill will document and retain records of the procedures used for all such estimates.

3.8.2 Missing Data for Pulp and Paper Manufacturing (Subpart AA)

In addition to the parameters of fuel usage and HHV required under Subpart C, for those emissions units regulated under 40 CFR Part 98, Subpart AA, the Filer City Mill uses black liquor analyses and carbonate make-up chemical purchase records to determine process-related GHG emissions. The potential for missing data to affect the GHG emission calculations from emissions units at sources regulated under Subpart AA is relatively low. Therefore, the Mill has developed limited missing data procedures relative to Subpart AA emissions units.

Missing Copeland Reactor Data (Subpart AA)

The Mill will follow the missing data procedures outlined in Subpart C for parameters related to the firing of fossil-fuel in the Copeland Reactor with thermal oxidizer control, and will follow the missing data procedures outlined in Subpart AA for parameters used to calculate biogenic emissions due to the firing of spent liquor solids.

The Mill utilizes an online measurement system to measure the flow of spent liquor solids fired in the Copeland Reactor with thermal oxidizer control. If a value related to the amount of spent liquor solids fired is missing, then the Mill will substitute the lesser value of either the maximum mass or flow rate of the Copeland Reactor with thermal oxidizer control, or the maximum mass or flow rate that the measurement system can measure.

The Mill recognizes that 40 CFR Part 98 does not include missing data provisions for spent liquor solids HHV or CC sampling data and therefore, ensures, that at least one analysis of black liquor HHV and CC is performed annually. Additional analyses will be performed at the discretion of the Mill.

Missing Chemical Make-up Data (Subpart AA)

The Mill uses purchase records to determine the mass of carbonate make-up chemicals that are added to the Mill's pulping process. The possibility of an occurrence involving a missing purchase record involving carbonate is extremely low since the Mill does not routinely purchase carbonate make-up chemicals and back-up purchasing records are maintained by the Mill and the Mill's vendors. Thus, there are no missing data procedures for carbonate make-up chemical data.

3.8.3 Missing Data for Industrial Wastewater Treatment (Subpart II)

The Filer City Mill monitors and records the following parameters in accordance with Subpart II:

- Cumulative weekly volume of whitewater sent to Biogas Reactors.
- Weekly average concentration of whitewater Chemical Oxygen Demand (COD) entering Biogas Reactors.
- Cumulative weekly volumetric flow of biogas recovered.

- Weekly average CH_4 concentration of biogas.

Missing Whitewater Flow Data (Subpart II)

Pursuant to 40 CFR §98.355(a), for each missing weekly measurement of whitewater flow to the Biogas Reactors' wastewater treatment process, the substitute data value must be the arithmetic average of the quality-assured values of those parameters for the week immediately preceding and the week immediately following the missing data incident.

The Mill utilizes an online measurement system to measure the flow of whitewater to the Biogas Reactors. If a value related to the whitewater flow is missing, then the Mill will calculate the arithmetic average of the quality-assured values of that parameter for the week immediately preceding and the week immediately following the missing data incident.

Missing Chemical Oxygen Demand Data (Subpart II)

Pursuant to 40 CFR §98.355(a), for each missing weekly average concentration of whitewater COD entering the Biogas Reactors' wastewater treatment process, the substitute data value must be the arithmetic average of the quality-assured values of those parameters for the week immediately preceding and the week immediately following the missing data incident.

The Mill measures COD using Method 5220D, an accepted method cited in Table 1B of 40 CFR §136.3 (40 CFR §98.354(b). If a weekly average value related to the whitewater COD is missing, then the Mill will calculate the arithmetic average of the quality-assured values of that parameter for the week immediately preceding and the week immediately following the missing data incident.

Missing Biogas Flow Data (Subpart II)

Pursuant to 40 CFR §98.355(b), for each missing weekly measurement of biogas recovered by the reactors, the substitute data value must be the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident.

The Mill utilizes an online measurement system to measure the flow of biogas that is recovered by the reactors. The online measurement system consists of a calibrated multivariable flow meter installed immediately after the reactors and bypass to the flare, but prior to the powerhouse. If a weekly value related to the biogas flow is missing, then the Mill will calculate the arithmetic average of the quality-assured values of that parameter for the week immediately preceding and the week immediately following the missing data incident.

Missing Biogas Methane Concentration Data (Subpart II)

Pursuant to 40 CFR §98.355(b), for each missing weekly average value of biogas CH_4 content, the substitute data value must be the arithmetic average of the quality-assured values of that parameter immediately preceding and immediately following the missing data incident.

The Mill utilizes an online measurement system to measure the CH_4 concentration of the generated biogas. If a weekly average value of the biogas CH_4 concentration is missing, then the Mill will calculate the arithmetic average of the quality-assured values of that parameter for the week immediately preceding and the week immediately following the missing data incident.

3.9 INFORMATION TO BE REPORTED ANNUALLY

The Filer City Mill will electronically submit an annual GHG Summary Report to U.S. EPA via the Electronic Greenhouse Gas Reporting Tool (e-GGRT) database no later than March 31st (or as prescribed by U.S. EPA) of each calendar year for GHG emissions associated with each previous calendar year. The information that is to be included in each annual GHG Summary Report, and the provisions for allowing use of alternative verification software in lieu of reporting certain unit-specific information, is specified at 40 CFR §98.3(c), §98.36, §98.276, and §98.356 for Subparts A, C, AA, and II, respectively. For informational purposes, the types of data U.S. EPA requires to be reported for each of the three subparts are summarized in Table 3-21 through Table 3-29. These tables are provided for informational purposes only. As stated above, the Mill electronically submits each annual GHG Summary Report via U.S. EPA's e-GGRT database, and the e-GGRT database requires manual entry of each type of data specified at 40 CFR §98.3(c), §98.36, §98.276, and §98.356.

Table 3-1
Summary of Aggregated Source Groups
Packaging Corporation of America - Filer City, MI Mill

Group ID	Unit Descriptions	Maximum Rated Heat Capacity (MMBtu/hr)	Fuel Type	Fuel Meters	CO_2 Calculation Tier
GP-001	Boiler No. 1	240 MMBtu/hr	Natural Gas	Michicon Gas Meters Nos. 9651999 and 9600227 Michicon Gas Meter No. 3 Michicon Gas Meter No. 4 Michicon Gas Meter No. 6740893 West Bay Gas Meter No. 00-0800218 West Bay Gas Meter No. 00-0600221	Tier 2
	Boiler No. 2	186 MMBtu/hr			
	Boiler No. 4A	227 MMBtu/hr			
GP-002	Boiler No. 2	186 MMBtu/hr	Biogas	Mill-Owned Boiler No. 2 Biogas Meter Mill-Owned Boiler No. 4A Biogas Meter Mill-Owned Biogas Flare Temperature Monitor	Tier 1
	Boiler No. 4A	227 MMBtu/hr			
	Biogas Flare	97 MMBtu/hr			

(a) The Mill independently calculates and reports GHG emissions resulting from firing other fuels in the combustion sources.

(b) The natural gas companies supply HHV data to the Mill on a semi-annual basis, with at least four months between each analysis.

GHG Sample Calculations

GP-001 Natural Gas Fuel Throughput	Annual Volume of Natural Gas Fired in GP-001 (scf) = [Natural Gas Fired by Boiler No. 1 (Michicon Gas Meters Nos. 9651999 and 9600227)] + [Natural Gas Fired By Boiler No. 1 (West Bay Gas Meter No. 00-0800218)] + [Natural Gas Fired by Boiler No. 2 (Michicon Gas Meter No. 3 and 4] + [Natural Gas Fired by Boiler No. 4A (Michicon Gas Meter No. 6740893)] + [Natural Gas Fired by Boilers No. 2 and No. 4A (Shared West Bay Gas Meter No. 00-0600221)]
GP-002 Biogas Fuel Throughput	Annual Volume of Biogas Fired in GP-002 (scf) = [Biogas Fired by Boiler No. 2 (Mill-owned Biogas Meter) + Biogas Fired by Boiler No. 4A (Mill-owned Biogas Meter) + Biogas Fired by Biogas Flare (Temperature Monitor)]

Table 3-2
GP-001 Calculation Approach and Sample Calculations
Packaging Corporation of America - Filer City, MI Mill

Max Rated Heat Input: 240 MMBtu/hr **Aggregation Approach:** Yes **CO_2 CEM Operating:** No **Sorbent Used:** No
Common Pipe Approach: No **Common Stack Approach:** No **Biogenic Emissions:** No

GHG Calculation Approach

Fuel	Usage Units	Frequency of HHV Analysis	Carbon Content	Biogenic	CO_2 Calculation Tier	CO_2 Calculation Equation	CH_4/N_2O Calculation Equation
Natural Gas	cubic feet	Semi-Annually [(a)]	N/A	No	2	C-2a, C-2b	C-9a

[(a)] The Mill obtains HHV data from the natural gas suppliers.

GHG Sample Calculations

Equation	Sample Calculation
C-2a	GP-001 CO_2 (metric tons) = ($1x10^{-03}$) x (annual volume of natural gas fired in Boiler No. 1, Boiler No. 2, and Boiler No. 4a) x (HHV per Eq. C-2b) x (Table C-1 Emission Factor)
C-2b	$HHV_{(annual)} = \frac{\sum_{i-1}^{n} ((HHV)_i \times (Fuel)_i)}{\sum_{i=1}^{n} (Fuel)_i}$ Where: $(HHV)_{annual}$ = Weighted annual average HHV of the fuel (MMBtu per volume) $(HHV)_i$ = Measured high heat value of the fuel, for sample period "i" (which may be arithmetic average of multiple determinations), or, if applicable, an appropriate substitute data value (MMBtu per volume) $(Fuel)_i$ = Volume of the fuel combusted during the sample period "i" (i.e., semi-annually) from company records (in standard cubic feet) n = Number of sample periods in year
C-9a	GP-001 CH_4 (metric tons) = ($1x10^{-03}$) x (annual volume of natural gas fired in Boiler No. 1, Boiler No. 2, and Boiler No. 4a) x (HHV per Eq. C-2b) x (Table C-2 Emission Factor) GP-001 N_2O (metric tons) = ($1x10^{-03}$) x (annual volume of natural gas fired in Boiler No. 1, Boiler No. 2, and Boiler No. 4a) x (HHV per Eq. C-2b) x (Table C-2 Emission Factor)

Table 3-3
GP-002 Calculation Approach and Sample Calculations
Packaging Corporation of America - Filer City, MI Mill

Max Rated Heat Input: 227 MMBtu/hr | **Aggregation Approach:** Yes | **CO_2 CEM Operating:** No | **Sorbent Used:** No
Common Pipe Approach: No | **Common Stack Approach:** No | **Biogenic Emissions:** Yes

GHG Calculation Approach

Fuel	Usage Units	Frequency of HHV Analysis	Carbon Content	Biogenic	CO_2 Calculation Tier	CO_2 Calculation Equation	CH_4/N_2O Calculation Equation
Biogas	cubic feet	N/A	N/A	Yes	1	C-1	C-8

GHG Sample Calculations

Equation	Sample Calculation
C-1	GP-002 CO_2 (metric tons) = ($1x10^{-03}$) x (annual volume of biogas fired in Boiler No. 2, Boiler No. 4a, and Biogas Flare) x (HHV per Table C-1) x (Table C-1 Emission Factor)
C-8	GP-002 CH_4 (metric tons) = ($1x10^{-03}$) x (annual volume of biogas fired in Boiler No. 2, Boiler No. 4a, and Biogas Flare) x (HHV per Table C-1) x (Table C-2 Emission Factor)
	GP-002 N_2O (metric tons) = ($1x10^{-03}$) x (annual volume of biogas fired in Boiler No. 2, Boiler No. 4a, and Biogas Flare) x (HHV per Table C-1) x (Table C-2 Emission Factor)

Table 3-4
EUBOILER1 Calculation Approach and Sample Calculations
Packaging Corporation of America - Filer City, MI Mill

Heat Input: 240 MMBtu/hr **Aggregation Approach:** Yes (Natural Gas) **CO_2 CEM Operating:** No **Sorbent Used:** No
Common Pipe Approach: No **Common Stack Approach:** No **Biogenic Emissions:** No

GHG Calculation Approach

Fuel	Usage Units	Frequency of HHV Analysis	Carbon Content	Biogenic	CO_2 Calculation Tier	CO_2 Calculation Equation	CH_4/N_2O Calculation Equation
Natural Gas	cubic feet	Semi-Annually[(a)]	N/A	No	2	C-2a, C-2b	C-9a

[(a)] The Mill obtains natural gas HHV data from the suppliers.

[(b)] Emissions due to firing natural gas in EUBOILER1 are calculated and accounted for under group GP-001 using the aggregated emissions unit approach detailed in Tables 3-1 and 3-2.

GHG Sample Calculations

Equation	Sample Calculation
C-2a	Refer to Table 3-2.
C-2b	Refer to Table 3-2.
C-9a	Refer to Table 3-2.
	Refer to Table 3-2.

Table 3-5
EUBOILER2 Calculation Approach and Sample Calculations
Packaging Corporation of America - Filer City, MI Mill

Heat Input: 186 MMBtu/hr **Aggregation Approach:** Yes (Natural Gas, Biogas) **CO_2 CEM Operating:** No **Sorbent Used:** No
Common Pipe Approach: No **Common Stack Approach:** No **Biogenic Emissions:** Yes (Biogas)

GHG Calculation Approach

Fuel	Usage Units	Frequency of HHV Analysis	Carbon Content	Biogenic	CO_2 Calculation Tier	CO_2 Calculation Equation	CH_4/N_2O Calculation Equation
Natural Gas	cubic feet	Semi-Annually [(a)]	N/A	No	2	C-2a, C-2b	C-9a
Biogas	cubic feet	N/A	N/A	Yes	1	C-1	C-8

[(a)] The Mill obtains natural gas HHV data from the suppliers.

[(b)] Emissions due to firing natural gas and biogas in EUBOILER2 are calculated and accounted for under groups GP-001 and GP-002, respectively, using the aggregated emissions unit approach detailed in Tables 3-1 through 3-3.

GHG Sample Calculations

Equation	Sample Calculation
C-2a	Refer to Table 3-3.
C-2b	Refer to Table 3-3.
C-9a	Refer to Table 3-3.
	Refer to Table 3-3.

Table 3-6
EUBOILER4A Calculation Approach and Sample Calculations
Packaging Corporation of America - Filer City, MI Mill

Heat Input: 227 MMBtu/hr | **Aggregation Approach:** Yes (Natural Gas, Biogas) | **CO_2 CEM Operating:** No | **Sorbent Used:** No
Common Pipe Approach: No | **Common Stack Approach:** No | **Biogenic Emissions:** Yes (Biogas)

GHG Calculation Approach

Fuel	Usage Units	Frequency of HHV Analysis	Carbon Content	Biogenic	CO_2 Calculation Tier	CO_2 Calculation Equation	CH_4/N_2O Calculation Equation
Natural Gas	cubic feet	Semi-Annually [(a)]	N/A	No	2	C-2a, C-2b	C-9a
Biogas	cubic feet	N/A	N/A	Yes	1	C-1	C-8

[(a)] The Mill obtains natural gas HHV data from the suppliers.

[(b)] Emissions due to firing natural gas and biogas in EUBOILER4A are calculated and accounted for under groups GP-001 and GP-002, respectively, using the aggregated emissions unit approach detailed in Tables 3-1 through 3-3.

GHG Sample Calculations

Equation	Sample Calculation
C-1	Refer to Table 3-3.
C-2a	Refer to Table 3-2.
C-2b	Refer to Table 3-2.
C-8	Refer to Table 3-3.
C-9a	Refer to Table 3-2.

Table 3-7
EUBIOGASFLARE Calculation Approach and Sample Calculations
Packaging Corporation of America - Filer City, MI Mill

Heat Input: 97 MMBtu/hr **Aggregation Approach:** Yes (Biogas) **CO_2 CEM Operating:** No **Sorbent Used:** No
Common Pipe Approach: No **Common Stack Approach:** No **Biogenic Emissions:** Yes (Biogas)

GHG Calculation Approach

Fuel	Usage Units	Frequency of HHV Analysis	Carbon Content	Biogenic	CO_2 Calculation Tier	CO_2 Calculation Equation	CH_4/N_2O Calculation Equation
Biogas	cubic feet	N/A	N/A	Yes	1	C-1	C-8

[(a)] Emissions due to firing biogas in EUBIOGASFLARE are calculated and accounted for under group GP-002 using the aggregated emissions unit approach detailed in Tables 3-1 and 3-3.

GHG Sample Calculations

Equation	Sample Calculation
C-1	Refer to Table 3-3 (biogas).
C-8	Refer to Table 3-3 (biogas).

Table 3-8
WWTP Building GHG Calculation Approach and Sample Calculations
Packaging Corporation of America - Filer City, MI Mill

Heat Input: 1.2 MMBtu/hr **Aggregation Approach:** No **CO_2 CEM Operating:** No **Sorbent Used:** No
Common Pipe Approach: No **Common Stack Approach:** No **Biogenic Emissions:** No

GHG Calculation Approach

Fuel	Usage Units	Frequency of HHV Analysis	Carbon Content	Biogenic	CO_2 Calculation Tier	CO_2 Calculation Equation	CH_4/N_2O Calculation Equation
Propane	gallons	N/A	N/A	No	1	C-1	C-8

GHG Sample Calculations

Equation	Sample Calculation
C-1	WWTP Building CO_2 (metric tons) = ($1x10^{-03}$) x (annual volume of propane fired from purchase records) x (Table C-1 default HHV) x (Table C-1 Emission Factor)
C-8	WWTP Building CH_4 (metric tons) = ($1x10^{-03}$) x (annual volume of propane fired from purchase records) x (Table C-1 default HHV) x (Table C-2 Emission Factor)
	WWTP Building N_2O (metric tons) = ($1x10^{-03}$) x (annual volume of propane fired from purchase records) x (Table C-1 default HHV) x (Table C-2 Emission Factor)

Table 3-9
EUCOPELAND GHG Calculation Approach and Sample Calculations
Packaging Corporation of America - Filer City, MI Mill

Heat Input: 178.3 MMBtu/hr **Biogenic Emissions:** Yes **Sorbent Used:** No
Spent Liquor Solids Firing Rate: 50,000 lbs/hr **Spent Liquor Solids Type:** Hardwood

GHG Calculation Approach

Fuel	Usage Units	Frequency of HHV Analysis	Frequency of Carbon Content Analysis	Biogenic	CO_2 Calculation Tier	CO_2 Calculation Equation	CH_4/N_2O Calculation Equation
Spent Liquor Solids	short tons	Annually[(a)]	Annually[(a)]	Yes	N/A	AA-2	AA-1
Natural Gas	cubic feet	Semi-Annually[(b)]	N/A	No	2	C-2a, C-2b	C-9a

[(a)] The Mill is responsible for coordinating sampling and analysis of spent liquor solids HHV and carbon content at least once per year.

[(b)] The Mill obtains natural gas HHV data from the natural gas supplier.

GHG Sample Calculations

Equation	Sample Calculation
AA-1	EUCOPELAND CH_4, or $N_2O_{(hardwood\ spent\ liquor\ solids)}$ (metric tons) = (0.90718) x (mass of spent liquor solids combusted) x (measured hardwood spent liquor solids HHV) x (Table AA-1 Hardwood Emission Factor)
AA-2	EUCOPELAND $CO_{2(hardwood\ spent\ liquor\ solids)}$ (metric tons) = (44/12) * (mass of spent liquor solids combusted) x (carbon content of spent liquor solids) x (0.90718)
C-2a	EUCOPELAND $CO_{2(natural\ gas)}$ (metric tons) = ($1x10^{-03}$) x (annual volume of natural gas fired) x (HHV per Eq. C-2b) x (Table C-1 Emission Factor)
C-2b	$HHV_{(annual)} = \frac{\sum_{i=1}^{n}((HHV)_i \times (Fuel)_i)}{\sum_{i=1}^{n}(Fuel)_i}$ Where: $(HHV)_{annual}$ = Weighted annual average HHV of the fuel (MMBtu per volume) $(HHV)_i$ = Measured high heat value of the fuel, for sample period "i" (which may be arithmetic average of multiple determinations), or, if applicable, an appropriate substitute data value (MMBtu per volume) $(Fuel)_i$ = Volume of the fuel combusted during the sample period "i" (i.e., semi-annually) from company records (in standard cubic feet) n = Number of sample periods in year
C-9a	EUCOPELAND $CH_{4(natural\ gas)}$ (metric tons) = ($1x10^{-03}$) x (annual volume of natural gas fired) x (HHV per Eq. C-2b) x (Table C-2 Emission Factor) EUCOPELAND $N_2O_{(natural\ gas)}$ (metric tons) = ($1x10^{-03}$) x (annual volume of natural gas fired) x (HHV per Eq. C-2b) x (Table C-2 Emission Factor)

Table 3-10
Carbonate Purchase Make-Up Chemical GHG Calculation Approach and Sample Calculations
Packaging Corporation of America - Filer City, MI Mill

Heat Input: N/A **Aggregation Approach:** N/A **CEM Operating:** N/A
Common Pipe Approach: N/A **Common Stack Approach:** N/A **Biogenic Emissions:** N/A

GHG Calculation Approach

Type of Carbonate Make-Up Chemical Purchased	Usage Units	CO_2 Calculation Tier	CO_2 Calculation Equation	CH_4/N_2O Calculation Equation
Sodium Carbonate (Na_2CO_3)	Metric tons	N/A	AA-3	N/A

GHG Sample Calculations

Equation	Sample Calculation
AA-3	CO_2 (metric tons) = (Mass of Sodium Carbonate x 44/105.99) x 1000

Table 3-11
Biogas Reactors GHG Calculation Approach and Sample Calculations
Packaging Corporation of America - Filer City, MI Mill

GHG Sample Calculations

Equation	Sample Calculation
II-1	$CH_4G_n = \sum_{w=1}^{52}[Flow_w * COD_w * B_o * MCF * 0.001]$ Where: CH_4G_n = Annual mass CH_4 generated from the nth anaerobic wastewater treatment process (metric tons). n = Index for processes at the facility, used in Equation II-7. w = Index for weekly measurement period. $Flow_w$ = Volume of wastewater sent to an anaerobic wastewater treatment process in week w (m^3/week), measured as specified in §98.354(d). COD_w = Average weekly concentration of chemical oxygen demand of wastewater entering an anaerobic wastewater treatment process (for week w)(kg/m^3), measured as specified in §98.354(b) and (c). B_0 = Maximum CH_4 producing potential of wastewater (kg CH_4/kg COD), use the value 0.25. MCF = CH_4 conversion factor, based on relevant values in Table II-1 of this subpart. 0.001 = Conversion factor from kg to metric tons.
II-4	$R_n = \sum_{m=1}^{M}\left[(V)_m * (K_{MC})_m * \frac{(C_{CH_4})_m}{100\%} * 0.0423 * \frac{520°R}{(T)_m} * \frac{(P)_m}{1\ atm} * \frac{0.454}{1,000}\right]$ Where: Rn = Annual quantity of CH_4 recovered from the nth anaerobic reactor, sludge digester, or lagoon (metric tons CH_4/yr) n = Index for processes at the facility, used in Equation II-7. M = Total number of measurement periods in a year. Use M = 365 (M = 366 for leap years) for daily averaging of continuous monitoring, as provided in paragraph (c)(1)of this section. Use M = 52 for weekly sampling, as provided in paragraph (c)(2)of this section. m = Index for measurement period. Vm = Cumulative volumetric flow for the measurement period in actual cubic feet (acf). If no biogas was recovered during a monitoring period, use zero. (KMC)m = Moisture correction term for the measurement period, volumetric basis. = 1 when (V)m and (CCH4)m are measured on a dry basis or if both are measured on a wet basis. = 1−(fH2O)m when (V)m is measured on a wet basis and (CCH4)m is measured on a dry basis. = 1/[1−(fH2O)m] when (V)m is measured on a dry basis and (CCH4)m is measured on a wet basis. (fH2O)m = Average moisture content of biogas during the measurement period, volumetric basis, (cubic feet water per cubic feet biogas). (CCH4)m = Average CH_4 concentration of biogas during the measurement period, (volume %). 0.0423 = Density of CH_4 lb/cf at 520 °R or 60 °F and 1 atm.
II-5	$CH_4L_n = R_n * \left(\frac{1}{CE} - 1\right)$ (Eq. II-5) Where: CH_4L_n = Leakage at the anaerobic process n (metric tons CH_4). n = Index for processes at the facility, used in Equation II-7. R_n = Annual quantity of CH_4 recovered from the nth anaerobic reactor, anaerobic lagoon, or anaerobic sludge digester, as calculated in Equation II-4 of this section (metric tons CH_4). CE = CH_4 collection efficiency of anaerobic process n, as specified in Table II-2 of this subpart (decimal).
II-6	$CH_4E_n = CH_4L_n + R_n\ (1- [\ (DE_1 * f_{Dest\_1}) + (DE_2 * f_{Dest\_2})])$ (Eq. II-6) Where: CH_4E_n = Annual quantity of CH_4 emitted from the process n from which biogas is recovered (metric tons). n = Index for processes at the facility, used in Equation II-7. CH_4L_n = Leakage at the anaerobic process n, as calculated in Equation II-5 of this section (metric tons CH_4). R_n = Annual quantity of CH_4 recovered from the nth anaerobic reactor or anaerobic sludge digester, as calculated in Equation II-4 of this section (metric tons CH_4). DE_1 = Primary destruction device CH_4 destruction efficiency (lesser of manufacturer's specified destruction efficiency and 0.99). If the biogas is transported off-site for destruction, use DE = 1. fDest_1 = Fraction of hours the primary destruction device was operating calculated as the annual hours when the destruction device was operating divided by the annual operating hours of the biogas recovery system. If the biogas is transported off-site for destruction, use f_{Dest} = 1. DE_2 = Back-up destruction device CH_4 destruction efficiency (lesser of manufacturer's specified destruction efficiency and 0.99). fDest_2 = Fraction of hours the back-up destruction device was operating calculated as the annual hours when the destruction device was operating divided by the annual operating hours of the biogas recovery system.

[(a)] Per §98.358, "weekly average" means the sum of all values measured in a calendar week divided by the number of measurements.

Table 3-12
Exempt Emissions Unit Criteria
Packaging Corporation of America - Filer City, MI Mill

Exempt Equipment Type	Criteria	Exempt Emissions Units
Portable Equipment	Designated and capable of being carried or moved from one location to another. Indications of portability include but are not limited to wheels, skids, carrying handles, dolly, trailer, or platform. Equipment is not portable if any one of the following conditions exists: (1) The equipment is attached to a foundation. (2) The equipment or a replacement resides at the same location for more than 12 consecutive months. (3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least two years, and operates at that facility for at least three months each year. (4) The equipment is moved from one location to another in an attempt to circumvent the portable residence time requirements of this definition.	Yes
Emergency Generators	A stationary combustion device, such as a reciprocating internal combustion engine or turbine that serves solely as a secondary source of mechanical or electrical power whenever the primary energy supply is disrupted or discontinued during power outages or natural disasters that are beyond the control of the owner or operator of the facility. An emergency generator operates only during emergency situations, for training of personnel under simulated emergency conditions, as part of emergency demand response procedures, or for standard performance testing procedures as required by law or by the generator manufacturer. A generator that serves as a back-up power source under conditions of load shedding, peak shaving, power interruptions pursuant to an interruptible power service agreement, or scheduled facility maintenance shall not be considered an emergency generator.	Yes
Emergency Equipment	Any auxiliary fossil fuel-powered equipment, such as a fire pump, that is used only in emergency situations.	Yes

Table 3-13
Verification of Reporting Requirements – GP-001

GP-001 CALCULATION METHODOLOGY REPORTING REQUIREMENTS					
Total Quantity of ***Natural Gas*** Combusted per month in ***GP-001*** (scf)					
January		May		September	
February		June		October	
March		July		November	
April		August		December	

Number and Frequency of Required Higher Heating Value (HHV) Determinations per Reporting Period	***Two***	***Semi-Annually***

Fuel HHV (as used in Equation C-2a and C-9a)				
Month	HHV	Units	Measured or Substituted Data	Test Method (§98.7)
January		MMBtu/scf	Measured ☐ Substituted ☐	
February		MMBtu/scf	Measured ☐ Substituted ☐	
March		MMBtu/scf	Measured ☐ Substituted ☐	
April		MMBtu/scf	Measured ☐ Substituted ☐	
May		MMBtu/scf	Measured ☐ Substituted ☐	
June		MMBtu/scf	Measured ☐ Substituted ☐	
July		MMBtu/scf	Measured ☐ Substituted ☐	
August		MMBtu/scf	Measured ☐ Substituted ☐	
September		MMBtu/scf	Measured ☐ Substituted ☐	
October		MMBtu/scf	Measured ☐ Substituted ☐	
November		MMBtu/scf	Measured ☐ Substituted ☐	
December		MMBtu/scf	Measured ☐ Substituted ☐	

Table 3-14
Verification of Reporting Requirements – GP-002

GP-002 CALCULATION METHODOLOGY REPORTING REQUIREMENTS					
Total Quantity of ***Biogas*** Combusted per month in ***GP-002*** (scf)					
January		May		September	
February		June		October	
March		July		November	
April		August		December	
Number and Frequency of Required Higher Heating Value (HHV) Determinations per Reporting Period		***N/A***		***N/A***	

Table 3-15
Verification of Reporting Requirements – WWTP Building

WWTP Building CO_2 CALCULATION METHODOLOGY REPORTING REQUIREMENTS					
Total Quantity of ***Propane*** Combusted per month in ***WWTP Building*** (gallons)					
January		May		September	
February		June		October	
March		July		November	
April		August		December	
Number and Frequency of Required Higher Heating Value (HHV) Determinations per Reporting Period		***N/A***		***N/A***	
Fuel HHV (as listed in Table C-1) ***0.091 MMBtu/gallon***					

Table 3-16
Verification of Reporting Requirements – EUCOPELAND

EUCOPELAND CO_2 CALCULATION METHODOLOGY REPORTING REQUIREMENTS					
Total Quantity of ***BLS*** Combusted per month in ***EUCOPELAND*** (short tons)					
January		May		September	
February		June		October	
March		July		November	
April		August		December	

Number and Frequency of Required Higher Heating Value (HHV) Determinations per Reporting Period	***One***	***Annually***

Fuel HHV (as used in Equation AA-1)				
Month	HHV	Units	Measured or Substituted Data	Test Method (§98.7)
January		MMBtu/short ton	Measured ☐ Substituted ☐	
February		MMBtu/short ton	Measured ☐ Substituted ☐	
March		MMBtu/short ton	Measured ☐ Substituted ☐	
April		MMBtu/short ton	Measured ☐ Substituted ☐	
May		MMBtu/short ton	Measured ☐ Substituted ☐	
June		MMBtu/short ton	Measured ☐ Substituted ☐	
July		MMBtu/short ton	Measured ☐ Substituted ☐	
August		MMBtu/short ton	Measured ☐ Substituted ☐	
September		MMBtu/short ton	Measured ☐ Substituted ☐	
October		MMBtu/short ton	Measured ☐ Substituted ☐	
November		MMBtu/short ton	Measured ☐ Substituted ☐	
December		MMBtu/short ton	Measured ☐ Substituted ☐	

Table 3-16
Verification of Reporting Requirements – EUCOPELAND, continued

EUCOPELAND CO_2 CALCULATION METHODOLOGY REPORTING REQUIREMENTS				
Number and Frequency of Required Carbon Content (CC) Determinations per Reporting Period			***One***	***Annually***
Spent Liquor Solids CC (as used in Equation AA-2)				
Month	CC	Units	Measured or Substituted Data	Test Method (§98.7)
January		Decimal fraction	Measured ☐ Substituted ☐	
February		Decimal fraction	Measured ☐ Substituted ☐	
March		Decimal fraction	Measured ☐ Substituted ☐	
April		Decimal fraction	Measured ☐ Substituted ☐	
May		Decimal fraction	Measured ☐ Substituted ☐	
June		Decimal fraction	Measured ☐ Substituted ☐	
July		Decimal fraction	Measured ☐ Substituted ☐	
August		Decimal fraction	Measured ☐ Substituted ☐	
September		Decimal fraction	Measured ☐ Substituted ☐	
October		Decimal fraction	Measured ☐ Substituted ☐	
November		Decimal fraction	Measured ☐ Substituted ☐	
December		Decimal fraction	Measured ☐ Substituted ☐	

Table 3-16
Verification of Reporting Requirements – EUCOPELAND, continued

Total Quantity of ***Natural Gas*** Combusted per month in ***EUCOPELAND*** (scf)					
January		May		September	
February		June		October	
March		July		November	
April		August		December	

Number and Frequency of Required Higher Heating Value (HHV) Determinations per Reporting Period	***Two***	***Semi-Annually***

Fuel HHV (as used in Equation AA-1)				
Month	HHV	Units	Measured or Substituted Data	Test Method (§98.7)
January		MMBtu/scf	Measured ☐ Substituted ☐	
February		MMBtu/scf ton	Measured ☐ Substituted ☐	
March		MMBtu/scf	Measured ☐ Substituted ☐	
April		MMBtu/scf	Measured ☐ Substituted ☐	
May		MMBtu/scf	Measured ☐ Substituted ☐	
June		MMBtu/scf	Measured ☐ Substituted ☐	
July		MMBtu/scf	Measured ☐ Substituted ☐	
August		MMBtu/scf	Measured ☐ Substituted ☐	
September		MMBtu/scf	Measured ☐ Substituted ☐	
October		MMBtu/scf	Measured ☐ Substituted ☐	
November		MMBtu/scf	Measured ☐ Substituted ☐	
December		MMBtu/scf	Measured ☐ Substituted ☐	

Table 3-17
Verification of Reporting Requirements – Other Subpart AA Requirements

OTHER RECORDKEEPING REQUIREMENTS					
Total Quantity of ***Steam Purchased (pounds):***					
January		May		September	
February		June		October	
March		July		November	
April		August		December	
Total Quantity of ***(Virgin Only) Pulp Products Produced (metric tons):***					
January		May		September	
February		June		October	
March		July		November	
April		August		December	
Total Quantity of ***(Virgin and Recycle) Paper Products Produced (metric tons):***					
January		May		September	
February		June		October	
March		July		November	
April		August		December	
Total Make-Up Quantity of ***Sodium Carbonate*** Used ***(metric tons):***					
January		May		September	
February		June		October	
March		July		November	
April		August		December	

Table 3-18
Verification of Reporting Requirements – Biogas Reactors

Week	Volume of Whitewater Sent to Biogas Reactor	Weekly Average Concentration of COD of Whitewater Entering Biogas Reactor	Cumulative Weekly Volumetric Flow of Biogas (To Flare - Wet)	Weekly Average CH_4 Concentration of Biogas	Average Temperature at which Biogas Flow is Measured (To Flare)	Cumulative Weekly Volumetric Flow of Biogas (To Boilers - Dry)	Average Pressure at which Biogas Flow is Measured
	(m^3/week)	(kg/m^3)	(scf)	(volume %)	(deg F)	(scf)	(atm)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							

Week	Volume of Whitewater Sent to Biogas Reactor	Weekly Average Concentration of COD of Whitewater Entering Biogas Reactor	Cumulative Weekly Volumetric Flow of Biogas (To Flare - Wet)	Weekly Average CH_4 Concentration of Biogas	Average Temperature at which Biogas Flow is Measured (To Flare)	Cumulative Weekly Volumetric Flow of Biogas (To Boilers - Dry)	Average Pressure at which Biogas Flow is Measured
	(m^3/week)	(kg/m^3)	(scf)	(volume %)	(deg F)	(scf)	(atm)
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							

Week	Volume of Whitewater Sent to Biogas Reactor	Weekly Average Concentration of COD of Whitewater Entering Biogas Reactor	Cumulative Weekly Volumetric Flow of Biogas (To Flare - Wet)	Weekly Average CH_4 Concentration of Biogas	Average Temperature at which Biogas Flow is Measured (To Flare)	Cumulative Weekly Volumetric Flow of Biogas (To Boilers - Dry)	Average Pressure at which Biogas Flow is Measured
	(m^3/week)	(kg/m^3)	(scf)	(volume %)	(deg F)	(scf)	(atm)
33							
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							

Week	Volume of Whitewater Sent to Biogas Reactor	Weekly Average Concentration of COD of Whitewater Entering Biogas Reactor	Cumulative Weekly Volumetric Flow of Biogas (To Flare - Wet)	Weekly Average CH_4 Concentration of Biogas	Average Temperature at which Biogas Flow is Measured (To Flare)	Cumulative Weekly Volumetric Flow of Biogas (To Boilers - Dry)	Average Pressure at which Biogas Flow is Measured
	(m^3/week)	(kg/m^3)	(scf)	(volume %)	(deg F)	(scf)	(atm)
51							
52							

Table 3-19
General Annual Reporting Requirements

I. COMPANY IDENTIFYING INFORMATION		
Company Name:		
Federal Registry System Identification Number:		
Date of Submittal:		
Reporting Year and Months:		
II. FACILITY INFORMATION		
Facility Name:		
Mailing Address:		
City:	State:	Zip:
Physical Address:		
City:	State:	Zip:
III. DESIGNATED REPRESENTATIVE (DR) OR ALTERNATIVE DESIGNATED REPRESENTATIVE (ADR) OR DELEGATED AGENT (DA) IDENTIFYING INFORMATION		
DR/ADR/DA Name: ☐ Mr. ☐ Mrs. ☐ Ms. ☐ Dr.		
DR/ADR/DA Title:		
Employer Name:		
Mailing Address:		
City:	State:	Zip Code:
Telephone:	Fax:	E-mail:
IV. CERTIFICATION OF TRUTH		

I, _____, certify that I am authorized to make this submission on behalf of the owners and operators of the facility (or supply operation, as appropriate) for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Signature: _____ Signature Date: _____

Title: _____

V. TOTAL FACILITY GHG EMISSIONS	
Total Biogenic Carbon Dioxide	MT CO_2
Total Non-Biogenic Carbon Dioxide	MT CO_2
Total Methane	MT CH_4
Total Nitrogen Oxide	MT N_2O

Table 3-20
Subpart C Data Reporting Requirements – GP-001

UNIT-LEVEL EMISSIONS DATA REPORTING		
Unit Name:	***GP-001***	
Unit Type:	***Other Combustion Source***	
Unit Description:	***Boiler No. 1, Boiler No. 2, Boiler No. 4A***	
Highest Maximum Rated Heat Input Capacity:	***240***	MMBtu/hr
Type(s) of Fuel Combusted:	***Natural Gas***	
§98.36(c) Reporting Alternatives Utilized:	***Aggregation of Units***	
Emissions from ***Natural Gas*** Combustion:		MT Total CO_2
	N/A	MT Biogenic Only CO_2
		MT CH_4
		MT N_2O
		MT CH_4 CO_2e
		MT N_2O CO_2e
CO_2 Calculation Tier:	***Natural Gas***	***Tier 2***

Table 3-21
Subpart C Data Reporting Requirements – GP-002

UNIT-LEVEL EMISSIONS DATA REPORTING		
Unit Name:	***GP-002***	
Unit Type:	***Other Combustion Source***	
Unit Description:	***Boiler No. 2, Boiler No. 4A, Biogas Flare***	
Highest Maximum Rated Heat Input Capacity:	***227*** MMBtu/hr	
Type(s) of Fuel Combusted:	***Biogas***	
§98.36(c) Reporting Alternatives Utilized:	***Aggregation of Units***	
Emissions from ***Biogas*** Combustion:		MT Total CO_2
		MT Biogenic Only CO_2
		MT CH_4
		MT N_2O
		MT CH_4 CO_2e
		MT N_2O CO_2e
CO_2 Calculation Tier:	***Biogas***	***Tier 1***

Table 3-22
Subpart C Data Reporting Requirements – WWTP Building

UNIT-LEVEL EMISSIONS DATA REPORTING		
Unit Name:	***WWTP Building***	
Unit Type:	***Other Boiler***	
Unit Description:	***WWTP Building***	
Maximum Rated Heat Input Capacity:	***1.2*** MMBtu/hr	
Type(s) of Fuel Combusted:	***Propane***	
§98.36(c) Reporting Alternatives Utilized:	***None***	
Emissions from ***Propane*** Combustion:		MT Total CO_2
	N/A	MT Biogenic Only CO_2
		MT CH_4
		MT N_2O
		MT CH_4 CO_2e
		MT N_2O CO_2e
CO_2 Calculation Tier:	***Propane***	***Tier 1***

Table 3-23
Subpart AA Data Reporting Requirements – General

GENERAL DATA REPORTING	
Annual Steam Purchase Quantity:	***Pounds***
Annual (Virgin Only) Pulp Products Produced:	***Metric Tons***
Annual (Virgin and Recycle) Paper Products Produced:	***Metric Tons***

Table 3-24
Subpart AA Data Reporting Requirements – EUCOPELAND

UNIT-LEVEL EMISSIONS DATA REPORTING		
Unit Name:	***Source ID EUCOPELAND***	
Unit Type:	***Chemical Recovery Combustion Unit***	
Unit Description:	***Copeland Reactor with Thermal Oxidizer Control***	
Type(s) of Fuel Combusted:	***Spent Liquor Solids, Natural Gas***	
Emissions from ***Spent Liquor Solids*** Combustion:		MT Total CO_2
		MT Biogenic Only CO_2
		MT CH_4
		MT N_2O
		MT CH_4 CO_2e
		MT N_2O CO_2e
Emissions from ***Natural Gas*** Combustion:		MT Total CO_2
	N/A	MT Biogenic Only CO_2
		MT CH_4
		MT N_2O
		MT CH_4 CO_2e
		MT N_2O CO_2e
CO_2 Calculation Tier:	***Spent Liquor Solids***	***N/A***
	Natural Gas	***Tier 2***

Table 3-25
Subpart AA Data Reporting Requirements – Make-Up Chemical Usage

UNIT-LEVEL EMISSIONS DATA REPORTING		
Unit Name:	***Source ID EUDIGESTERS***	
Unit Type:	***Pulp Digester***	
Unit Description:	***Pulp Digester***	
Sodium Carbonate Make-up Quantity:		
Emissions from ***Make-Up Chemical Usage:***		MT Total CO_2
	N/A	MT Biogenic Only CO_2
	N/A	MT CH_4
	N/A	MT N_2O
	N/A	MT CH_4 CO_2e
	N/A	MT N_2O CO_2e

Table 3-26
Subpart II Data Reporting Requirements – Biogas Reactors

UNIT-LEVEL EMISSIONS DATA REPORTING		
Unit Name:	***Biogas Reactors***	
Unit Type:	***Anaerobic Reactors***	
Unit Description:	***Bioreactors***	
Emissions from ***Biogas Reactors:***	***N/A***	MT Total CO_2
	N/A	MT Biogenic Only CO_2
		MT CH_4
	N/A	MT N_2O
		MT CH_4 CO_2e
	N/A	MT N_2O CO_2e

Table 3-27
Other Subpart II Data Reporting Requirements

Week	Volume of Whitewater Sent to Biogas Reactor	Weekly Average Concentration of COD of Whitewater Entering Biogas Reactor	Cumulative Weekly Volumetric Flow of Biogas (To Flare - Wet)	Weekly Average CH_4 Concentration of Biogas	Weekly Average Temperature at which Biogas Flow is Measured (To Flare)	Cumulative Weekly Volumetric Flow of Biogas (To Boilers - Dry)	Weekly Average Pressure at which Biogas Flow is Measured
	(m^3/week)	(kg/m^3)	(scf)	(volume %)	(deg F)	(scf)	(atm)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							

Week	Volume of Whitewater Sent to Biogas Reactor	Weekly Average Concentration of COD of Whitewater Entering Biogas Reactor	Cumulative Weekly Volumetric Flow of Biogas (To Flare - Wet)	Weekly Average CH_4 Concentration of Biogas	Weekly Average Temperature at which Biogas Flow is Measured (To Flare)	Cumulative Weekly Volumetric Flow of Biogas (To Boilers - Dry)	Weekly Average Pressure at which Biogas Flow is Measured
	(m^3/week)	(kg/m^3)	(scf)	(volume %)	(deg F)	(scf)	(atm)
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							

Week	Volume of Whitewater Sent to Biogas Reactor	Weekly Average Concentration of COD of Whitewater Entering Biogas Reactor	Cumulative Weekly Volumetric Flow of Biogas (To Flare - Wet)	Weekly Average CH_4 Concentration of Biogas	Weekly Average Temperature at which Biogas Flow is Measured (To Flare)	Cumulative Weekly Volumetric Flow of Biogas (To Boilers - Dry)	Weekly Average Pressure at which Biogas Flow is Measured
	(m^3/week)	(kg/m^3)	(scf)	(volume %)	(deg F)	(scf)	(atm)
34							
35							
36							
37							
38							
39							
40							
41							
42							
43							
44							
45							
46							
47							
48							
49							
50							
51							

Week	Volume of Whitewater Sent to Biogas Reactor	Weekly Average Concentration of COD of Whitewater Entering Biogas Reactor	Cumulative Weekly Volumetric Flow of Biogas (To Flare - Wet)	Weekly Average CH_4 Concentration of Biogas	Weekly Average Temperature at which Biogas Flow is Measured (To Flare)	Cumulative Weekly Volumetric Flow of Biogas (To Boilers - Dry)	Weekly Average Pressure at which Biogas Flow is Measured
	(m^3/week)	(kg/m^3)	(scf)	(volume %)	(deg F)	(scf)	(atm)
52							

4. QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

This section of the GHG Monitoring Plan describes the specific QA/QC procedures that are part of the Filer City Mill's effort to measure, record, and report GHG emissions. Where applicable, the Mill references existing QA/QC procedures and documents that have been developed for other regulatory programs at the Mill.

4.1 QA/QC OF GHG MEASUREMENT PROCESSES

The first step in the QA/QC process is to ensure that the measurement process incorporates approved procedures. The following is a discussion of how the Mill quality assures measurements of fuel or process-related material usages.

The initial and ongoing calibration requirements of 40 CFR Part 98 do not apply to emission sources for which Part 98 allows the use of "company records" to quantify fuel usage or other parameters. Each of the facility's stationary fuel combustion sources are permitted to use company records for determining fuel usage; therefore, the stationary fuel combustion sources at the Filer City Mill are not subject to the initial and ongoing calibration requirements of 40 CFR Part 98. For these sources, U.S. EPA instead requires that a description of the procedures and methods used for quality assurance, maintenance and repair of all fuel flow meters, and any other instrumentation used to measure fuel consumption are included in the facility's GHG Monitoring Plan.

The Filer City Mill ensures that Tier 1 and Tier 2 measurements of fuel combusted in its stationary fuel combustion sources are quality-assured by adhering to either the manufacturer's specifications or best acceptable industry practice set forth for each fuel flow meter. Maintenance is performed on each measurement device on an as-needed basis (e.g., when a suspected problem is observed in the collected data). The Mill ensures that measurements of spent liquor solids combusted in the Copeland Reactor are quality-assured by abiding to the monitoring and QA/QC requirements set forth at §98.274(b)(2)(i).

The Filer City Mill ensures that determinations of the GHG properties of the fuels or process-related materials are quality-assured by abiding to the monitoring and QA/QC requirements set forth at §98.34(a) for determining HHV of natural gas and the monitoring and QA/QC requirements set forth at §98.274(b)(1) for determining HHV and CC of spent liquor solids.

A summary of U.S. EPA's recommended procedures that are part of the Mill's GHG measurement process is presented in Tables 4-1 through 4-8 along with the parameters for which each procedure applies.

Table 4-1
QA/QC Procedures for EUBOILER1 GHG Measurements
Packaging Corporation of America - Filer City, Mill MI

Tier	Fuel	Parameter	Minimum Frequency per 40 CFR Part 98	Sampling Location	Initial Calibration Deadline	Accepted Methods
2	Michicon Natural Gas (Meters Nos. 9651999 and 9600227)	Fuel Usage	Annual	Direct measurement by fuel flow meter at each source	N/A	Pursuant to §98.3(i)(4), initial and ongoing calibration of fuel billing meters are not required, provided that the fuel supplier and any unit combusting the fuel do not have any common owners and are not owned by subsidiaries or affiliates of the same company.
		HHV	Semi-Annual [(a)]	The fuel sampling and analysis is performed by the supplier of the fuel.	N/A	Chromatographic analysis together with standard heating values of the fuel constituents, provided that the gas chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions; or
						A consensus-based standard, if such a method exists. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB). Consensus-based standards include, but are not limited to, the following: ASTM D1826-94 (Reapproved 2003) Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter (incorporated by reference, see §98.7); or ASTM D3588-98 (Reapproved 2003) Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels (incorporated by reference, see §98.7); or ASTM D4891-89 (Reapproved 2006) Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion (incorporated by reference, see §98.7);or
						An industry standard practice. Industry standard practices include, but are not limited to, GPA Standard 2172-09 Calculation of Gross Heating Value, Relative Density, Compressibility and Theoretical Hydrocarbon Liquid Content for Natural Gas Mixtures for Custody Transfer (incorporated by reference, see §98.7).
2	West Bay Natural Gas (Meter No. 00-0800218)	Fuel Usage	Annual	Direct measurement by fuel flow meter at each source	N/A	Pursuant to §98.3(i)(4), initial and ongoing calibration of fuel billing meters are not required, provided that the fuel supplier and any unit combusting the fuel do not have any common owners and are not owned by subsidiaries or affiliates of the same company.
		HHV	Semi-Annual [(a)]	The fuel sampling and analysis is performed by the supplier of the fuel.	N/A	Chromatographic analysis together with standard heating values of the fuel constituents, provided that the gas chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions; or
						A consensus-based standard, if such a method exists. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB). Consensus-based standards include, but are not limed to, the following: ASTM D1826-94 (Reapproved 2003) Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter (incorporated by reference, see §98.7); or ASTM D3588-98 (Reapproved 2003) Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels (incorporated by reference, see §98.7); or ASTM D4891-89 (Reapproved 2006) Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion (incorporated by reference, see §98.7);or
						An industry standard practice. Industry standard practices include, but are not limited to, GPA Standard 2172-09 Calculation of Gross Heating Value, Relative Density, Compressibility and Theoretical Hydrocarbon Liquid Content for Natural Gas Mixtures for Custody Transfer (incorporated by reference, see §98.7).

[(a)] If HHV for a specific fuel type is collected at a monthly (or greater) frequency, the Mill must collect monthly fuel usage readings.
[(b)] Where more than one method is listed for a specific parameter, the Mill shall select one of the listed methods shown in order to perform measurements of that parameter in accordance with the minimum frequency stated in Table 3-12.

Table 4-2
QA/QC Procedures for EUBOILER2 GHG Measurements
Packaging Corporation of America - Filer City, MI Mill

Tier	Fuel	Parameter	Minimum Frequency per 40 CFR Part 98	Sampling Location	Initial Calibration Deadline	Accepted Methods
1	Biogas	Fuel Usage	Annual	Aggregation Approach (one meter to powerhouse then directed to any boiler)	N/A	There are no calibration requirements for Tier 1 fuel flow metering devices; however, the Mill will ensure quality assurance, maintenance, and repair of each fuel flow metering device by operating according to manufacturer specifications.
2	Michicon Natural Gas (Meter No. 3 and 4)	Fuel Usage	Annual	Direct measurement by fuel flow meter at each source	N/A	Pursuant to §98.3(i)(4), initial and ongoing calibration of fuel billing meters are not required, provided that the fuel supplier and any unit combusting the fuel do not have any common owners and are not owned by subsidiaries or affiliates of the same company.
		HHV	Semi-Annual [(a)]	Samples shall be taken at a location in the fuel handling system that provides a sample representative of the fuel combusted. The fuel sampling and analysis will be performed by either the owner or operator, or the supplier of the fuel.	N/A	Chromatographic analysis together with standard heating values of the fuel constituents, provided that the gas chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions; or A consensus-based standard, if such a method exists. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB). Consensus-based standards include, but are not limed to, the following: ASTM D1826-94 (Reapproved 2003) Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter (incorporated by reference, see §98.7); or ASTM D3588-98 (Reapproved 2003) Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels (incorporated by reference, see §98.7); or ASTM D4891-89 (Reapproved 2006) Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion (incorporated by reference, see §98.7);or An industry standard practice. Industry standard practices include, but are not limited to, GPA Standard 2172-09 Calculation of Gross Heating Value, Relative Density, Compressibility and Theoretical Hydrocarbon Liquid Content for Natural Gas Mixtures for Custody Transfer (incorporated by reference, see §98.7).
2	West Bay Natural Gas (Meter No. 00-0600221)	Fuel Usage	Annual	Fuel usage is aggregated with Boiler 4a and monitored with a shared fuel flow meter.	N/A	Pursuant to §98.3(i)(4), initial and ongoing calibration of fuel billing meters are not required, provided that the fuel supplier and any unit combusting the fuel do not have any common owners and are not owned by subsidiaries or affiliates of the same company.
		HHV	Semi-Annual [(a)]	Samples shall be taken at a location in the fuel handling system that provides a sample representative of the fuel combusted. The fuel sampling and analysis will be performed by either the owner or operator, or the supplier of the fuel.	N/A	Chromatographic analysis together with standard heating values of the fuel constituents, provided that the gas chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions; or A consensus-based standard, if such a method exists. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB). Consensus-based standards include, but are not limed to, the following: ASTM D1826-94 (Reapproved 2003) Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter (incorporated by reference, see §98.7); or ASTM D3588-98 (Reapproved 2003) Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels (incorporated by reference, see §98.7); or ASTM D4891-89 (Reapproved 2006) Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion (incorporated by reference, see §98.7);or An industry standard practice. Industry standard practices include, but are not limited to, GPA Standard 2172-09 Calculation of Gross Heating Value, Relative Density, Compressibility and Theoretical Hydrocarbon Liquid Content for Natural Gas Mixtures for Custody Transfer (incorporated by reference, see §98.7).

[(a)] If HHV for a specific fuel type is collected at a monthly (or greater) frequency, the Mill must collect monthly fuel usage readings.
[(b)] Where more than one method is listed for a specific parameter, the Mill shall select one of the listed methods shown in order to perform measurements of that parameter in accordance with the minimum frequency stated in Table 3-12.

Table 4-3
QA/QC Procedures for EUBOILER4A GHG Measurements
Packaging Corporation of America - Filer City, MI Mill

Tier	Fuel	Parameter	Minimum Frequency per 40 CFR Part 98	Sampling Location	Initial Calibration Deadline	Accepted Methods
1	Biogas	Fuel Usage	Annual	Aggregation Approach (one meter to powerhouse then directed to any boiler)	N/A	There are no calibration requirements for Tier 1 fuel flow metering devices; however, the Mill will ensure quality assurance, maintenance, and repair of each fuel flow metering device by operating according to manufacturer specifications.
2	Michicon Natural Gas (Meter No. 6740893)	Fuel Usage	Annual	Direct measurement by fuel flow meter at each source	N/A	Pursuant to §98.3(i)(4), initial and ongoing calibration of fuel billing meters are not required, provided that the fuel supplier and any unit combusting the fuel do not have any common owners and are not owned by subsidiaries or affiliates of the same company.
		HHV	Semi-Annual [(a)]	Samples shall be taken at a location in the fuel handling system that provides a sample representative of the fuel combusted. The fuel sampling and analysis will be performed by either the owner or operator, or the supplier of the fuel.	N/A	Chromatographic analysis together with standard heating values of the fuel constituents, provided that the gas chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions; or
						A consensus-based standard, if such a method exists. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB). Consensus-based standards include, but are not limed to, the following: ASTM D1826-94 (Reapproved 2003) Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter (incorporated by reference, see §98.7); or ASTM D3588-98 (Reapproved 2003) Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels (incorporated by reference, see §98.7); or ASTM D4891-89 (Reapproved 2006) Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion (incorporated by reference, see §98.7);or
						An industry standard practice. Industry standard practices include, but are not limited to, GPA Standard 2172-09 Calculation of Gross Heating Value, Relative Density, Compressibility and Theoretical Hydrocarbon Liquid Content for Natural Gas Mixtures for Custody Transfer (incorporated by reference, see §98.7).
2	West Bay Natural Gas (Meter No. 00-0600221)	Fuel Usage	Annual	Fuel usage is aggregated with Boiler 2 and monitored with a shared fuel flow meter.	N/A	Pursuant to §98.3(i)(4), initial and ongoing calibration of fuel billing meters are not required, provided that the fuel supplier and any unit combusting the fuel do not have any common owners and are not owned by subsidiaries or affiliates of the same company.
		HHV	Semi-Annual [(a)]	Samples shall be taken at a location in the fuel handling system that provides a sample representative of the fuel combusted. The fuel sampling and analysis will be performed by either the owner or operator, or the supplier of the fuel.	N/A	Chromatographic analysis together with standard heating values of the fuel constituents, provided that the gas chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions; or
						A consensus-based standard, if such a method exists. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB). Consensus-based standards include, but are not limed to, the following: ASTM D1826-94 (Reapproved 2003) Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter (incorporated by reference, see §98.7); or ASTM D3588-98 (Reapproved 2003) Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels (incorporated by reference, see §98.7); or ASTM D4891-89 (Reapproved 2006) Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion (incorporated by reference, see §98.7);or
						An industry standard practice. Industry standard practices include, but are not limited to, GPA Standard 2172-09 Calculation of Gross Heating Value, Relative Density, Compressibility and Theoretical Hydrocarbon Liquid Content for Natural Gas Mixtures for Custody Transfer (incorporated by reference, see §98.7).

[(a)] If HHV for a specific fuel type is collected at a monthly (or greater) frequency, the Mill must collect monthly fuel usage readings.
[(b)] Where more than one method is listed for a specific parameter, the Mill shall select one of the listed methods shown in order to perform measurements of that parameter in accordance with the minimum frequency stated in Table 3-12.

Table 4-4
QA/QC Procedures for EUBIOGASFLARE GHG Measurements
Packaging Corporation of America - Filer City, MI Mill

Tier	Fuel	Parameter	Minimum Frequency per 40 CFR Part 98	Sampling Location	Initial Calibration Deadline	Accepted Methods
1	Biogas	Fuel Usage	Annual	Temperature Monitor	N/A	There are no calibration requirements for Tier 1 fuel flow metering devices; however, the Mill will ensure quality assurance, maintenance, and repair of the EUBIOGASFLARE temperature monitor that is used to derive a conservative estimate of biogas flow to the flare by operating the monitor according to manufacturer specifications.

Table 4-5
QA/QC Procedures for WWTP Building GHG Measurements
Packaging Corporation of America - Filer City, MI Mill

Tier	Fuel	Parameter	Minimum Frequency per 40 CFR Part 98	Sampling Location	Initial Calibration Deadline	Accepted Methods
1	Propane	Fuel Usage	Annual	N/A - Purchase Records	N/A	Initial and ongoing calibration of measurement devices not required when the use of company records is acceptable for determining fuel usage.

Table 4-6
QA/QC Procedures for EUCOPELAND GHG Measurements
Packaging Corporation of America - Filer City, MI Mill

Tier	Fuel	Parameter	Minimum Frequency per 40 CFR Part 98	Sampling Location	Initial Calibration Deadline	Accepted Methods
N/A	Spent Liquor Solids	Mass	Annual	Direct measurement of spent liquor solids fired by certified flow meter at source	N/A	T-650 om-05 Solids Content of Black Liquor, TAPPI (incorporated by reference in §98.7).
						Records of Measurement made with an online measurement system that determines the mass of spent liquor solids fired.
		HHV	Annual	Direct measurement of spent liquor solids fired	N/A	T684 om-06 Gross Heating Value of Black Liquor, TAPPI (incorporated by reference, see §98.7).
		CC	Annual	Direct measurement of spent liquor solids fired	N/A	ASTM D5373-08 Standard Test Methods for Instrumental Determination of Carbon, Hydrogen, and Nitrogen in Laboratory Samples of Coal (incorporated by reference, see §98.7).
2	Natural Gas	Fuel Usage	Annual	Direct measurement by fuel flow meter at source	N/A	There are no calibration accuracy requirements for Tier 2 fuel flow metering devices; however, the Mill will ensure quality assurance, maintenance, and repair of each fuel flow metering device by operating according to manufacturer specifications.
		HHV	Semi-Annual	Samples shall be taken at a location in the fuel handling system that provides a sample representative of the fuel combusted. The fuel sampling and analysis will be performed by either the owner or operator, or the supplier of the fuel.	N/A	Chromatographic analysis together with standard heating values of the fuel constituents, provided that the gas chromatograph is operated, maintained, and calibrated according to the manufacturer's instructions; or
						A consensus-based standard, if such a method exists. Consensus-based standards organizations include, but are not limited to, the following: ASTM International, the American National Standards Institute (ANSI), the American Gas Association (AGA), the American Society of Mechanical Engineers (ASME), the American Petroleum Institute (API), and the North American Energy Standards Board (NAESB). Consensus-based standards include, but are not limed to, the following: ASTM D1826-94 (Reapproved 2003) Standard Test Method for Calorific (Heating) Value of Gases in Natural Gas Range by Continuous Recording Calorimeter (incorporated by reference, see §98.7); or ASTM D3588-98 (Reapproved 2003) Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels (incorporated by reference, see §98.7); or ASTM D4891-89 (Reapproved 2006) Standard Test Method for Heating Value of Gases in Natural Gas Range by Stoichiometric Combustion (incorporated by reference, see §98.7);or
						An industry standard practice. Industry standard practices include, but are not limited to, GPA Standard 2172-09 Calculation of Gross Heating Value, Relative Density, Compressibility and Theoretical Hydrocarbon Liquid Content for Natural Gas Mixtures for Custody Transfer (incorporated by reference, see §98.7).

Table 4-7
QA/QC Procedures for Make-Up Chemical Usage GHG Measurements
Packaging Corporation of America - Filer City, MI Mill

Tier	Make-Up Chemical	Parameter	Minimum Frequency per 40 CFR Part 98	Sampling Location	Initial Calibration Deadline	Accepted Methods
N/A	Sodium Carbonate	Mass	Annual	N/A	N/A	Purchase records are used to determine the mass of sodium carbonate make-up chemicals that are added to the Mill's pulping process.

Table 4-8
QA/QC Procedures for Subpart II GHG Measurements
Packaging Corporation of America - Filer City, MI Mill

Tier	Biogas/ Wastewater	Parameter	Minimum Frequency per 40 CFR Part 98	Sampling Location	Initial Calibration Deadline	Reoccurring Calibration Requirements	Accepted Monitoring Methods
N/A	Biogas	Flowrate and Cumulative Volume of Recovered Gas	Continuously	Immediately after biogas reactor and bypass to flare, but prior to powerhouse.	Prior to the First Year of Reporting	Every two years (or at the minimum frequency specified by the manufacturer).	ASME MFC-3M-2004, ASME MFC-4M-1986, ASME MFC-6M-1998, ASME MFC-7M-1987, ASME MFC-11M-2006, ASME MFC-14M-2003, ASME MFC-18M-2001, Method 2A or 2D
		Methane Concentration	Continuously or Intermittently (i.e., at least once per calendar week that the biogas flow rate is above zero, with at least three days between measurements)	At a location near or representative of the location of the gas flow meter (on top of Building 55).	N/A	Use the procedures and frequencies specified by the device manufacturer.	Method 18 at 40 CFR Part 60, Appendix A-6, ASTM D1945-03, ASTM 1946-90, GPA Standard 2261-00, ASTM UOP539-97, or use of a total gaseous organic concentration analyzer pursuant to 40 CFR §98.354(g)(6)
	Wastewater	Flowrate	Once Per Week	The flow measurement location must correspond to the location used to collect samples analyzed for COD or BOD_5 concentration.	Prior to the First Year of Reporting	Every two years (or at the minimum frequency specified by the manufacturer).	ASME MFC-3M-2004, ASME MFC-5M-1985, ASME MFC-16-2007, ASTM D1941-91, ASTM D5614-94
		COD or BOD_5	Once Per Week	The measurement location must be representative of wastewater influent to the anaerobic wastewater treatment process, following all preliminary and primary steps.	N/A	N/A	Analytical methods for COD or BOD_5specified in 40 CFR §136.3 Table 1B You must collect a minimum of four sample aliquots per 24-hour period and composite the aliquots for analysis. You must collect a flow-proportional composite sample (either constant time interval between samples with sample volume proportional to stream flow, or constant sample volume with time interval between samples proportional to stream flow). Follow sampling procedures and techniques presented in Chapter 5, Sampling, of the "NPDES Compliance Inspection Manual," (incorporated by reference, see §98.7) or Section 7.1.3, Sample Collection Methods, of the "U.S. EPA NPDES Permit Writers' Manual," (incorporated by reference, see §98.7)

4.2 QA/QC OF GHG REPORTING PRACTICES

The Filer City Mill uses automated calculation tools to determine the mass of GHG emitted each year. Specifically, spreadsheets have been developed that include the necessary and appropriate emission calculations for updating each annual GHG Summary Report in U.S. EPA's e-GGRT database. The spreadsheets have been quality-assured to ensure that all calculations are being performed properly. Standard Mill QA procedures for data entry in the calculation spreadsheets are used. As each year of GHG emissions are determined, the current year's emissions are compared to the previous year's emissions for comparison. If there is more than a 10% difference in the mass of Mill-wide $MTCO_2e$ emitted, then additional review will be performed to ascertain the basis for the difference. If there is more than a 25% difference in the mass of GHG emitted from a single emissions unit or grouping of emissions units using the Aggregation of Units approach, then additional review will be performed to verify the basis for the difference between the two years of data.

4.3 TRAINING

The designated representative is responsible for ensuring that individuals involved in the reporting, recording, or calculation of GHG emissions are knowledgeable in the requirements specified in 40 CFR Part 98. This GHG Monitoring Plan is the primary source of information regarding the reporting requirements and the designated representative and alternate designated representative will use it as the basis for training other Filer City Mill personnel.

5. PROCESS OF DATA REPORTING AND ARCHIVING

This section of the GHG Monitoring Plan describes the general procedures for reporting GHG emissions to U.S. EPA, including descriptions of the company records and personnel utilized for collecting data and the process of archiving reported data and supporting information. In addition, the procedures for updating this GHG Monitoring Plan due to changes in either Mill operations or the requirements of 40 CFR Part 98 are also outlined in Section 5.

5.1 COMPANY RECORDS

The Filer City Mill utilizes "company records" for a significant portion of the GHG reporting process. In context of the GHG emission calculation process and fuel flow information, company records encompass the amount of fuel consumed by a stationary combustion unit (or by a group of such units), how the amount of fuel was determined, and any calculations performed to quantify fuel usage. Company records may include, but are not limited to, direct measurements of fuel consumption by gravimetric or volumetric means, tank drop measurements, and calculated values of fuel usage obtained by measuring auxiliary parameters such as steam generation or unit operating hours. Calculated values of fuel usage may be obtained by subtracting a quality-assured meter reading from a facility-wide billing meter reading. Fuel billing records obtained from fuel suppliers qualify as company records.

As discussed in Section 3.8 of this GHG Monitoring Plan, 40 CFR §98.35 addresses missing data related to stationary fuel combustion, 40 CFR §98.275 addresses missing data associated with pulp and paper manufacturing, and 40 CFR §98.355 addresses missing data associated with industrial wastewater treatment. The Filer City Mill recognizes that missing data are due to uncontrollable circumstances and not a failure on the part of the Mill to maintain equipment, to operate equipment properly, to plan for foreseeable problems, or to have personnel follow proper procedures. The missing data procedures apply to required parameters that are subject to some form of QA and are used in the computation of GHG emissions. The Mill will document and retain company records of the procedures used for all incidences of missing data.

The Filer City Mill will maintain all company records retained pursuant to this Rule on-site in either electronic or hard-copy format for a minimum of three years. The Mill will keep records that include a detailed explanation of how company records of measurements are used to estimate GHG emissions. In addition to retaining all background data used to calculate the facility's GHG emissions, the owner or operator will also document procedures used to ensure the accuracy of measurements, including, but not limited to calibration of weighing equipment, fuel flow meters, and other measurement devices. The estimated accuracy of measurements made with these devices will be recorded and the technical basis for these estimates will be provided. The procedures used to convert spent pulping liquor flow rates to units of mass (i.e., spent liquor solids firing rates) also must be documented. Company records will be immediately made available upon request for verification of calculations and measurements.

5.2 COMPANY RESOURCES

The reporting of GHG will require the coordination of several operational areas at the Filer City Mill. Accounting, recovery and boiler operations, and the environmental departments will all have responsibilities related to data collection, data calculation, data management, and data reporting. A summary of the positions responsible for activities related to the reporting of GHG is provided in Table 5-1.

Table 5-1
Positions Involved with GHG Reporting
Packaging Corporation of America - Filer City, MI Mill

Task	Position Description	Frequency
Personnel Training	Environmental Manager	As Needed
Direct Fuel Measurement Device Calibration	E&I Manager	According to manufacturer specifications
Non-Direct Measurement Data Collection	Environmental Manager	Annual
Fuel Sampling	Environmental Manager	Refer to Tables 4-1 through 4-6.
GHG Emissions Calculations	Environmental Manager	Annual
Emissions QA	Environmental Manager	Annual
Inventory Report	Procurement Manager	Annual
Inventory QA	Accountant	Annual
Internal Verification/Validation	Environmental Manager	Annual

5.3 DATA REPORTING PROCESS

The Filer City Mill will electronically submit an annual GHG Summary Report to U.S. EPA via the Electronic Greenhouse Gas Reporting Tool (e-GGRT) database no later than March 31st (or as prescribed by U.S. EPA) of each calendar year, or any other reporting date promulgated by U.S. EPA, for GHG emissions associated with each previous calendar year. The information that is to be included in each annual GHG Summary Report is specified at 40 CFR §98.3(c), §98.36, §98.276, and §98.356 for Subparts A, C, AA, and II respectively. The Mill's automated calculation spreadsheets include all necessary and appropriate emission calculations to update U.S. EPA's e-GGRT database and generate each annual report.

The operators/owners of the Filer City Mill have assigned the designated representative identified in Table 5-2. An alternate designated representative who may act on behalf of the designated representative if so directed by the Manager of the Filer City Mill is also identified in Table 5-2. Either the appointed designated representative or the appointed alternate designated representative is responsible for electronically certifying each annual GHG Summary Report that is prepared in e-GGRT in accordance with 40 CFR Part 98 requirements. A copy of the current designated representative's Certification of Representation is included in Appendix A. The designated representative or alternate designated representative must examine all GHG calculations and supporting information prior to electronically certifying and submitting each GHG submittal. The actual submittal of each annual GHG Summary Report may also be performed by a third-party "agent" who is delegated by either the designated representative or alternate designated representative, provided that the delegated party is identified to U.S. EPA in an electronic notification. Once the information regarding the agent is received by U.S. EPA, the delegated agent remains delegated until such notice is provided removing the existing delegated agent. The Mill recognizes that when an agent submits a report, they are not agreeing to the Certification Statement, but rather submitting the Certification Statement on behalf of the designated representative or alternate designated representative who is agreeing to the Certification Statement. An agent is only authorized to make the electronic submission on behalf of the designated representative, not to sign (i.e., agree to) the certification statement.

5.4 CORRECTING REPORTED DATA

The annual GHG inventory reports will be corrected if errors are discovered. The Filer City Mill will submit a revised GHG report to U.S. EPA within 45 days of the identification of a reporting error. As part of the correction process, the Filer City Mill will identify the original error and provide the corrected data.

5.5 DATA ARCHIVING

Records related to the GHG inventory program will be maintained for a minimum of three years. The format of all retained records may be electronic or hard copy and must be made available to U.S. EPA for review upon request. A copy of the information that is required to be archived is contained in Table 5-3.

5.6 GHG MONITORING PLAN UPDATING

U.S. EPA requires that the GHG Monitoring Plan be updated to reflect changes to the Mill, to the approach used to calculate annual GHG, or to reflect changes in the requirements of Part 98. The Filer City Mill will review the GHG Monitoring Plan as needed. As part of the review, the following specific items will be considered:

- Applicability of new source categories.
- Changes to monitoring configurations.
- Changes to monitoring instrumentation.
- Improvements in monitoring techniques to reduce missing data or instrument downtime.
- Changes to QA/QC procedures.

To aid Mill personnel referencing the GHG Monitoring Plan in the future, the Filer City Mill documents and records all revisions to the GHG Monitoring Plan in Table 5-4.

Table 5-2
Designated Representative and Alternate Designated Representative
Packaging Corporation of America - Filer City, MI Mill

Contact Info	Designated Representative	Alternate Representative (if any)	Delegated Agent (if any)
Name	Andrew Richards	Sara Kaltunas	Megan Uhler
Title	Mill Manager	Environmental Manager	All4 Inc. Consulting Scientist
Address	2246 Udell St., Filer City, MI	2246 Udell St., Filer City, MI	P.O. Box 299, Kimberton, PA 19442
E-Mail Address	arichards@packagingcorp.com	skaltunas@packagingcorp.com	muhler@all4inc.com
Telephone	(231) 723-9951	(231) 723-9951 x465	(610) 933-5246 x132
Facsimile	(231) 723-1395	(231) 723-8140	(610) 933-5127

Table 5-3
Archived GHG Information
Packaging Corporation of America - Filer City, MI Mill

All subject units
Affected operations (pulp and paper, combustion, WWTP, etc.)
Raw data by subject units (fuel types, raw materials)
GHG calculations and methodology
Analytical results
Mill operating data or process information by year and used in GHG calculations
Copies of GHG annual reports
Missing data computations (dates, reason for missing data, actions to minimize future missing data)
Results of certifications and QA test of CEMs and other instrumentation used to generate GHG annual reports
Results of calibration accuracy tests
Revisions of annual reports

Table 5-4
GHG Monitoring Plan Revisions Log
Packaging Corporation of America - Filer City, MI Mill

Date	Authorized by	Revision Description ***Document Section/Page Number*** ***Regulatory Citation*** ***Brief Revision Description and Justification***
5/19/2010	M. Barry	Section 3 text and tables were revised to incorporate changes to the natural gas billing and flow meter configurations, to incorporate correct technical data, and to properly address source aggregation. Table 5-4 was added to track changes made to the Mill's GHG Monitoring Plan.
11/2/2011	G. Malinsky	Section 2 text and tables were revised to: - Update the current Month/Year for the purpose of defining the status of the rule at the time of the Monitoring Plan Revision. - Update the names of the sources at the Mill which fire biogas. - Add new language justifying why the Filer City Mill is not subject to certain subparts published after the October 30, 2009 version of the rule which could have potentially apply to the Mill.
11/2/2011	G. Malinsky	Section 3 text and tables were revised to: - Add more detail to the description of the Tier 3 and Tier 4 calculation methodologies. - Add more detail concerning available reporting alternatives, including a new description of the Monitored Common Stack approach, and new subsections concerning Group IDs GP-001 and GP-002. - Update the configurations and calculation methodologies of the Mill's Aggregated Source Groups. In the original version of the Plan, three (3) Aggregated Source Groups were proposed. However, based on more detailed metering information that was provided to ALL4 during preparation of the GHG Calculation Tool in 2011, the three (3) original Aggregated Source Groups were reduced to two (2). - Update the general descriptions and calculation methodologies of the Mill's individual emissions units. Updates include clarification that Boiler No. 1 is not currently capable of firing biogas, that emissions associated with bituminous coal combustion in Boiler No. 1 and Boiler No. 2 may be more accurately calculated utilizing the Tier 2 calculation methodology, that the Copeland Reactor and Thermal Oxidizer, which were originally proposed to report as two (2) individual sources, are now reported as EUCOPELAND, (or "Copeland Reactor with Thermal Oxidizer Control"), and that emissions associated with natural gas combustion in the Copeland Reactor with Thermal Oxidizer Control are now calculated utilizing a higher Tier 2 calculation methodology. - Update (and relocate) the worksheets detailing the types of data that the Mill is required to measure and report for each emissions unit based on revised calculation methodologies/unit configurations, and U.S. EPA clarifications during the first reporting exercise. - Update the procedures for replacing missing data in order to clarify that the Rule's substitute data provisions also apply to bituminous coal HHV data, and the annual throughput of either biogas or propane; incorporate recent amendments specifying that if multiple deliveries of coal are received from the same supply source in a given calendar month, the deliveries for that month may be considered, collectively, to comprise a fuel lot, requiring only one representative sample; and firmly assert that 40 CFR Part 98, Subpart AA does not include any missing data provisions for black liquor HHV, which is required to be sampled at least annually. - Update the description of GHG reporting process to include a discussion of the e-GGRT database.
11/2/2011	G. Malinsky	Section 4 text and tables were revised to: - Add more detail concerning how the Mill quality assures measurement of fuel or process-related fuel usage. - Remove specific methodologies for testing HHV. U.S. EPA has amended Part 98 to in most cases allow the use of a consensus-based standards organization method or industry standard practice.
11/2/2011	G. Malinsky	Section 5 text and tables were revised to: - Replace language concerning Best Available Monitoring Methods (BAMM) which were not utilized by the Mill during 2010 and are not available for use after March 31, 2010 with language concerning missing data provisions from Section 3. - Update the section entitled "Data Reporting Process" to reflect the actual reporting format and process defined by U.S. EPA after original promulgation of the rule.
11/2/2011	G. Malinsky	Appendix A has been revised to replace template Certificate of Representation correspondence with a copy of the actual Certificate of Representation which was signed during February 2011.
11/2/2011	G. Malinsky	Appendix B has been updated to reflect amendments to Table C-1, Table C-2, Table AA-1, and Table AA-2 that have occurred since the original version of the rule was promulgated.
1/6/2014	S. Kaltunas	Entire plan has been updated to incorporate requirements of Subpart II and to reflect November 29, 2013 amendments.
1/5/2017	S. Kaltunas	The following sections of the plan have been revised to clarify that coal is no longer fired in Boilers 1 or 2 as a strategy to comply with Boiler MACT: - Sections 3.4.1, 3.4.2, 3.8.1, and 4.1 - Table 3-26 and 3-27 The following tables have been updated to clarify applicable fuel throughput units of measurement: - Tables 3-13 through 3-20 The following tables have been updated to clarify that calcium carbonate is not currently added to the Mill's pulping process as make-up: - Tables 3-21 and 3-33
11/30/2017	S. Kaltunas	The Plan has been updated throughout to: - Include Boiler 1 among the aggregated GP-001 units firing natural gas. - Reflect the following: - U.S. EPA's October 24, 2014 revisions to 40 CFR Part 98 regarding confidentiality determinations and the availability of an alternative verification approach, in lieu of reporting certain data elements for which U.S. EPA identified disclosure concerns, when reporting GHG emissions. - U.S. EPA's December 9, 2016 revisions to 40 CFR Part 98 regarding Tier 2 HHV averaging equations and default Subparts C and AA emissions factors and HHVs. - U.S. EPA's December 9, 2016 revisions to Subpart II concerning the term "weekly average." - The Mill's obligation to annually analyze carbon content of spent liquor solids (in addition to HHV). - The correct units of measurement for weekly biogas flow to the flare and boilers. - Clarify the following: - That coal and fuel oil are not fired at the Mill. - That the Copeland Reactor is considered a "chemical recovery combustion unit at a stand-alone semichemical facility." - That the Copeland Reactor combusts "spent liquor solids" as opposed to just "black liquor solids" for consistency with Subpart AA rule language. - That there are two independent supply lines that deliver natural gas to the Mill. - That billing meters are exempted from 40 CFR Part 98 calibration requirements (as opposed to qualifying as certified equipment). - Summarize all Plan updates on Table 5-4. - Wordsmith and generally streamline the Monitoring Plan throughout.
8/7/2019	S. Kaltunas	The Plan has been updated as follows: - To omit all references to the monitoring and calculation of propane-related GHG from EUBIOGASFLARE under 40 CFR Part 98, Subpart C within the narrative (Section 3.4.4) and tables (Tables 3-7, historic Tables 3-15 and 3-23, Table 4-4). Emissions from flares are exempt under Subpart C, unless required by another subpart. - To clarify within Section 3.5.1 that it is appropriate for the Mill to utilize default emissions factors for Kraft mills when calculating emissions from EUCOPELAND per 40 CFR §98.273(b). - To clarify within Section 3.4.5 and Table 3-8 that purchase records are the "company records" used to determine annual throughput of propane to the WWTP building. - To update the Section 3.6 discussion concerning determination of biogas flow to EUBIOGASFLARE. - To clarify within Section 3.6 that biogas flow and methane are both measured at all relevant locations on a wet basis. - To update the date referenced in Section 3.7 to be "August 2019" instead of "December 2017." - To clarify within Section 3.8.3 and Table 4-8 the Mill's use of a multivariable flow meter which standardizes biogas flow measurements under Subpart II, and to omit obsolete monitoring of temperature and pressure due to use of a multivariable flow meter. - To update the Table 3-1 sample calculation for GP-002 to clarify the Mill's use of a temperature monitor for determination of biogas flow to EUBIOGASFLARE. - To update Table 5-2 to reference Andrew Richards as the Designated Representative. - To update Table 5-4 to summarize all changes.

APPENDIX A -
CERTIFICATE OF REPRESENTATION

APPENDIX B -
40 CFR PART 98 EMISSIONS FACTOR TABLES C-1, C-2, AA-1, AA-2, II-1, AND II-2

Table C-1 of Subpart C

Default CO_2 Emission Factors and High Heat Value for Various Types of Fuel

Revised December 9, 2016

Fuel Type	Default High Heat Value	Default CO_2 Emission Factor
Coal and Coke	**MMBtu/short ton**	**kg CO_2/MMBtu**
Anthracite	25.09	103.69
Bituminous	24.93	93.28
Subbituminous	17.25	97.17
Lignite	14.21	97.72
Coke	24.80	113.67
Mixed (Commercial Sector)	21.39	94.27
Mixed (Industrial Coking)	26.28	93.90
Mixed (Industrial Sector)	22.35	94.67
Mixed (Electric Power Sector)	19.73	95.52
Natural Gas	**MMBtu/scf**	**kg CO_2/MMBtu**
(Weighted U.S. Average)	1.026E-03	53.06
Petroleum Products - Liquid	**MMBtu/gallon**	**kg CO_2/MMBtu**
Distillate Fuel Oil No. 1	0.139	73.25
Distillate Fuel Oil No. 2	0.138	73.96
Distillate Fuel Oil No. 4	0.146	75.04
Residual Fuel Oil No. 5	0.140	72.93
Residual Fuel Oil No. 6	0.150	75.10
Used Oil	0.138	74.00
Kerosene	0.135	75.20
Liquefied Petroleum Gases (LPG)[1]	0.092	61.71
Propane[1]	0.091	62.87
Propylene[2]	0.091	67.77
Ethane[1]	0.068	59.60
Ethanol	0.084	68.44
Ethylene[2]	0.058	65.96
Isobutane[1]	0.099	64.94
Isobutylene[1]	0.103	68.86
Butane[1]	0.103	64.77
Butylene[1]	0.105	68.72
Naphtha (<410 deg F)	0.125	68.02
Natural Gasoline	0.110	66.88
Other Oil (>401 deg F)	0.139	76.22
Pentanes Plus	0.110	70.02
Petrochemical Feedstocks	0.125	71.02
Petroleum Coke	0.143	102.41
Special Naphtha	0.125	72.34
Unfinished Oils	0.139	74.54
Heavy Gas Oils	0.148	74.92
Lubricants	0.144	74.27
Motor Gasoline	0.125	70.22
Aviation Gasoline	0.120	69.25
Kerosene-Type Jet Fuel	0.135	72.22
Asphalt and Road Oil	0.158	75.36
Crude Oil	0.138	74.54
Petroleum Products - Solid	**MMBtu/short ton**	**kg CO_2/MMBtu**
Petroleum Coke	30.00	102.41
Petroleum Products - Gaseous	**MMBtu/scf**	**kg CO_2/MMBtu**
Propane Gas	2.516E-03	61.46
Other Fuels (Solid)	**MMBtu/short ton**	**kg CO_2/MMBtu**

Table C-2 of Subpart C

Default CH_4 and N_2O Emission Factors for Various Types of Fuel

Revised December 9, 2016

Fuel Type	Default CH_4 Emission Factor (kg CH_4/MMBtu)	Default N_2O Emission Factor (kg N_2O/MMBtu)
Coal and Coke (All fuel types in Table C-1)	1.1E-02	1.6E-03
Natural Gas	1.0E-03	1.0E-04
Petroleum Products (All fuel types in Table C-1)	3.0E-03	6.0E-04
Fuel Gas	3.0E-03	6.0E-04
Other Fuels-Solid	3.2E-02	4.2E-03
Blast Furnace Gas	2.2E-05	1.0E-04
Coke Oven Gas	4.8E-04	1.0E-04
Biomass Fuels - Solid (All fuel types in Table C-1, except wood and wood residuals)	3.2E-02	4.2E-03
Wood and wood residuals	7.2E-03	3.6E-03
Biomass Fuels - Gaseous (All fuel types in Table C-1)	3.2E-03	6.3E-04
Biomass Fuels - Liquid (All fuel types in Table C-1)	1.1E-03	1.1E-04

Note: Those employing this table are assumed to fall under the IPCC definitions of the "Energy Industry" or "Manufacturing Industries and Construction." In all fuels except for coal the values for these two categories are identical. For coal combustion, those who fall within the IPCC "Energy Industry" category may employ a value of 1g of CH_4/mmBtu.

Table AA-1 of Subpart AA

Kraft Pulping Liquor Emissions Factors for Biomass-Based CO_2, CH_4, and N_2O

Revised December 9, 2016

Wood Furnish	Biomass-Based Emissions Factors (kg/MMBtu HHV)		
	CO_2 [(a)]	CH_4	N_2O
North American Softwood	94.4	0.0019	0.00042
North American Hardwood	93.7	0.0019	0.00042
Bagasse	95.5	0.0019	0.00042
Bamboo	93.7	0.0019	0.00042
Straw	95.1	0.0019	0.00042

(a) Includes emissions from both the recovery furnace and pulp mill lime kiln.

Table AA-2 of Subpart AA

Kraft Lime Kiln and Calciner Emissions Factors for Fossil Fuel-Based CH_4 and N_2O

Revised December 9, 2016

Fuel	Fossil Fuel-Based Emissions Factors (kg/MMBtu HHV)			
	Kraft rotary lime kilns		Kraft calciners[(a)]	
	CH_4	N_2O	CH_4	N_2O
Residual Oil	0.0027	0.0000	0.0027	0.0003
Distillate Oil	0.0027	0.0000	0.0027	0.0004
Natural Gas	0.0027	0.0000	0.0027	0.0001
Biogas	0.0027	0.0000	0.0027	0.0001
Petroleum Coke	0.0027	0.0000	N/A	N/A[(b)]

Table II-1 of Subpart II
Emissions Factors

Factors	Default Value	Units
B_0-for facilities monitoring COD	0.25	Kg CH_4/kg COD
B_0-for facilities monitoring BOD_5	0.6	Kg CH_4/kg BOD_5
MCF-anaerobic reactor	0.8	Fraction.
MCF-anaerobic deep lagoon (depth more than 2 m)	0.8	Fraction.
MCF-anaerobic shallow lagoon (depth less than 2 m)	0.2	Fraction.

Table II-2 of Subpart II

Collection Efficiencies of Anaerobic Processes

Anaerobic Process Type	Cover Type	Methane Collection Efficiency
Covered anaerobic lagoon (biogas capture)	Bank to bank, impermeable	0.975
	Modular, impermeable	0.70
Anaerobic sludge digester; anaerobic reactor	Enclosed Vessel	0.99

APPENDIX D –
ROP RENEWAL APPLICATION FORM

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)
B3692	***2621***	***32212***	***MI-ROP-B3692-2015b***	***N/A***

Source Name
Packaging Corporation of America – Filer City Mill

Street Address
2246 Udell St.

City	State	ZIP Code	County
Filer City	***MI***	***49634***	***Manistee***

Section/Town/Range (if address not available)
N/A

Source Description
Packaging Corporation of America Filer City Mill is a semichemical corrugating medium manufacturing 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)
Packaging Corporation of America	***N/A***

Mailing address (☐ check if same as source address)
2246 Udell St.

City	State	ZIP Code	County	Country
Filer City	***MI***	***49634***	***Manistee***	***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: B3692	Section Number (if applicable): N/A

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	
Sara Kaltunas			***Environmental Manager***	
Company Name & Mailing address (☒ check if same as source address)				
Packaging Corporation of America - 2246 Udell St.				
City	State	ZIP Code	County	Country
Filer City	***MI***	***49634***	***Manistee***	***USA***
Phone number		E-mail address		
(231) 723-9951 x465		***SKaltunas@packagingcorp.com***		

Contact 2 Name (optional)			Title	
Dyllan Walker			***Environmental Engineer***	
Company Name & Mailing address (☒ check if same as source address)				
Packaging Corporation of America - 2246 Udell St.				
City	State	ZIP Code	County	Country
Filer City	***MI***	***49634***	***Manistee***	***USA***
Phone number		E-mail address		
(231) 723-1434		***DyllanWalker@packagingcorp.com***		

RESPONSIBLE OFFICIAL INFORMATION

Responsible Official 1 Name			Title	
Andrew Richards			***Mill Manager***	
Company Name & Mailing address (☒ check if same as source address)				
Packaging Corporation of America - 2246 Udell St.				
City	State	ZIP Code	County	Country
Filer City	***MI***	***49634***	***Manistee***	***USA***
Phone number		E-mail address		
(231) 723-9951		***arichards@packagingcorp.com***		

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

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

SRN: B3692	Section Number (if applicable): N/A

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 *N/A*
☒ 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 *N/A*
☒ Criteria Pollutant/Hazardous Air Pollutant (HAP) Potential to Emit Calculations	☐ Cross-State Air Pollution Rule (CSAPR) Information *N/A*
☒ MAERS Forms (to report emissions not previously submitted)	☐ Confidential Information *N/A*
☐ Copies of all Consent Order/Consent Judgments that have not been incorporated into existing ROP *N/A*	☒ 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: ***PCA has included copies of all external documents that apply.***

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)
Andrew Richards, Mill 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.

Andrew Richards — **Signature of Responsible Official**

10/2/19 — **Date**

SRN: B3692	Section Number (if applicable): N/A

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 the MDEQ, one must be included with the ROP renewal application on an AI-001 Form. If the CAM Plan has been updated, include an updated copy. Is a CAM plan included with this application? If a CAM Plan is included, check the type of proposed monitoring included in the Plan: 1. Monitoring proposed by the source based on performance of the control device, or 2. Presumptively Acceptable Monitoring, if eligible	☒ Yes ☐ No ☒ Yes ☐ No ☒ ☐
C9.	Does the source have any plans such as a malfunction abatement plan, fugitive dust plan, operation/maintenance plan, or any other monitoring plan that is referenced in an existing ROP, Permit to Install requirement, or any other applicable requirement? If Yes, then a copy must be submitted as part of the ROP renewal application.	☒ Yes ☐ No
C10.	Are there any specific requirements that the source proposes to be identified in the ROP as non-applicable? If Yes, then a description of the requirement and justification must be submitted as part of the ROP renewal application on an AI-001 Form.	☒ Yes ☐ No

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

SRN: B3692	Section Number (if applicable): N/A

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:

Question D1: Please refer to Table 2-3 of the application narrative for a list of 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.

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

PART E: EXISTING ROP INFORMATION

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

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

Comments:

EUCOALHANDLING no longer exists now that the Mill has ceased firing coal. As part of the PTI Application dated December 2018 PCA proposed to rename the EUCOALHANDLING emissions unit "EUSOLIDFUELTRAN" (i.e., Solid Fuel Handling Equipment). Refer to Appendix B and the PTI Application dated December 2018 for more information.

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

PART F: PERMIT TO INSTALL (PTI) INFORMATION

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

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

Permit to Install Number	Emission Units/Flexible Group ID(s)	Description (*Include Process Equipment, Control Devices and Monitoring Devices*)	Date Emission Unit was Installed/ Modified/ Reconstructed
PTI No. 209-18	***EUBOILER1***	***Boiler No. 1 has a maximum heat input rating of 240 MMBtu/hr and is equipped with low NO_X burners and FGR. The boiler fires natural gas and/or biogas. NCG from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.***	***01/01/50 12/06/80 09/02/83 Pending***
PTI No. 209-18	***EUBOILER2***	***Boiler No. 2 has a maximum heat input rating of 186 MMBtu/hr and is equipped with low NO_X burners. The boiler fires natural gas and/or biogas.. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.***	***01/01/50 12/06/80 09/02/83 12/06/84 Pending***
PTI No. 209-18	***EUBOILER4A***	***Boiler No. 4A is a natural gas and biogas-fired Babcock and Wilcox Model No. FM120-97 boiler. The boiler's maximum heat capacity is 227 MMBtu/hr and is equipped with low NOx burners. NCGs from the LVHC system will be primarily routed to Boiler No. 1 for destruction, with Boiler No. 2 and Boiler No. 4A as backup.***	***11/01/02 Pending***
PTI No. 209-18	***EUBOILER5***	***A BFB boiler with a heat input capacity of 302 MMBtu/hr. The boiler will burn wood, wood waste, primary clarifier residuals, paper recycling residuals, TDF, and natural gas.***	***Pending***

PTI No. 209-18	***EUSOLIDFUELTRAN***	***Existing enclosed wood and wood waste conveyors and new covered conveyors will transport solid fuels of wood and wood waste, TDF, paper recycling residuals, and primary clarifier residuals. The fuel streams will be blended while traveling along the new wood and wood waste conveyor before entering Building 4 and being deposited into a fuel storage bin.***	***Pending***
PTI No. 209-18	***EUSANDSILO***	***Sand silo used to store sand used in EUBOILER5.***	***Pending***
PTI No. 209-18	***EUWASHERS***	***Pulp washing system and LVHC collection system.***	***Pending***

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-Form F***

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: B3692	Section Number (if applicable): N/A

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-Part H***

EGLE

RENEWABLE OPERATING PERMIT APPLICATION
AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

	SRN: B3692	Section Number (if applicable): N/A

1. Additional Information ID
AI-Part C

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

Question C1: Please see Appendix E for copies of 2018 MAERS forms which reflect updated calculation methodologies for EUBOILER1, EUBOILER2, and EUBOILER4A. The updates were prepared for consistency with the calculation approaches utilized in the December 2018 PTI Application submittal.

Question C4: Please see Appendix B, the Mill's PTI Application Submittal dated December 2018, and the supplementary PTI Application submittal to Ms. Melissa Byrnes dated June 14, 2019. Within Appendix B, annual criteria pollutant PTE rates for sources added or modified since the last ROP renewal are listed as emissions limitations within the recently issued PTI. Pursuant to the September 26, 2019 conference call between Mr. Shane Nixon (EGLE), Ms. Sara Kaltunas (PCA), and Ms. Megan Uhler (ALL4 LLC) and the instructions to Question C4 herein, PCA understands that reference to the annual criteria pollutant PTE rates provided within these recent submittals combined with provision of the Mill's 2018 MAERS submittal for sources not added or modified since the last ROP renewal fulfills EGLE's request concerning criteria pollutant PTE rates for the Mill.

Question C5: Please see PCA's PTI application submittal dated December 2018 and the supplementary PTI Application information emailed to Ms. Melissa Byrnes of EGLE on April 5, 2019. Pursuant to the September 26, 2019 conference call between Mr. Shane Nixon (EGLE), Ms. Sara Kaltunas (PCA), and Ms. Megan Uhler (ALL4 LLC) and the instructions to Question C5 herein, annual HAP PTE rates for equipment added and modified since last ROP renewal were presented within the supplementary PTI Application information emailed to Ms. Melissa Byrnes of EGLE on April 5, 2019. Pursuant to the September 26, 2019 conference call, PCA understands that reference to the annual HAP PTE rates established within this recent submittal fulfills EGLE's request concerning HAP PTE rates for the Mill.

Question C8: Please see Appendix C for copies of the Mill's current CAM plans.

Question C10: PCA requests clarification within the ROP Section E Non-Applicable Requirements summary that EUCOPELAND+DISTANK is not a kraft recovery furnace or sulfite combustion unit, and therefore not subject to the PM standard for kraft recovery furnaces or sulfite combustion units under 40 CFR Part 63, Subpart MM.

EGLE

RENEWABLE OPERATING PERMIT APPLICATION
AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

	SRN: B3692	Section Number (if applicable): N/A

1. Additional Information ID
AI-Part F

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

Questions F2 and F3: PCA has provided a redline version of the current ROP in Appendix A which outlines all proposed changes being requested to the current ROP in order to incorporate the terms of PTI No. 209-18.

Question F4: A new shared stack being constructed during 2019 will serve EUBOILER1, EUBOILER2, and EUBOILER5.

EGLE

RENEWABLE OPERATING PERMIT APPLICATION
AI-001: ADDITIONAL INFORMATION

This information is required by Article II, Chapter 1, part 55 (Air Pollution Control) of P.A. 451 of 1994, as amended, and the Federal Clean Air Act of 1990. Failure to obtain a permit required by Part 55 may result in penalties and/or imprisonment. Please type or print clearly. Refer to instructions for additional information to complete this form.

	SRN: B3692	Section Number (if applicable): N/A

1. Additional Information ID
AI-Part H

Additional Information

2. Is This Information Confidential? ☐ Yes ☒ No

Question H4: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to state or federal requirements.

Question H8: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to Emissions limits.

Question H9: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to material limits.

Question H10: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to process/operational restrictions.

Question H11: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to design/equipment parameters.

Question H12: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to testing/sampling requirements.

Question H13: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to monitoring/recordkeeping requirements.

Question H14: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to reporting requirements.

Question H15: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to stack/vent information.

Question H16: Please refer to the application narrative and to the markup version of the current ROP in Appendix A for additional information regarding the proposed addition/change(s)/deletions to other changes to the ROP.

APPENDIX E –
UPDATED 2018 MAERS FORMS

Michigan Department of Environmental Quality - Air Quality Division
Michigan Air Emissions Reporting System (MAERS)

S-101 SOURCE

1. INVENTORY YEAR
2018

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

GENERAL INSTRUCTIONS: Refer to last year's MAERS forms or summary report for information previously submitted, and complete this form with additions or corrections as necessary. For more detailed instructions refer to the MAERS General Instructions Booklet. This MAERS form is used to report source information for a **specific inventory year**. Enter the **specific inventory year** in field 1.

FORM REFERENCE

2. Form Type **S-101**	3. AQD Source ID (SRN) *B3692*

SOURCE IDENTIFICATION

N/A ☐ Change ☐ Add

4. Source Name		
5. NAICS Code	6. Portable ☐ Yes ☐ No	
7A. Street Number and Name (where emission unit(s) is located)		
7B. Address Continued		
8. County	9. City	10. Zip Code

11. Latitude	12. Longitude	13. Horizontal Collection Method
_ _ ▪ _ _ _ _ _ _ Decimal Degrees	_ _ ▪ _ _ _ _ _ _ Decimal Degrees	

14. Source Map Scale Number	15. Horizontal Accuracy Measure Meters
16. Horizontal Reference Datum Code	17. Reference Point Code

18. Principal Product	19. Number of Employees
20. Employer Federal Identification Number	

OWNER INFORMATION

N/A ☐ Change ☐ Add

20. Owner Name			
21A. Mailing Address (Street Number and Name or P.O. Box)			
21B. Address Continued			
22. City	23. State/Province	24. Country	25. Zip or Postal Code

Michigan Department of Environmental Quality - Air Quality Division
Michigan Air Emissions Reporting System (MAERS)

S-102 CONTACT

1. INVENTORY YEAR
2018

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

GENERAL INSTRUCTIONS: Refer to last year's MAERS forms or summary report for information previously submitted, and complete this form with additions or corrections as necessary. For more detailed instructions refer to the MAERS General Instructions Booklet. This MAERS form is used to report an emissions contact and a fee contact (if applicable) for a **specific inventory year**. Enter the **specific inventory year** in field 1.

FORM REFERENCE

2. Form Type **S-102**	3. AQD Source ID (SRN) *B3692*

EMISSION INVENTORY CONTACT INFORMATION

N/A ☐ Change ☐ Add ☐ Delete

4. Contact First Name, Middle Initial	5. Contact Last Name	6. Contact Title	
7A. Mailing Address (Street Number and Name or P.O. Box)			
7B. Address Continued			
8. City	9. State/Province	10. Country	11. Zip or Postal Code
12. E-Mail Address (if available)			
13A. Telephone Number	13B. Telephone Extension	14. Fax Number	

FEE INVOICE CONTACT INFORMATION (Fee Subject Facilities Only)

N/A ☐ Change ☐ Add ☐ Delete

15. Contact First Name, Middle Initial	16. Contact Last Name	17. Contact Title	
18A. Mailing Address (Street Number and Name or P.O. Box)			
18B. Address Continued			
19. City	20. State/Province	21. Country	22. Zip or Postal Code
23. E-Mail Address (if available)			
24A. Telephone Number	24B. Telephone Extension	25. Fax Number	

DEQ

Michigan Department of Environmental Quality - Air Quality Division
Michigan Air Emissions Reporting System (MAERS)

P-101 PREPARER

1. INVENTORY YEAR
2018

(optional form)
Authorized under 1994 P.A. 451, as amended.

GENERAL INSTRUCTIONS: Refer to last year's MAERS forms or summary report for information previously submitted, and complete this form with additions or corrections as necessary. For more detailed instructions refer to the MAERS General Instructions Booklet. This MAERS form is optional, it is used to report who prepared the emission unit, associated activity and emissions forms for a **specific inventory year**. Enter the **specific inventory year** in field 1.

FORM REFERENCE

2. Form Type **P-101**	3. AQD Source ID (SRN) B3692

PREPARER'S INFORMATION N/A

☐ Change ☐ Add

4. Preparer's First Name, Middle Initial	5. Preparer's Last Name	
6. Preparer's Title		7. Remove from MAERS ☐ Yes ☐ No
8A. Mailing Address (Street Number and Name or P.O. Box)		
8B. Address Continued		
9. City Filer City	10. State/Province	11. Country / 12. Zip or Postal Code
13. E-Mail Address (if available)		
14A. Telephone Number	14B. Telephone Extension	15. Fax Number

PREPARER'S ID (only complete this area if you have more than one preparer) N/A

16. Emission Unit (EU) or Reporting Group (RG) ID	(Please Check One Box)	16. Emission Unit (EU) or Reporting Group (RG) ID	(Please Check One Box)	16. Emission Unit (EU) or Reporting Group (RG) ID	(Please Check One Box)
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DEQ

Michigan Department of Environmental Quality - Air Quality Division
Michigan Air Emissions Reporting System (MAERS)

SB-101 SUBMIT FORM

1. INVENTORY YEAR
2018

(Required Form)

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

GENERAL INSTRUCTIONS: Complete this form. For detailed instructions refer to the MAERS General Instructions Booklet. This MAERS form is used to submit a completed MAERS Report for a **specific inventory year.** Enter the **specific inventory year** in field 1.

FORM REFERENCE

2. Form Type	3. AQD Source ID (SRN)
SB-101	B3692

COMPANY CONTACT'S Identification

4. Source Name		
Packaging Corporation of America - Filer City Mill		
5. First Name: Sara	6. Last Name: Kaltunas	7. Title: Environmental Manager
8A. Street Number and Name: 2246 Udell St		
8B. Address Continued		
9. City: Filer City	10. State: MI	11. Zip Code: 49634
12. E-Mail Address: skaltunas@packagingcorp.com		
13A. Telephone Number: (231) 723-9951	13B. Telephone Extension: 465	14. Fax Number: (231) 723-8140
15. Submittal Method: ☒ Web submission ☐ Paper		16. Amended Submittal: ☐ Yes ☒ No

COMPANY CONTACT'S SIGNATURE

Based on information and belief formed after reasonable inquiry, the statements and information in this submittal are true, accurate, and complete.

17. Signature	18. Date
Sara Kaltunas	10-2-19

Michigan Department of Environmental Quality - Air Quality Division
Michigan Air Emissions Reporting System (MAERS)

E-101 EMISSIONS

1. INVENTORY YEAR *2018*

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

GENERAL INSTRUCTIONS: Refer to last year's MAERS forms or summary report for information previously submitted, and complete this form as applicable with additions or corrections as necessary. For more detailed instructions refer to the MAERS General Instructions Booklet. This MAERS form is used to report each activity's emissions for a **specific inventory year**. Enter the **specific inventory year** in field 1.

FORM REFERENCE

2. Form Type	3. AQD Source ID (SRN)	4. Emission Unit (EU) OR Reporting Group (RG) ID
E-101	*B3692*	*EUBOILER1*

5. Source Classification Code (SCC)	6. Material Code
10200601	*Natural Gas*

EMISSION INFORMATION

[X] Change [ ] Add [ ] Delete

7A. Pollutant Code	7B. Annual Emissions
PM2.5, PRIMARY	*764* Pounds

8. Emission Basis (Please check one): [ ] CEM [ ] Stack Test [ ] PEM [ ] Mass Balance [ ] Tank Model [ ] Landfill Model [ ] MAERS Emission Factor [X] Other (Attach Description) *2006 U.S. EPA RTP Guidance*

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
4. 17	*-4*	*lbs/MMBtu*	____.____ Weight Percent

11. Comment

EMISSION INFORMATION

[X] Change [ ] Add [ ] Delete

7A. Pollutant Code	7B. Annual Emissions
PM10, PRIMARY	*937* Pounds

8. Emission Basis (Please check one): [ ] CEM [ ] Stack Test [ ] PEM [ ] Mass Balance [ ] Tank Model [ ] Landfill Model [ ] MAERS Emission Factor [X] Other (Attach Description) *2006 U.S. EPA RTP Guidance*

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
5 . 11	*-4*	*lbs/MMBtu*	____.____ Weight Percent

11. Comment

EMISSION INFORMATION

[X] Change [ ] Add [ ] Delete

7A. Pollutant Code	7B. Annual Emissions
NOx	*574214* Pounds

8. Emission Basis (Please check one): [ ] CEM [X] Stack Test [ ] PEM [ ] Mass Balance [ ] Tank Model [ ] Landfill Model [ ] MAERS Emission Factor [ ] Other (Attach Description)

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
3 . 1	*2*	*lbs/MMCF*	____.____ Weight Percent

11. Comment

EMISSION INFORMATION *N/A*

[ ] Change [ ] Add [ ] Delete

7A. Pollutant Code	7B. Annual Emissions
	Pounds

8. Emission Basis (Please check one): [ ] CEM [ ] Stack Test [ ] PEM [ ] Mass Balance [ ] Tank Model [ ] Landfill Model [ ] MAERS Emission Factor [ ] Other (Attach Description)

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
____.____			____.____ Weight Percent

11. Comment

Michigan Department of Environmental Quality - Air Quality Division
Michigan Air Emissions Reporting System (MAERS)

EU-101 EMISSION UNIT

1. INVENTORY YEAR *2018*

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

GENERAL INSTRUCTIONS: Refer to last year's MAERS forms or summary report for information previously submitted, and complete this form as applicable with additions or corrections as necessary. For more detailed instructions refer to the MAERS General Instructions Booklet. This MAERS form is used to report emission units used in a **specific inventory year**. Enter the **inventory year** for which the emission units are being reported in field 1.

FORM REFERENCE

2. Form Type **EU-101**	3. AQD Source ID (SRN) *B3692*

OPERATOR'S EMISSION UNIT IDENTIFICATION

☒ Change ☐ Add

4. AQD Emission Unit ID	5. Emission Unit ID	6. Emission Unit Type
EU0037	*EUBOILER1*	*Boiler*
7. NAICS Code (if different from S-101 #5)	**8. Installation Date MM/DD/YYYY**	**9. Dismantle Date MM/DD/YYYY**
322121	*01/01/1950*	*N/A*

10. Operator's Emission Unit Description – (Include process equipment and control devices)

Boiler No. 1 has a maximum heat input rating of 240 MMBtu/hr. The boiler is permitted to burn natural gas and biogas.

11. Design Capacity *240*	12. Design Capacity Unit Numerator *MMBtu*	13. Design Capacity Unit Denominator *Hour*

14. Maximum Nameplate Capacity *N/A* Megawatts

RULE 201 APPLICABILITY

15. Grandfathered? ☐ Yes ☒ No

16. Exempt from Rule 201? ☐ Yes ☒ No	17. If Yes, Rule Number

18. If Rule 201 Exempt, Is Throughput Below Reporting Thresholds? ☐ Yes ☐ No

19. Permit? ☒ Yes ☐ ☐ No	20. If Yes, Enter the Permit Number *MI-ROP-B3692-2015b*

21. Is this emission unit required to report emissions to MAERS for this reporting year (inventory year)? ☒ Yes ☐ No

CONTROL DEVICE(S)

22. Control Device Code *N/A*	☐Add ☐Delete	22. Control Device Code	☐Add ☐Delete
22. Control Device Code	☐Add ☐Delete	22. Control Device Code	☐Add ☐Delete
22. Control Device Code	☐Add ☐Delete	22. Control Device Code	☐Add ☐Delete

EMISSION UNIT STACK(S)

23. Operator's Stack ID **SV** *917*	☐Add ☐Delete	23. Operator's Stack ID **SV**	☐Add ☐Delete
23. Operator's Stack ID **SV**	☐Add ☐Delete	23. Operator's Stack ID **SV**	☐Add ☐Delete
23. Operator's Stack ID **SV**	☐Add ☐Delete	23. Operator's Stack ID **SV**	☐Add ☐Delete
23. Operator's Stack ID **SV**	☐Add ☐Delete	23. Operator's Stack ID **SV**	☐Add ☐Delete
23. Operator's Stack ID **SV**	☐Add ☐Delete	23. Operator's Stack ID **SV**	☐Add ☐Delete

DEQ

Michigan Department of Environmental Quality - Air Quality Division
Michigan Air Emissions Reporting System (MAERS)

E-101 EMISSIONS

1. INVENTORY YEAR *2018*

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

GENERAL INSTRUCTIONS: Refer to last year's MAERS forms or summary report for information previously submitted, and complete this form as applicable with additions or corrections as necessary. For more detailed instructions refer to the MAERS General Instructions Booklet. This MAERS form is used to report each activity's emissions for a **specific inventory year**. Enter the **specific inventory year** in field 1.

FORM REFERENCE

2. Form Type	3. AQD Source ID (SRN)	4. Emission Unit (EU) OR Reporting Group (RG) ID
E-101	*B3692*	*EUBOILER2*

5. Source Classification Code (SCC)	6. Material Code
10200601	*Natural Gas*

EMISSION INFORMATION

☒ Change ☐ Add ☐ Delete

7A. Pollutant Code	7B. Annual Emissions
PM2.5, PRIMARY	*400* Pounds

8. Emission Basis (Please check one): ☐ CEM ☐ Stack Test ☐ PEM ☐ Mass Balance ☐ Tank Model ☐ Landfill Model ☐ MAERS Emission Factor ☒ Other (Attach Description) *2006 U.S. EPA RTP Guidance*

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
4.17	*-4*	*lbs/MMBtu*	___ ___ ___.___ ___ Weight Percent

11. Comment

EMISSION INFORMATION

☒ Change ☐ Add ☐ Delete

7A. Pollutant Code	7B. Annual Emissions
PM10, PRIMARY	*490* Pounds

8. Emission Basis (Please check one): ☐ CEM ☐ Stack Test ☐ PEM ☐ Mass Balance ☐ Tank Model ☐ Landfill Model ☐ MAERS Emission Factor ☒ Other (Attach Description) *2006 U.S. EPA RTP Guidance*

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
5.11	*-4*	*lbs/MMBtu*	___ ___ ___.___ ___ Weight Percent

11. Comment

EMISSION INFORMATION

☒ Change ☐ Add ☐ Delete

7A. Pollutant Code	7B. Annual Emissions
NOX	*120,736* Pounds

8. Emission Basis (Please check one): ☒ CEM ☐ Stack Test ☐ PEM ☐ Mass Balance ☐ Tank Model ☐ Landfill Model ☐ MAERS Emission Factor ☐ Other (Attach Description)

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
1.26	*-1*	*lbs/MMBtu*	___ ___ ___.___ ___ Weight Percent

11. Comment

EMISSION INFORMATION *N/A*

☐ Change ☐ Add ☐ Delete

7A. Pollutant Code	7B. Annual Emissions
	Pounds

8. Emission Basis (Please check one): ☐ CEM ☐ Stack Test ☐ PEM ☐ Mass Balance ☐ Tank Model ☐ Landfill Model ☐ MAERS Emission Factor ☐ Other (Attach Description)

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
___.___ ___ ___	___ ___ ___		___ ___ ___.___ ___ Weight Percent

11. Comment

Michigan Department of Environmental Quality - Air Quality Division
Michigan Air Emissions Reporting System (MAERS)

EU-101 EMISSION UNIT

1. INVENTORY YEAR
2018

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

GENERAL INSTRUCTIONS: Refer to last year's MAERS forms or summary report for information previously submitted, and complete this form as applicable with additions or corrections as necessary. For more detailed instructions refer to the MAERS General Instructions Booklet. This MAERS form is used to report emission units used in a **specific inventory year**. Enter the **inventory year** for which the emission units are being reported in field 1.

FORM REFERENCE

2. Form Type	3. AQD Source ID (SRN)
EU-101	B3692

OPERATOR'S EMISSION UNIT IDENTIFICATION

☒ Change ☐ Add

4. AQD Emission Unit ID	5. Emission Unit ID	6. Emission Unit Type
EU0038	EUBOILER2	Boiler
7. NAICS Code (if different from S-101 #5)	**8. Installation Date MM/DD/YYYY**	**9. Dismantle Date MM/DD/YYYY**
322121	01/01/1950	N/A

10. Operator's Emission Unit Description – (Include process equipment and control devices)

Boiler No. 2 has a maximum heat input rating of 186 MMBtu/hr and is equipped with low-NOx burners. The boiler is permitted to burn natural gas and biogas.

11. Design Capacity	12. Design Capacity Unit Numerator	13. Design Capacity Unit Denominator
186	MMBtu	Hour

14. Maximum Nameplate Capacity N/A Megawatts

RULE 201 APPLICABILITY

15. Grandfathered? ☐ Yes ☒ No

16. Exempt from Rule 201? ☐ Yes ☒ No

17. If Yes, Rule Number

18. If Rule 201 Exempt, Is Throughput Below Reporting Thresholds? ☐ Yes ☐ No

19. Permit? ☒ Yes ☐ ☐ No

20. If Yes, Enter the Permit Number MI-ROP-B3692-2015b

21. Is this emission unit required to report emissions to MAERS for this reporting year (inventory year)? ☒ Yes ☐ No

CONTROL DEVICE(S)

22. Control Device Code: Low NOx Burners	☐Add ☐Delete	22. Control Device Code	☐Add ☐Delete
22. Control Device Code	☐Add ☐Delete	22. Control Device Code	☐Add ☐Delete
22. Control Device Code	☐Add ☐Delete	22. Control Device Code	☐Add ☐Delete

EMISSION UNIT STACK(S)

23. Operator's Stack ID: SV917	☐Add ☐Delete	23. Operator's Stack ID: SV	☐Add ☐Delete
23. Operator's Stack ID: SV	☐Add ☐Delete	23. Operator's Stack ID: SV	☐Add ☐Delete
23. Operator's Stack ID: SV	☐Add ☐Delete	23. Operator's Stack ID: SV	☐Add ☐Delete
23. Operator's Stack ID: SV	☐Add ☐Delete	23. Operator's Stack ID: SV	☐Add ☐Delete
23. Operator's Stack ID: SV	☐Add ☐Delete	23. Operator's Stack ID: SV	☐Add ☐Delete

Michigan Department of Environmental Quality - Air Quality Division
Michigan Air Emissions Reporting System (MAERS)

E-101 EMISSIONS

1. INVENTORY YEAR *2018*

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

GENERAL INSTRUCTIONS: Refer to last year's MAERS forms or summary report for information previously submitted, and complete this form as applicable with additions or corrections as necessary. For more detailed instructions refer to the MAERS General Instructions Booklet. This MAERS form is used to report each activity's emissions for a **specific inventory year**. Enter the **specific inventory year** in field 1.

FORM REFERENCE

2. Form Type	3. AQD Source ID (SRN)	4. Emission Unit (EU) OR Reporting Group (RG) ID
E-101	*B3692*	*EUBOILER4A*

5. Source Classification Code (SCC)	6. Material Code
10200601	*Natural Gas*

EMISSION INFORMATION

☒ Change ☐ Add ☐ Delete

7A. Pollutant Code: *PM2.5, PRIMARY*

7B. Annual Emissions: *460* Pounds

8. Emission Basis **(Please check one)**: ☐ CEM ☐ Stack Test ☐ PEM ☐ Mass Balance ☐ Tank Model ☐ Landfill Model ☐ MAERS Emission Factor ☒ Other (Attach Description) *2006 U.S. EPA RTP Guidance*

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
4.17	*-4*	*lbs/MMBtu*	___ ___ ___.___ ___ Weight Percent

11. Comment

EMISSION INFORMATION

☒ Change ☐ Add ☐ Delete

7A. Pollutant Code: *PM10, PRIMARY*

7B. Annual Emissions: *564* Pounds

8. Emission Basis **(Please check one)**: ☐ CEM ☐ Stack Test ☐ PEM ☐ Mass Balance ☐ Tank Model ☐ Landfill Model ☐ MAERS Emission Factor ☒ Other (Attach Description) *2006 U.S. EPA RTP Guidance*

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
5.11	*-4*	*lbs/MMBtu*	___ ___ ___.___ ___ Weight Percent

11. Comment

EMISSION INFORMATION

☒ Change ☐ Add ☐ Delete

7A. Pollutant Code: *NOX*

7B. Annual Emissions: Pounds

8. Emission Basis **(Please check one)**: ☒ CEM ☐ Stack Test ☐ PEM ☐ Mass Balance ☐ Tank Model ☐ Landfill Model ☐ MAERS Emission Factor ☐ Other (Attach Description)

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
90.9	*N/A*	*lbs/MMcf*	___ ___ ___.___ ___ Weight Percent

11. Comment

EMISSION INFORMATION *N/A*

☐ Change ☐ Add ☐ Delete

7A. Pollutant Code:

7B. Annual Emissions: Pounds

8. Emission Basis **(Please check one)**: ☐ CEM ☐ Stack Test ☐ PEM ☐ Mass Balance ☐ Tank Model ☐ Landfill Model ☐ MAERS Emission Factor ☐ Other (Attach Description)

9A. List Emission Factor	9B. Exponent	9C. Emission Factor Unit Code	10. Control Efficiency
___.___ ___ ___	___ ___ ___		___ ___ ___.___ ___ Weight Percent

11. Comment

Michigan Department of Environmental Quality - Air Quality Division
Michigan Air Emissions Reporting System (MAERS)

EU-101 EMISSION UNIT

1. INVENTORY YEAR
2018

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

GENERAL INSTRUCTIONS: Refer to last year's MAERS forms or summary report for information previously submitted, and complete this form as applicable with additions or corrections as necessary. For more detailed instructions refer to the MAERS General Instructions Booklet. This MAERS form is used to report emission units used in a **specific inventory year**. Enter the **inventory year** for which the emission units are being reported in field 1.

FORM REFERENCE

2. Form Type	3. AQD Source ID (SRN)
EU-101	B3692

OPERATOR'S EMISSION UNIT IDENTIFICATION

☒ Change ☐ Add

4. AQD Emission Unit ID	5. Emission Unit ID	6. Emission Unit Type
EU0022	EUBOILER4A	Boiler
7. NAICS Code (if different from S-101 #5)	**8. Installation Date MM/DD/YYYY**	**9. Dismantle Date MM/DD/YYYY**
322121	11/01/2002	N/A

10. Operator's Emission Unit Description – (Include process equipment and control devices)

Natural gas and biogas-fired Babcock and Wilcox Model No. FM120-97 boiler. The boiler's maximum heat capacity is 227 MMBtu/hr and is equipped with low NOx burners.

11. Design Capacity	12. Design Capacity Unit Numerator	13. Design Capacity Unit Denominator
227	MMBtu	Hour

14. Maximum Nameplate Capacity N/A Megawatts

RULE 201 APPLICABILITY

15. Grandfathered? ☐ Yes ☒ No

16. Exempt from Rule 201? ☐ Yes ☒ No

17. If Yes, Rule Number

18. If Rule 201 Exempt, Is Throughput Below Reporting Thresholds? ☐ Yes ☐ No

19. Permit? ☒ Yes ☐ ☐ No

20. If Yes, Enter the Permit Number MI-ROP-B3692-2015b

21. Is this emission unit required to report emissions to MAERS for this reporting year (inventory year)? ☒ Yes ☐ No

CONTROL DEVICE(S)

22. Control Device Code: Low NOx Burners	☐ Add ☐ Delete	22. Control Device Code	☐ Add ☐ Delete
22. Control Device Code	☐ Add ☐ Delete	22. Control Device Code	☐ Add ☐ Delete
22. Control Device Code	☐ Add ☐ Delete	22. Control Device Code	☐ Add ☐ Delete

EMISSION UNIT STACK(S)

23. Operator's Stack ID: SV BL4A	☐ Add ☐ Delete	23. Operator's Stack ID: SV	☐ Add ☐ Delete
23. Operator's Stack ID: SV	☐ Add ☐ Delete	23. Operator's Stack ID: SV	☐ Add ☐ Delete
23. Operator's Stack ID: SV	☐ Add ☐ Delete	23. Operator's Stack ID: SV	☐ Add ☐ Delete
23. Operator's Stack ID: SV	☐ Add ☐ Delete	23. Operator's Stack ID: SV	☐ Add ☐ Delete
23. Operator's Stack ID: SV	☐ Add ☐ Delete	23. Operator's Stack ID: SV	☐ Add ☐ Delete

APPENDIX F –
ORIGINAL 2018 MAERS SUBMITTAL

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Source Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE

Form Type	**Source**	AQD Source ID (SRN)	**B3692**

SOURCE IDENTIFICATION

Source Name	**Packaging Corporation of America - Filer City Mill**				
NAICS Code	**322121**			Portable	**No**
Physical Address (Street Address 1)	**2246 Udell St.**				
Physical Address (Street Address 2)					
County	**MANISTEE**	City	**FILER CITY**	Zip Code	**49634-**
Latitude	**44.2133 Decimal Degrees**			Longitude	**-86.2867 Decimal Degrees**
Horizontal Collection Method	**018**				
Source Map Scale Number	**25000**			Horizontal Accuracy Measure	**100 Meters**
Horizontal Reference Datum Code	**01**			Reference Point Code	**101**
Principal Product	**CORRUGATING MEDIUM**			Number of Employees	**337**
Employer Federal Identification Number	**364277050**				

OWNER INFORMATION

Owner Name	**Packaging Corporation of America**		
Mailing Address (Street Address 1)	**1955 West Field Court**		
Mailing Address (Street Address 2)			
City	**Lake Forest**	State/Pro vince	**IL**
Country	**USA**	Zip or Postal Code	**60045-**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Contact Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Contact**	AQD Source ID (SRN)	**B3692**

EMISSION INVENTORY CONTACT (PRIMARY) INFORMATION							
Contact First Name, Middle Initial	**Sara M**			Contact Last Name	**Kaltunas**		
Contact Title	**ENVIRONMENTAL MANAGER**						
Mailing Address (Street Address 1)	**2246 UDELL STREET**						
Mailing Address (Street Address 2)							
City	**FILER CITY**	State/Province	**MI**	Country	**USA**	Zip Code	**49634**
E-Mail Address (if available)	**skaltunas@packagingcorp.com**						
Telephone Number	**(231) 7239951**			Telephone Extension	**465**		
Fax Number	**()**						

EMISSION INVENTORY CONTACT (SECONDARY) INFORMATION							
Contact First Name, Middle Initial	**Dyllan**			Contact Last Name	**Walker**		
Contact Title	**Environmental Engineer**						
Mailing Address (Street Address 1)	**2246 Udell St**						
Mailing Address (Street Address 2)							
City	**Filer City**	State/Province	**MI**	Country	**USA**	Zip Code	**49634**
E-Mail Address (if available)	**DyllanWalker@packagingcorp.com**						
Telephone Number	**(231) 7239951**			Telephone Extension	**434**		
Fax Number	**()**						

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Contact Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Contact**	AQD Source ID (SRN)	**B3692**

FEE INVOICE CONTACT INFORMATION (Fee Subject Facilities Only)							
Contact First Name, Middle Initial	**Sara M**			Contact Last Name	**Kaltunas**		
Contact Title	**ENVIRONMENTAL MANAGER**						
Mailing Address (Street Address 1)	**2246 UDELL STREET**						
Mailing Address (Street Address 2)							
City	**FILER CITY**	State/Province	**MI**	Country	**USA**	Zip Code	**49634**
E-Mail Address (if available)	**skaltunas@packagingcorp.com**						
Telephone Number	**(231) 7239951**			Telephone Extension	**465**		
Fax Number	**()**						

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Stack Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Stack**	AQD Source ID (SRN)	**B3692**

STACK IDENTIFICATION					
AQD Stack ID	**SV0002**	Stack ID	**SV102**		
Dismantle Date (MM/DD/YYYY)					
Stack Description	**Copeland Reactor Exhaust and Dissolving Tank**				
Actual Stack Height Above Ground	**140** feet	Inside Stack Diameter	**87** inches		
Exit Gas Temperature	**419** degrees Fahrenheit	Actual Exit Gas Flow Rate	**100593** cubic feet per minute		
Stack Orientation	**Vertical**	Exit Velocity of Gas (in feet per second):	**40.6116**		
Latitude	**44.2153** Decimal Degrees	Longitude	**-86.2842** Decimal Degrees		
Horizontal Collection Method	**018**	Source Map Scale Number	**25000**	Horizontal Accuracy Measure	**100** Meters
Horizontal Reference Datum Code	**01**	Reference Point Code	**106**		
Bypass Stack Only	**N**	If yes, Stack ID of main stack			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Stack Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Stack**	AQD Source ID (SRN)	**B3692**

STACK IDENTIFICATION					
AQD Stack ID	**SV0013**	Stack ID	**SV917**		
Dismantle Date (MM/DD/YYYY)					
Stack Description	**Boilers Nos. 1 & 2. Also residual emissions from EUDIGESTERS, EUWASHERS, and RGEVAPORATORS after MACT I incineration in Boiler No. 1 or 2**				
Actual Stack Height Above Ground	**193** feet	Inside Stack Diameter	**144** inches		
Exit Gas Temperature	**358** degrees Fahrenheit	Actual Exit Gas Flow Rate	**138000** cubic feet per minute		
Stack Orientation	**Vertical**	Exit Velocity of Gas (in feet per second):	**20.3365**		
Latitude	**44.2158** Decimal Degrees	Longitude	**-86.2842** Decimal Degrees		
Horizontal Collection Method	**018**	Source Map Scale Number	**25000**	Horizontal Accuracy Measure	**100** Meters
Horizontal Reference Datum Code	**01**	Reference Point Code	**106**		
Bypass Stack Only	**N**	If yes, Stack ID of main stack			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Stack Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Stack**	AQD Source ID (SRN)	**B3692**

STACK IDENTIFICATION					
AQD Stack ID	**SV0017**	Stack ID	**SVBL4A**		
Dismantle Date (MM/DD/YYYY)					
Stack Description	**Boiler No. 4A**				
Actual Stack Height Above Ground	**116** feet	Inside Stack Diameter	**67.5** inches		
Exit Gas Temperature	**436** degrees Fahrenheit	Actual Exit Gas Flow Rate	**67708** cubic feet per minute		
Stack Orientation	**Vertical**	Exit Velocity of Gas (in feet per second):	**45.4102**		
Latitude	**44.2161** Decimal Degrees	Longitude	**-86.2844** Decimal Degrees		
Horizontal Collection Method	**018**	Source Map Scale Number	**25000**	Horizontal Accuracy Measure	**100** Meters
Horizontal Reference Datum Code	**01**	Reference Point Code	**106**		
Bypass Stack Only	**N**	If yes, Stack ID of main stack			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Stack Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Stack**	AQD Source ID (SRN)	**B3692**

STACK IDENTIFICATION							
AQD Stack ID	**SV0075**		Stack ID	**SVBIOGASFLARE**			
Dismantle Date (MM/DD/YYYY)							
Stack Description	**Biogas Bypass Flare**						
Actual Stack Height Above Ground	**50**	feet	Inside Stack Diameter	**144**	inches		
Exit Gas Temperature	**750**	degrees Fahrenheit	Actual Exit Gas Flow Rate	**40650**	cubic feet per minute		
Stack Orientation	**Vertical**		Exit Velocity of Gas (in feet per second):	**5.99042**			
Latitude	**44.21662**	Decimal Degrees	Longitude	**-86.285419**	Decimal Degrees		
Horizontal Collection Method	**018**	Source Map Scale Number	**25000**	Horizontal Accuracy Measure	**100**	Meters	
Horizontal Reference Datum Code	**01**		Reference Point Code	**106**			
Bypass Stack Only	**N**		If yes, Stack ID of main stack				

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE

Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION

AQD Emission Unit ID	**EU0020**	EU ID	**EUDIGESTERS**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1953**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**DIGESTERS**		
Emission Unit Type	**Other process equipment**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			

Design Capacity	Design Capacity Numerator	Design Capacity Denominator

Maximum Nameplate Capacity	Megawatts

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**N**	If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code	**SCRUBR,WET**
21. Control Device Code	**REGEN THERM OXIDIZER**

EMISSION UNIT STACK(S)

22. Stack ID	**SV917**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0022**	EU ID	**EUBOILER4A**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**11/01/2002**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**BOILER NO. 4A**		
Emission Unit Type	**Boiler**		
Is this a combustion source?	**Y**		
Is this combustion source used to generate electricity?	**N**		
Design Capacity **227**	Design Capacity Numerator **MMBTU**	Design Capacity Denominator **HR**	
Maximum Nameplate Capacity		Megawatts	

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**N**	If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code	**LOW NOX BURNERS**

EMISSION UNIT STACK(S)

22. Stack ID	**SVBL4A**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0023**	EU ID	**EUEVAPLTV**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1957**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**LTV EVAPORATORS**		
Emission Unit Type	**Other process equipment**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**N**	If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code	**REGEN THERM OXIDIZER**

EMISSION UNIT STACK(S)

22. Stack ID	**SV917**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0029**	EU ID	**EUBLTANKS**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1957**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**BLACK LIQUOR STORAGE TANKS**		
Emission Unit Type	**Storage Tank**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0030**	EU ID	**EUPAPERMACH1**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1923**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**#1 PAPER MACHINE**		
Emission Unit Type	**Other process equipment**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**Y**		
Exempt from Rule 201?		If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0032**	EU ID	**EUWASHERS**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**03/01/2004**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**PULP WASHERS**		
Emission Unit Type	**Other process equipment**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity		Design Capacity Numerator	Design Capacity Denominator
Maximum Nameplate Capacity			Megawatts

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**N**	If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code **REGEN THERM OXIDIZER**

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0034**	EU ID	**EURECYCLE300**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1994**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**RECYCLE PAPER PULPING SYSTEM, 300 TON PER DAY**		
Emission Unit Type	**Other process equipment**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0037**	EU ID	**EUBOILER1**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1950**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**BOILER1 - Boiler No. 1 has a maximum heat input rating of 240 MMBTU/hr. The fuel used is currently natural gas or pulverized coal. The boiler also serves as a thermal oxidizer for FG-MACT 1 gases.**		
Emission Unit Type	**Boiler**		
Is this a combustion source?	**Y**		
Is this combustion source used to generate electricity?	**N**		
Design Capacity	**240**	Design Capacity Numerator **MMBTU**	Design Capacity Denominator **HR**
Maximum Nameplate Capacity			Megawatts

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**N**	If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code **FLTR,FABRIC**

EMISSION UNIT STACK(S)

22. Stack ID **SV917**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0038**	EU ID	**EUBOILER2**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1950**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**BOILER2 - Boiler No. 2 has a maximum heat input rating of 186 MMBTU/hr. The fuel used currently is natural gas or pulverized coal. The boiler also serves as a thermal oxidizer for FG-MACT 1 gases.**		
Emission Unit Type	**Boiler**		
Is this a combustion source?	**Y**		
Is this combustion source used to generate electricity?	**N**		
Design Capacity	**186**	Design Capacity Numerator **MMBTU**	Design Capacity Denominator **HR**
Maximum Nameplate Capacity		Megawatts	

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**N**	If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code	**FLTR,FABRIC**
21. Control Device Code	**LOW NOX BURNERS**

EMISSION UNIT STACK(S)

22. Stack ID	**SV917**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0041**	EU ID	**EUCOPELAND+DISTK**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**10/15/1976**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)		**EUCOPELAND - The Copeland Reactor is a fluidized bed reactor which recovers sodium carbonate from the spent pulping liquor (black liquor). The black liquor is fired into the Copeland at around 50% solids. The organic material in the liquor burns.**	
Emission Unit Type		**Chemical Reactor**	
Is this a combustion source?		**N**	
Is this combustion source used to generate electricity?			
Design Capacity		Design Capacity Numerator	Design Capacity Denominator
Maximum Nameplate Capacity			Megawatts

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**N**	If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?			**Y**

CONTROL DEVICE(S)

21. Control Device Code	**CYCLONE,SINGLE**
21. Control Device Code	**MIST ELIMNATR**
21. Control Device Code	**ESP**
21. Control Device Code	**SCRUBR,WET**
21. Control Device Code	**REGEN THERM OXIDIZER**

EMISSION UNIT STACK(S)

22. Stack ID	**SV102**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0042**	EU ID	**EUCYCLONE717**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1974**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**EUCYCLONE717 - This cyclone transports wood chips from the chipper to the chip screen.**		
Emission Unit Type	**Transfer Point**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code **CYCLONE,SINGLE**

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0043**	EU ID	**EUCYCLONE736**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1974**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**EUCYCLONE736 - This cyclone transports wood chips from the purchased chip screen to the chip silos or silo belt.**		
Emission Unit Type	**Transfer Point**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code **CYCLONE,SINGLE**

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0044**	EU ID	**EUCYCLONE737**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1974**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**EUCYCLONE737 - This cyclone transports wood chips from the purchased chip screen to the chip bins.**		
Emission Unit Type	**Transfer Point**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code **CYCLONE,SINGLE**

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

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FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0045**	EU ID	**EUCYCLONE738**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1974**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**EUCYCLONE738 - This cyclone transports wood chips from the chip silos to the chip bins.**		
Emission Unit Type	**Transfer Point**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code **CYCLONE,SINGLE**

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0046**	EU ID	**EUCYCLONE739**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1978**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**EUCYCLONE739 - This cyclone transports wood chips from the purchased chip screen to the West Chip Silo.**		
Emission Unit Type	**Transfer Point**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code **CYCLONE,SINGLE**

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0061**	EU ID	**EUPULPTANKS**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1957**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**PULP STORAGE TANKS**		
Emission Unit Type	**Storage Tank**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			

Design Capacity	Design Capacity Numerator	Design Capacity Denominator

Maximum Nameplate Capacity	Megawatts

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0064**	EU ID	**EUPAPERMACH3**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1957**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**#3 PAPER MACHINE**		
Emission Unit Type	**Other process equipment**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity		Design Capacity Numerator	Design Capacity Denominator
Maximum Nameplate Capacity		Megawatts	

RULE 201 APPLICABILITY

Grandfathered?	**Y**		
Exempt from Rule 201?		If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0065**	EU ID	**EURECYCLE200**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1985**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**RECYCLE PAPER PULPING SYSTEM, 200 TONS PER DAY**		
Emission Unit Type	**Other process equipment**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0062**	EU ID	**EUEVAPFC**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1964**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**FC EVAPORATORS**		
Emission Unit Type	**Other process equipment**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity		Megawatts	

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**N**	If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code	**REGEN THERM OXIDIZER**

EMISSION UNIT STACK(S)

22. Stack ID	**SV917**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0063**	EU ID	**EUPAPERMACH2**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1953**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**#2 PAPER MACHINE**		
Emission Unit Type	**Other process equipment**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**Y**		
Exempt from Rule 201?		If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0072**	EU ID	**EUCOALHANDLING**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**09/27/2001**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**Coal Handling System, with fabric filters on 2 transfer points**		
Emission Unit Type	**Transfer Point**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**N**	If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code	**FLTR,FABRIC**

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0077**	EU ID	**EUBIOGASYSTEM**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**04/16/2008**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**BYPASS FLARE FOR EUBIOGAS system**		
Emission Unit Type	**Flare**		
Is this a combustion source?	**Y**		
Is this combustion source used to generate electricity?	**N**		
Design Capacity **117**	Design Capacity Numerator **MMBTU**	Design Capacity Denominator **HR**	
Maximum Nameplate Capacity		Megawatts	

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**N**	If Yes, Rule Number	
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?			
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code **FLARE**

EMISSION UNIT STACK(S)

22. Stack ID **SVBIOGASFLARE**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0078**	EU ID	**EUSODA-ASH**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**01/01/1953**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**Soda ash silo. Bag filter for unloading soda ash into storage silo.**		
Emission Unit Type	**Silo**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code **FLTR,FABRIC**

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0079**	EU ID	**EUPELLET**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**10/15/1976**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**Sodium carbonate pellet storage silo. Bag filter for blowing Copeland Reactor pellets into storage silo.**		
Emission Unit Type	**Silo**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code **FLTR,FABRIC**

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0080**	EU ID	**EUFLYASH**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**06/27/1982**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**Fly ash silo. Bag filter for blowing fly ash from baghouse to fly ash storage silo.**		
Emission Unit Type	**Silo**		
Is this a combustion source?	**N**		
Is this combustion source used to generate electricity?			
Design Capacity	Design Capacity Numerator	Design Capacity Denominator	
Maximum Nameplate Capacity	Megawatts		

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Rule 290**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

21. Control Device Code **FLTR,FABRIC**

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0082**	EU ID	**EURICE12974**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**09/01/1992**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**Emergency Generator**		
Emission Unit Type	**Reciprocating IC Engine**		
Is this a combustion source?	**Y**		
Is this combustion source used to generate electricity?	**N**		
Design Capacity	**208**	Design Capacity Numerator **HP**	Design Capacity Denominator
Maximum Nameplate Capacity			Megawatts

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Other**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emission Unit Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Emission Unit**	AQD Source ID (SRN)	**B3692**

EMISSION UNIT IDENTIFICATION			
AQD Emission Unit ID	**EU0083**	EU ID	**EURICE12994**
NAICS Code (if different from Source Form)	**322121**		
Installation Date MM/DD/YYYY	**08/01/1993**	Dismantle Date MM/DD/YYYY	
Emission Unit Description - (Include Process Equipment and Control Devices)	**Emergency Generator**		
Emission Unit Type	**Reciprocating IC Engine**		
Is this a combustion source?	**Y**		
Is this combustion source used to generate electricity?	**N**		
Design Capacity	**225**	Design Capacity Numerator **HP**	Design Capacity Denominator
Maximum Nameplate Capacity			Megawatts

RULE 201 APPLICABILITY

Grandfathered?	**N**		
Exempt from Rule 201?	**Y**	If Yes, Rule Number	**Other**
If Rule 201 Exempt, Is Throughput Below Reporting Thresholds?	**N**		
Permit?	**Y**	If Yes, Enter the Permit Number	**MI-ROP-B3692-2015b**
Is This Emission Unit Required To Report Emissions To MAERS For This Reporting Year?	**Y**		

CONTROL DEVICE(S)

EMISSION UNIT STACK(S)

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Reporting Group Form

Authorized under 1994 P.A. 451, as amended. Completion of this form is optional.

FORM REFERENCE			
Form Type	**Reporting Group**	AQD Source ID (SRN)	**B3692**

REPORTING GROUP IDENTIFICATION			
AQD Reporting Group ID	**RG0068**	Reporting Group ID	**RGEVAPORATORS**
Reporting Group Description	**Evaporators (2 Sets)**		

REPORTING GROUP EMISSION UNITS	
7. Emission Unit ID	**EUEVAPLTV**
7. Emission Unit ID	**EUEVAPFC**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Reporting Group Form

Authorized under 1994 P.A. 451, as amended. Completion of this form is optional.

FORM REFERENCE			
Form Type	**Reporting Group**	AQD Source ID (SRN)	**B3692**

REPORTING GROUP IDENTIFICATION			
AQD Reporting Group ID	**RG0069**	Reporting Group ID	**RGPAPERMACH**
Reporting Group Description	**Paper Machines (Three)**		

REPORTING GROUP EMISSION UNITS	
7. Emission Unit ID	**EUPAPERMACH1**
7. Emission Unit ID	**EUPAPERMACH3**
7. Emission Unit ID	**EUPAPERMACH2**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Reporting Group Form

Authorized under 1994 P.A. 451, as amended. Completion of this form is optional.

FORM REFERENCE			
Form Type	**Reporting Group**	AQD Source ID (SRN)	**B3692**

REPORTING GROUP IDENTIFICATION			
AQD Reporting Group ID	**RG0070**	Reporting Group ID	**RGRECYCLE**
Reporting Group Description	**Recycle Pulping Systems (Two)**		

REPORTING GROUP EMISSION UNITS	
7. Emission Unit ID	**EURECYCLE200**
7. Emission Unit ID	**EURECYCLE300**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Reporting Group Form

Authorized under 1994 P.A. 451, as amended. Completion of this form is optional.

FORM REFERENCE			
Form Type	**Reporting Group**	AQD Source ID (SRN)	**B3692**

REPORTING GROUP IDENTIFICATION			
AQD Reporting Group ID	**RG0074**	Reporting Group ID	**RGWOODCHIPTRAN**
Reporting Group Description	**CYCLONE SEPARATORS (5)**		

REPORTING GROUP EMISSION UNITS	
7. Emission Unit ID	**EUCYCLONE717**
7. Emission Unit ID	**EUCYCLONE736**
7. Emission Unit ID	**EUCYCLONE738**
7. Emission Unit ID	**EUCYCLONE737**
7. Emission Unit ID	**EUCYCLONE739**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUDIGESTERS**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30799998**		
SCC Comment	**Digesters**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
23	**24**	**27**	**26**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**228704**	**E3 BDFT**	
Material Description	**Oven Dry Tons Pulp (from wood) (ODTP)**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel) **% by Weight**		Ash Content (fuel) **% by Weight**	

ATTACHMENT:

Document Name:	**2018 1st Half Semi-Annual Report.pdf**	File Name:	**2018 1st Half Semi-Annual Report.pdf**
Document Name:	**2018 2nd Half Semi-Annual Report.pdf**	File Name:	**2018 2nd Half Semi-Annual Report.pdf**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER4A**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**10200601**		
SCC Comment	**BOILER 4 natural gas usage**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
24.63	**26.07**	**24.64**	**24.66**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
NATURAL GAS	**1093**	**MMCF**	
Material Description	**MMCF NATURAL GAS BURNED**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)	**1050 BTU/FT3**		
Sulfur Content (fuel)	**0 % by Weight**	Ash Content (fuel)	**0 % by Weight**

ATTACHMENT:

Document Name: **Boiler 4a CO Report 14-4522.01.pdf**

File Name: **Boiler 4a CO Report 14-4522.01.pdf**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER4A**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**10200799**		
SCC Comment	**B4A Biogas usage**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
14.1	**24.3**	**33.5**	**28.1**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
HEAT	**56.7**	**MMBTU**	
Material Description	**Biogas Unit Code should be MMCF**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)	**676 BTU/FT3**		
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

ATTACHMENT:

Document Name:	**RY2018 H2S Values.xlsx**	File Name:	**RY2018 H2S Values.xlsx**
Document Name:	**Supporting Docs - Stack Test and Emission Factors.**	File Name:	**Supporting Docs - Stack Test and Emission Factors.pdf**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBLTANKS**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30799998**		
SCC Comment	**Black liquor storage tanks**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
23	**24**	**27**	**26**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**8612**	**E3 BDFT**	
Material Description	**Unit code should be hours operated**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUWASHERS**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30799998**		
SCC Comment	**Washers**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
23	**24**	**27**	**26**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**228704**	**E3 BDFT**	
Material Description	**Oven Dry Tons Pulp (from wood) (ODTP)**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

ATTACHMENT:

Document Name:	**2018 1st Half Semi-Annual Report.pdf**	File Name:	**2018 1st Half Semi-Annual Report.pdf**
Document Name:	**2018 2nd Half Semi-Annual Report.pdf**	File Name:	**2018 2nd Half Semi-Annual Report.pdf**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER1**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**10200601**		
SCC Comment	**BOILER 1 natural gas usage**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
23.84	**24.52**	**25.72**	**25.92**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
NATURAL GAS	**1852**	**MMCF**	
Material Description	**MMCF NATURAL GAS BURNED**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)	**1050 BTU/FT3**		
Sulfur Content (fuel)	**0 % by Weight**	Ash Content (fuel)	**0 % by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER1**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**10100202**		
SCC Comment	**BOILER 1 pulverized coal usage**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
6.7	**39.3**	**45.4**	**8.6**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
COAL,BIT	**0**	**TON**	
Material Description	**TONS COAL BURNED**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)	**13757 BTU/LB**		
Sulfur Content (fuel)	**0.82 % by Weight**	Ash Content (fuel)	**8.28 % by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER2**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**10200601**		
SCC Comment	**BOILER 2 Natural Gas Usage**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
24.56	**25.38**	**23.19**	**26.87**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
NATURAL GAS	**968**	**MMCF**	
Material Description	**Natural GAS BURNED**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)	**1050 BTU/FT3**		
Sulfur Content (fuel)	**0 % by Weight**	Ash Content (fuel)	**0 % by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER2**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**10100202**		
SCC Comment	**BOILER 2 pulverized coal usage**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
100	**0**	**0**	**0**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
COAL,BIT	**0**	**TON**	
Material Description	**TONS COAL BURNED**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)	**13757 BTU/LB**		
Sulfur Content (fuel)	**0.82 % by Weight**	Ash Content (fuel)	**8.28 % by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER2**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**10200799**		
SCC Comment	**Boiler 2 Biogas usage**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
0	**0**	**0**	**0**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
HEAT	**0**	**MMBTU**	
Material Description	**Biogas Unit Code should be MMCF**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)	**726 BTU/FT3**		
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUCOPELAND+DISTK**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30799998**		
SCC Comment	**Copeland Reactor tons of black liquor solids burned**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
22	**25.1**	**26**	**26.9**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**259**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**49547**	**E3 BDFT**	
Material Description	**Tons of black liquor solids burned**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

ATTACHMENT:

Document Name:	**Copeland Hours Operated 2018 MAERS Submittal.xls**	File Name:	**Copeland Hours Operated 2018 MAERS Submittal.xls**
Document Name:	**Copeland PM Testing PCA FINAL Report 15-4654 00.pd**	File Name:	**Copeland PM Testing PCA FINAL Report 15-4654 00.pdf**
Document Name:	**EUCOPELAND NCASI Emission Factors.pdf**	File Name:	**EUCOPELAND NCASI Emission Factors.pdf**
Document Name:	**EUCOPELAND Stack Testing.pdf**	File Name:	**EUCOPELAND Stack Testing.pdf**
Document Name:	**RTO Destruction Efficiency PCA FINAL Report 15-465**	File Name:	**RTO Destruction Efficiency PCA FINAL Report 15-4654 00.pdf**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUPULPTANKS**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30799998**		
SCC Comment	**Pulp Storage Tanks**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
23	**24**	**27**	**26**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**8612**	**E3 BDFT**	
Material Description	**Unit code should be hours operated**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUCOALHANDLING**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30999999**		
SCC Comment	**COAL HANDLING SYSTEM**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
100	**0**	**0**	**0**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
6	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**0**	**TON**	
Material Description	**UNIT CODE SHOULD BE HOURS OPERATED**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBIOGASYSTEM**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30199999**		
SCC Comment	**Biogas Flare for Anaerobic Digester**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
20	**71**	**4**	**5**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
PRODUCT	**176**	**TON**	
Material Description	**Unit code should be MMBTU**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)	**676 BTU/FT3**		
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

ATTACHMENT:

Document Name:	**RY2018 H2S Values.xlsx**	File Name:	**RY2018 H2S Values.xlsx**
Document Name:	**Supporting Doc - Emission Factors.pdf**	File Name:	**Supporting Doc - Emission Factors.pdf**
Document Name:	**RY 2018 Info Sheet MDEQ MAERS Submittal.xlsx**	File Name:	**RY 2018 Info Sheet MDEQ MAERS Submittal.xlsx**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**RGEVAPORATORS**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30799998**		
SCC Comment	**Evaporators (Two)**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
23	**24**	**27**	**26**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**228704**	**E3 BDFT**	
Material Description	**Oven Dry Tons Pulp (from wood) (ODTP)**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

ATTACHMENT:

Document Name:	**2018 1st Half Semi-Annual Report.pdf**	File Name:	**2018 1st Half Semi-Annual Report.pdf**
Document Name:	**2018 2nd Half Semi-Annual Report.pdf**	File Name:	**2018 2nd Half Semi-Annual Report.pdf**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**RGPAPERMACH**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**32099999**		
SCC Comment	**PAPER MACHINES (THREE)**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
23.4	**24.8**	**26.1**	**25.7**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**425907**	**TON**	
Material Description	**Air Dry Tons Final Product (ADTFP)**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**RGRECYCLE**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30799998**		
SCC Comment	**Recycle Paper Pulping Systems (Two)**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
24.22	**25.11**	**25.36**	**25.31**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**187674**	**E3 BDFT**	
Material Description	**Air dry tons pulp (from recycle pulp)**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**RGWOODCHIPTRAN**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30799998**		
SCC Comment	**Cyclone separators (five)**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
21.1	**40.3**	**20.3**	**18.3**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
13	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**6536**	**E3 BDFT**	
Material Description	**Unit code should be hours operated**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

ATTACHMENT:

Document Name: **Supporting Emissions Information - Chip Cyclones.p**

File Name: **Supporting Emissions Information - Chip Cyclones.pdf**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUSODA-ASH**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30799998**		
SCC Comment	**Soda ash silo**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
22	**28**	**25**	**25**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**72**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**1800**	**E3 BDFT**	
Material Description	**Unit Code should be hours operated**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

ATTACHMENT:

Document Name: **Supporting Docs - Soda Ash - Fly Ash - Pellet.pdf**

File Name: **Supporting Docs - Soda Ash - Fly Ash - Pellet.pdf**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUPELLET**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30799998**		
SCC Comment	**Sodium carbonate pellet storage silo**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
22	**25.1**	**26**	**26.9**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**259**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**6360**	**E3 BDFT**	
Material Description	**Unit Code should be hours operated**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

ATTACHMENT:

Document Name: **Supporting Docs - Soda Ash - Fly Ash - Pellet.pdf**

File Name: **Supporting Docs - Soda Ash - Fly Ash - Pellet.pdf**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EUFLYASH**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**30799998**		
SCC Comment	**Fly ash silo**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
100	**0**	**0**	**0**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
24	**7**	**365**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
MATERIAL	**0**	**E3 BDFT**	
Material Description	**Unit Code should be hours operated**		
VOC Content (coatings or solvent)	**% by Weight**	Density	
BTUs (fuel)			
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EURICE12974**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**20300107**		
SCC Comment	**Emergency Generator Operating Hours**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
28.4	**50.1**	**12.5**	**9**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
1	**1**	**52**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
DIESEL FUEL	**33.5**	**E3 GAL**	
Material Description	**UNIT CODE SHOULD BE Hours Operated, OPERATING SCHEDULE SHOULD BE 30 minutes per week**		
VOC Content (coatings or solvent)	**% by Weight**	Density	**7.05 LB/GAL**
BTUs (fuel)	**139000 BTU/GAL**		
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Activity Form

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FORM REFERENCE					
Form Type	**Activity**	AQD Source ID (SRN)	**B3692**	EU ID	**EURICE12994**

ACTIVITY INFORMATION			
Source Classification Code(SCC)	**20300107**		
SCC Comment	**Emergency Generator Operating Hours**		
SEASONAL MATERIAL USAGE SCHEDULE, IF THROUGHPUT IS > 0, THEN SEASONAL PERCENTAGES MUST TOTAL 100%			
Winter (Jan,Feb, Dec)	Spring (Mar-May)	Summer (Jun-Aug)	Fall (Sep-Nov)
20.1	**34.7**	**26.4**	**18.8**
OPERATING SCHEDULE			
Hours per Day	Days per Week	Days per Year	
1	**1**	**52**	
MATERIAL INFORMATION			
Material Code	Material Throughput	Unit Code	
DIESEL FUEL	**5**	**E3 GAL**	
Material Description	**UNIT CODE SHOULD BE Hours Operated, OPERATING SCHEDULE SHOULD BE 30 minutes per week**		
VOC Content (coatings or solvent)	**% by Weight**	Density	**7.05 LB/GAL**
BTUs (fuel)	**139000 BTU/GAL**		
Sulfur Content (fuel)	**% by Weight**	Ash Content (fuel)	**% by Weight**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUDIGESTERS**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**4333 LB**
Emission Basis	**Other**		
List Emission Factor		Exponent	
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER4A**
SCC	**10200601**	Material Code	**NATURAL GAS**		

EMISSION INFORMATION			
Pollutant Code	**AMMONIA**	Annual Emissions	**3498 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**3.20**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**CO**	Annual Emissions	**42213 LB**
Emission Basis	**Stack Test**		
List Emission Factor	**39.00**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**LEAD**	Annual Emissions	**0.547 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**5.00**	Exponent	**-4**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**NOX**	Annual Emissions	**99368 LB**
Emission Basis	**CEM**		
List Emission Factor	**91.00**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER4A**
SCC	**10200601**	Material Code	**NATURAL GAS**		

EMISSION INFORMATION			
Pollutant Code	**PM10,PRIMARY**	Annual Emissions	**8308 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**7.60**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**PM2.5,PRIMRY**	Annual Emissions	**8308 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**7.60**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**SO2**	Annual Emissions	**656 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**6.00**	Exponent	**-1**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**6013 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**5.50**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER4A**
SCC	**10200799**	Material Code	**HEAT**		

EMISSION INFORMATION			
Pollutant Code	**AMMONIA**	Annual Emissions	**181 LB**
Emission Basis	**Other**		
List Emission Factor	**3.20**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**CO**	Annual Emissions	**41 LB**
Emission Basis	**Stack Test**		
List Emission Factor	**0.73**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**LEAD**	Annual Emissions	**0.03 LB**
Emission Basis	**Other**		
List Emission Factor	**5.00**	Exponent	**-4**
Emission Factor Unit Code	**LB / MMBTU**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**NOX**	Annual Emissions	**3595 LB**
Emission Basis	**CEM**		
List Emission Factor	**63.00**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER4A**
SCC	**10200799**	Material Code	**HEAT**		

EMISSION INFORMATION			
Pollutant Code	**PM10,FLTRBLE**	Annual Emissions	**26 LB**
Emission Basis	**Stack Test**		
List Emission Factor	**0.45**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**PM2.5,FLTRBL**	Annual Emissions	**26 LB**
Emission Basis	**Stack Test**		
List Emission Factor	**0.45**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**SO2**	Annual Emissions	**1342 LB**
Emission Basis	**Other**		
List Emission Factor	**24.00**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**78 LB**
Emission Basis	**Stack Test**		
List Emission Factor	**1.38**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBLTANKS**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**5193 LB**
Emission Basis	**Other**		
List Emission Factor	**6.50**	Exponent	**-1**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUWASHERS**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**2415 LB**
Emission Basis	**Other**		
List Emission Factor		Exponent	
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER1**
SCC	**10200601**	Material Code	**NATURAL GAS**		

EMISSION INFORMATION			
Pollutant Code	**AMMONIA**	Annual Emissions	**5927 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**3.20**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**CO**	Annual Emissions	**155593 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**8.40**	Exponent	**1**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**LEAD**	Annual Emissions	**1 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**5.00**	Exponent	**-4**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**NOX**	Annual Emissions	**518645 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**280.00**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER1**
SCC	**10200601**	Material Code	**NATURAL GAS**		

EMISSION INFORMATION			
Pollutant Code	**PM10,PRIMARY**	Annual Emissions	**14077 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**7.60**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**PM2.5,PRIMRY**	Annual Emissions	**14077 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**7.60**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**SO2**	Annual Emissions	**1111 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**6.00**	Exponent	**-1**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**10188 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**5.50**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER1**
SCC	**10100202**	Material Code	**COAL,BIT**		

EMISSION INFORMATION			
Pollutant Code	**AMMONIA**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**5.65**	Exponent	**-4**
Emission Factor Unit Code	**LB / TON**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**CO**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**5.00**	Exponent	**-1**
Emission Factor Unit Code	**LB / TON**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**LEAD**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**1.32**	Exponent	**-2**
Emission Factor Unit Code	**LB / TON**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**NOX**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**1.20**	Exponent	**1**
Emission Factor Unit Code	**LB / TON**	Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER1**
SCC	**10100202**	Material Code	**COAL,BIT**		

EMISSION INFORMATION			
Pollutant Code	**PM10,FLTRBLE**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**2.30**	Exponent	**0**
Emission Factor Unit Code	**LB / TON-ASH%**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**PM2.5,FLTRBL**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**6.00**	Exponent	**-1**
Emission Factor Unit Code	**LB / TON-ASH%**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**SO2**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**3.80**	Exponent	**1**
Emission Factor Unit Code	**LB / TON-S%**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**TNMOC**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**6.00**	Exponent	**-2**
Emission Factor Unit Code	**LB / TON**	Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER2**
SCC	**10200601**	Material Code	**NATURAL GAS**		

EMISSION INFORMATION			
Pollutant Code	**AMMONIA**	Annual Emissions	**3099 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**3.20**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**CO**	Annual Emissions	**81351 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**8.40**	Exponent	**1**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**LEAD**	Annual Emissions	**0.484 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**5.00**	Exponent	**-4**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**NOX**	Annual Emissions	**120736 LB**
Emission Basis	**CEM**		
List Emission Factor	**125.00**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER2**
SCC	**10200601**	Material Code	**NATURAL GAS**		

EMISSION INFORMATION			
Pollutant Code	**PM10,PRIMARY**	Annual Emissions	**7360 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**7.60**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**PM2.5,PRIMRY**	Annual Emissions	**7360 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**7.60**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**SO2**	Annual Emissions	**581 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**6.00**	Exponent	**-1**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**5327 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**5.50**	Exponent	**0**
Emission Factor Unit Code	**LB / MMCF**	Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER2**
SCC	**10100202**	Material Code	**COAL,BIT**		

EMISSION INFORMATION			
Pollutant Code	**AMMONIA**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**5.65**	Exponent	**-4**
Emission Factor Unit Code	**LB / TON**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**CO**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**5.00**	Exponent	**-1**
Emission Factor Unit Code	**LB / TON**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**LEAD**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**1.32**	Exponent	**-2**
Emission Factor Unit Code	**LB / TON**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**NOX**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**1.20**	Exponent	**1**
Emission Factor Unit Code	**LB / TON**	Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER2**
SCC	**10100202**	Material Code	**COAL,BIT**		

EMISSION INFORMATION			
Pollutant Code	**PM10,FLTRBLE**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**2.30**	Exponent	**0**
Emission Factor Unit Code	**LB / TON-ASH%**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**PM2.5,FLTRBL**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**6.00**	Exponent	**-1**
Emission Factor Unit Code	**LB / TON-ASH%**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**SO2**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**3.80**	Exponent	**1**
Emission Factor Unit Code	**LB / TON-S%**	Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**TNMOC**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**6.00**	Exponent	**-2**
Emission Factor Unit Code	**LB / TON**	Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBOILER2**
SCC	**10200799**	Material Code	**HEAT**		

EMISSION INFORMATION			
Pollutant Code	**LEAD**	Annual Emissions	**0 LB**
Emission Basis	**MAERS EF**		
List Emission Factor	**6.66**	Exponent	**-6**
Emission Factor Unit Code	**LB / MMBTU**	Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUFLYASH**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**0 LB**
Emission Basis			
List Emission Factor		Exponent	
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUCOALHANDLING**
SCC	**30999999**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**0 LB**
Emission Basis			
List Emission Factor		Exponent	
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBIOGASYSTEM**
SCC	**30199999**	Material Code	**PRODUCT**		

EMISSION INFORMATION			
Pollutant Code	**PM10,PRIMARY**	Annual Emissions	**3 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.02**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**SO2**	Annual Emissions	**5.92 LB**
Emission Basis	**Other**		
List Emission Factor	**0.03**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**NOX**	Annual Emissions	**7 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.04**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**CO**	Annual Emissions	**130.2 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.74**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUBIOGASYSTEM**
SCC	**30199999**	Material Code	**PRODUCT**		

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**0.9 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.01**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**PM2.5,PRIMRY**	Annual Emissions	**3 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.02**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUCOPELAND+DISTK**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**PM10,FLTRBLE**	Annual Emissions	**28440 LB**
Emission Basis	**Stack Test**		
List Emission Factor	**0.57**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**CO**	Annual Emissions	**1345394 LB**
Emission Basis	**Stack Test**		
List Emission Factor	**211.54**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**64411 LB**
Emission Basis	**Stack Test**		
List Emission Factor	**1.30**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**SO2**	Annual Emissions	**4608 LB**
Emission Basis	**Other**		
List Emission Factor	**0.09**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUCOPELAND+DISTK**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**NOX**	Annual Emissions	**197741 LB**
Emission Basis	**Other**		
List Emission Factor	**3.99**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**LEAD**	Annual Emissions	**0.044 LB**
Emission Basis	**Other**		
List Emission Factor	**5.00**	Exponent	**-4**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**AMMONIA**	Annual Emissions	**279 LB**
Emission Basis	**Other**		
List Emission Factor	**3.20**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUPULPTANKS**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**7406 LB**
Emission Basis	**Other**		
List Emission Factor	**8.60**	Exponent	**-1**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUSODA-ASH**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**PM10,PRIMARY**	Annual Emissions	**306 LB**
Emission Basis	**Other**		
List Emission Factor	**0.17**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**RGPAPERMACH**
SCC	**32099999**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**175091 LB**
Emission Basis	**Other**		
List Emission Factor	**4.11**	Exponent	**-1**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EURICE12974**
SCC	**20300107**	Material Code	**DIESEL FUEL**		

EMISSION INFORMATION			
Pollutant Code	**CO**	Annual Emissions	**18.21 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.95**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**NOX**	Annual Emissions	**84.51 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**4.41**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**PM10,PRIMARY**	Annual Emissions	**5.94 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.31**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**PM2.5,PRIMRY**	Annual Emissions	**5.94 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.31**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EURICE12974**
SCC	**20300107**	Material Code	**DIESEL FUEL**		

EMISSION INFORMATION			
Pollutant Code	**SO2**	Annual Emissions	**5.56 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.29**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**6.71 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.35**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EURICE12994**
SCC	**20300107**	Material Code	**DIESEL FUEL**		

EMISSION INFORMATION			
Pollutant Code	**CO**	Annual Emissions	**2.61 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.95**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**NOX**	Annual Emissions	**12.11 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**4.41**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**PM10,PRIMARY**	Annual Emissions	**0.85 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.31**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**PM2.5,PRIMRY**	Annual Emissions	**0.85 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.31**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EURICE12994**
SCC	**20300107**	Material Code	**DIESEL FUEL**		

EMISSION INFORMATION			
Pollutant Code	**SO2**	Annual Emissions	**0.8 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.29**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**0.96 LB**
Emission Basis	**EPA EF**		
List Emission Factor	**0.35**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**RGEVAPORATORS**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**501 LB**
Emission Basis	**Other**		
List Emission Factor		Exponent	
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**RGRECYCLE**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**VOC**	Annual Emissions	**1037 LB**
Emission Basis	**Other**		
List Emission Factor	**4.58**	Exponent	**-3**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**RGWOODCHIPTRAN**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**PM10,PRIMARY**	Annual Emissions	**1370 LB**
Emission Basis	**Other**		
List Emission Factor	**1.40**	Exponent	**-3**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Emissions Form

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FORM REFERENCE					
Form Type	**Emissions**	AQD Source ID (SRN)	**B3692**	EU ID	**EUPELLET**
SCC	**30799998**	Material Code	**MATERIAL**		

EMISSION INFORMATION			
Pollutant Code	**PM10,PRIMARY**	Annual Emissions	**318 LB**
Emission Basis	**Other**		
List Emission Factor	**0.05**	Exponent	**0**
Emission Factor Unit Code		Control Efficiency	**%**
Comment			

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Preparer Form

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Preparer**	AQD Source ID (SRN)	**B3692**

PREPARER'S INFORMATION			
Preparer's First Name, Middle Initial	**Sara**	Preparer's Last Name	**Kaltunas**
Preparer's Title	**Environmental Manager**		
Mailing Address (Street Address 1)	**2246 Udell Street**		
Mailing Address (Street Address 2)			
City	**Filer City**	State/Province	**MI**
Country	**USA**	Zip Code	**49634**
E-Mail Address (if available)	**skaltunas@packagingcorp.com**		
Telephone Number	**(231) 7239951**	Telephone Extension	**465**
Fax Number	**()**		

PREPARER'S ID (only complete this area if you have more than one preparer)	
Preparer's Reporting Group or Emission Unit ID	**EUDIGESTERS**
Preparer's Reporting Group or Emission Unit ID	**EUBOILER4A**
Preparer's Reporting Group or Emission Unit ID	**EUBLTANKS**
Preparer's Reporting Group or Emission Unit ID	**EUWASHERS**
Preparer's Reporting Group or Emission Unit ID	**EUBOILER1**
Preparer's Reporting Group or Emission Unit ID	**EUBOILER2**
Preparer's Reporting Group or Emission Unit ID	**EUCOPELAND+DISTK**
Preparer's Reporting Group or Emission Unit ID	**EUPULPTANKS**
Preparer's Reporting Group or Emission Unit ID	**EUCOALHANDLING**
Preparer's Reporting Group or Emission Unit ID	**EUBIOGASYSTEM**
Preparer's Reporting Group or Emission Unit ID	**RGEVAPORATORS**
Preparer's Reporting Group or Emission Unit ID	**RGPAPERMACH**
Preparer's Reporting Group or Emission Unit ID	**RGRECYCLE**
Preparer's Reporting Group or Emission Unit ID	**RGWOODCHIPTRAN**
Preparer's Reporting Group or Emission Unit ID	**EUSODA-ASH**
Preparer's Reporting Group or Emission Unit ID	**EUPELLET**
Preparer's Reporting Group or Emission Unit ID	**EUFLYASH**
Preparer's Reporting Group or Emission Unit ID	**EURICE12974**
Preparer's Reporting Group or Emission Unit ID	**EURICE12994**

Michigan Department of Environmental Quality - Air Quality Division

Michigan Air Emissions Reporting System (MAERS)

2018 Submittal Form

(Required Form)

Authorized under 1994 P.A. 451, as amended. Completion of information is required. Civil and/or criminal penalties possible for providing false information.

FORM REFERENCE			
Form Type	**Submittal**	AQD Source ID (SRN)	**B3692**

SOURCE IDENTIFICATION					
Source Name	**Packaging Corporation of America - Filer City Mill**				
Mailing Address (Street Address 1)			**2246 Udell St.**		
Mailing Address (Street Address 2)					
County	**MANISTEE**	City	**FILER CITY**	Zip Code	**49634-**
Submittal Method	**Electronic**			Amended Submittal	

PRIMARY PREPARER'S AUTHORIZATION			
Based on information and belief formed after reasonable inquiry, the statements and information in this submittal are true, accurate, and complete.			
Primary Preparer	**Sara Kaltunas**		
Telephone Number	**(231)7239951**	Telephone Extension	**(231)7239951**
E-Mail Address (if available)	**skaltunas@packagingcorp.com**		
Signature		Date	

Certification Receipt:

- Submission ID: 3222
- Submission Received Date: 3/15/2019 11:59:54 AM
- Certifier's (Primary Preparer) full name: Sara Kaltunas
- Certifier's Address: 2246 Udell Street Filer City MI 49634
- Email Address: skaltunas@packagingcorp.com
- Certification Statement: Based on the information and belief formed after reasonable inquiry, the statements and information in this submittal are true, accurate, and complete.
- Security Question: what is your favorite vacation destination?
- Answer to the security question: Encrypted on file
- PIN used: Encrypted on file
- Submitter's IP address: 75.129.94.246

Attachment Details:

Document Name	File Name	File Size	Description
2018 1st Half Semi-Annual Report.pdf	2018 1st Half Semi-Annual Report.pdf	250333	
2018 1st Half Semi-Annual Report.pdf	2018 1st Half Semi-Annual Report.pdf	250333	
2018 1st Half Semi-Annual Report.pdf	2018 1st Half Semi-Annual Report.pdf	250333	
2018 2nd Half Semi-Annual Report.pdf	2018 2nd Half Semi-Annual Report.pdf	116777	
2018 2nd Half Semi-Annual Report.pdf	2018 2nd Half Semi-Annual Report.pdf	116777	
2018 2nd Half Semi-Annual Report.pdf	2018 2nd Half Semi-Annual Report.pdf	116777	
Boiler 4a CO Report 14-4522.01.pdf	Boiler 4a CO Report 14-4522.01.pdf	43545	
Copeland Hours Operated 2018 MAERS Submittal.xls	Copeland Hours Operated 2018 MAERS Submittal.xls	141312	
Copeland PM Testing PCA FINAL Report 15-4654 00.pd	Copeland PM Testing PCA FINAL Report 15-4654 00.pdf	64574	
EUCOPELAND NCASI Emission Factors.pdf	EUCOPELAND NCASI Emission Factors.pdf	56787	
EUCOPELAND Stack Testing.pdf	EUCOPELAND Stack Testing.pdf	85628	
RTO Destruction Efficiency PCA FINAL Report 15-465	RTO Destruction Efficiency PCA FINAL Report 15-4654 00.pdf	26508	
RY 2018 Info Sheet MDEQ MAERS Submittal.xlsx	RY 2018 Info Sheet MDEQ MAERS Submittal.xlsx	101725	Spreadsheet summarizing all emission unit calculations for the source.
RY2018 H2S Values.xlsx	RY2018 H2S Values.xlsx	10001	
RY2018 H2S Values.xlsx	RY2018 H2S Values.xlsx	10001	
Supporting Doc - Emission Factors.pdf	Supporting Doc - Emission Factors.pdf	99926	
Supporting Docs - Soda Ash - Fly Ash - Pellet.pdf	Supporting Docs - Soda Ash - Fly Ash - Pellet.pdf	89041	
Supporting Docs - Soda Ash - Fly Ash - Pellet.pdf	Supporting Docs - Soda Ash - Fly Ash - Pellet.pdf	89041	
Supporting Docs - Stack Test and Emission Factors.	Supporting Docs - Stack Test and Emission Factors.pdf	202295	
Supporting Emissions Information - Chip Cyclones.p	Supporting Emissions Information - Chip Cyclones.pdf	42846	

APPENDIX G –
OTHER SUPPORTING DOCUMENTS

Document Citation:
67 FR 1295

https://www.federalregister.gov/documents/2002/01/10/02-624/recent-posting-to-the-applicability-determination-index-adi-database-system-of-agency-applicability

Abstract for (010028)

Q: May a facility conduct closed vent system inspections once a month, rather than once every 30 days as required by 40 CFR 63.453(k)?

A: Yes. The facility may conduct closed vent system inspections once during the calendar month as long as at least 21 days elapse between inspections.