

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection**

B369257651

FACILITY: Packaging Corporation of America - Filer City Mill		SRN / ID: B3692
LOCATION: 2246 Udell St., FILER CITY		DISTRICT: Cadillac
CITY: FILER CITY		COUNTY: MANISTEE
CONTACT: Sara Kaltunas , Environmental Engineer		ACTIVITY DATE: 04/13/2021
STAFF: Rob Dickman	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Records review of this major source.		
RESOLVED COMPLAINTS:		

The PCA Filer City Mill 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.

I performed a records review of this facility per Renewable Operating Permit (ROP) Number MI-ROP-B3692-2015b. Records for this facility were requested on February 1, 2021 and were received on February 18, 2021. Records submitted include those from January 2020 to January 2021, also referred to in this report as the review period. Following are the findings of this review:

SOURCE-WIDE CONDITIONS

There are no source wide monitoring or recordkeeping requirements therefore, this section is not applicable.

EUCOALHANDLING

This unit includes all coal handling equipment consisting of conveyors and coal storage bin to bring coal to the boilers. Control of particulate emissions is by three fabric filters. This facility has not burned coal since January of 2014; therefore, there are no records associated with this emission unit for the last 12 months.

EUBOILER1

This unit includes a 240 MMBtu/hr boiler capable of firing coal, natural gas, biogas, and No. 6 fuel oil. Control of emissions when firing coal is through a baghouse. The conditions of this section are applicable only when the facility is combusting coal which they have not since January of 2014; therefore, there are no required records associated with this emission unit for the last 12 months.

EUBOILER2

This unit includes a 186 MMBtu/hr boiler capable of firing coal, natural gas, biogas, and No. 6 fuel oil. Control of emissions when firing coal is through a baghouse. As stated above, the facility has not fired coal in any boiler since 2014. Records relating to the combustion of coal have not been kept in the last 12 months and are not addressed in this section.

The facility must monitor and record the Nitrogen Oxides (NOx) emissions from EUBOILER2. The facility employs a Continuous Emissions Monitoring System (CEMS) for NOx emissions monitoring. Quality assurance, excess emissions, and monitoring system downtime records associated with this CEMS have been previously submitted, reviewed, and documented by AQD staff.

This monitoring system is required to be maintained, including keeping necessary parts for routine repair of the monitoring equipment. Common repair parts for the CEMS are kept on site.

When NOx emission data is not obtained, emission data will be obtained by using standby monitoring systems; 40 CFR 60 Appendix A, Methods 7 or 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. The facility follows this data quality parameter. Records from the facility indicate no time in the last 12 months when the facility did not meet this minimum data requirement.

NOx emissions are to be calculated on a 30-day rolling average. The CEMS data acquisition system calculates emissions in units of the applicable standards. This information is reported quarterly. This reporting has been previously received, reviewed, and documented.

The amounts of each fuel combusted during each day is to be recorded and records maintained. The annual capacity factor individually for coal, No. 6 fuel oil, and natural gas must also be calculated. Fuel combusted at the facility in the last 12 months includes natural gas only. An annual capacity factor for natural gas is required to be calculated on a 12-month rolling time period as determined at the end of each calendar month. For the period of February 2020 to January 2021, the annual capacity factor for this boiler was calculated at 63.4%. This record is included with this report.

Fuel combusted at the facility in the last 12 months includes natural gas. An annual capacity factor for natural gas is required to be calculated on a 12-month rolling time period as determined at the end of each calendar month. For the period of February 2020 to January 2021, the annual capacity factor for this boiler was calculated at 79.3% for natural gas with no biogas or coal combusted. This record is included with this report.

The following records are to be kept for each day EUBOILER2 is operated:

- Calendar date
- The average hourly NOx emission rate
- The 30-day average NOx emission rate
- Identification of the operating days when the calculated 30-day average NOx emission rate are in excess of the NOx emission limits.
- Identification of the operating days for which pollutant data have not been obtained.
- Identification of the time when emission data have been excluded from the calculation of average emission rates.
- Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.
- Identification of the times when the pollutant concentration exceeded full span of the CEMS/PEMS.
- Description of any modifications to the CEMS/PEMS
- Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, Appendix F, Procedure 1.

All of the items listed above are included in the quarterly reporting for the facility and have been previously submitted, reviewed, and documented by AQD staff.

This unit is subject to Compliance Assurance Monitoring (CAM) regulations when burning coal with baghouse control. As the facility has discontinued using coal, all required recordkeeping and subsequent reporting associated with these regulations is not required.

EUBOILER4A

This unit includes a natural gas and/or biogas fired Babcock and Wilcox Model FM 120-97 boiler with a maximum rated heat capacity of 227 million BTU per hour. Low NOx burners are installed as control for NOx.

NOx emissions from EUBOILER4A are required to be monitored and recorded on a continuous basis. The facility employs a CEMS for NOx emissions monitoring. Quality assurance, excess emissions, and monitoring system downtime records associated with this CEMS have been previously submitted, reviewed, and documented by AQD staff.

The facility is required to calculate the 30-day rolling average NOx emission rate. The data acquisition system for the CEMS calculates this rate. When NOx emission data are not obtained, 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. The facility follows this data quality parameter. Records from the facility indicate no time in the last 12 months when the facility did not meet this minimum data requirement.

The amounts of each fuel combusted during each day are required to be recorded and maintained. records of the and calculate the annual capacity factor individually for natural gas and biogas. Fuel combusted at the facility in the last 12 months includes natural gas and biogas. An annual capacity factor for natural gas is required to be calculated on a 12-month rolling time period as determined at the end of each calendar month. For the period of February 2020 to January 2021, the annual capacity factor for this boiler was calculated at 59.8% for natural gas and 1.4% for biogas. This record is included with this report.

The facility is required to maintain records of the following information for each day EUBOILER4A is operated.

- Calendar date
- The 24-hour average CO emission rate
- The average hourly NOx emission rate
- The 30-day average NOx emission rate
- Identification of the operating days when the calculated 30-day average NOx emission rate are in excess of the NOx emission limits.
- Identification of the operating days for which NOx emission data have not been obtained.
- Identification of the time when emission data have been excluded from the calculation of average NOx emission rates.
- Identification of "F" factor used for calculations, method of determination, and type of fuel combusted.
- Identification of the times when the NOx emission concentration exceeded full span of the CEMS/PEMS.
- Description of any modifications to the CEMS/PEMS
- Results of daily CEMS drift tests and quarterly accuracy assessments as required under 40 CFR Part 60, Appendix F, Procedure 1.

All of the items listed above are included in the quarterly reporting for the facility and have been previously submitted, reviewed, and documented by AQD staff.

EUWOODCHIPTRAN

This unit includes wood chip transport equipment, wood chip storage bins, conveyors and bucket elevators, screw conveyors and pneumatic transfer equipment. Particulate control is through five cyclones.

Records of the non-certified visible emissions observations are required to be kept on file. A review of the records indicated no times in the last 12 months when excess emissions were noted. A sample of these records is attached.

EUCOPELAND+DISTANK

This unit includes a fluidized bed reactor (Copeland Reactor) used to recover sodium carbonate from spent pulping liquor (black liquor). Control equipment includes two cyclones, venturi scrubber, mist eliminator, wet electrostatic precipitator (ESP), and regenerative thermal oxidizer (RTO)

The facility is required to monitor and record the operating temperature of the RTO at least once every successive 15-minute period. Monitoring of the combustion chambers is continuous at the facility with both chambers monitored and averaged. A sample of these records is attached.

If any one-hour average RTO temperature falls below the temperature established during the most recent performance test, the facility is required to implement corrective actions. The current minimum temperature of the RTO as established by stack testing is 1693 degrees Fahrenheit. Incidents of the one-hour average falling below this temperature is reported quarterly. This reporting has been previously received, reviewed, and documented by AQD staff.

The facility is in violation of the HAP emissions limit, if any three-hour average RTO temperature falls below the temperature established during the most recent performance test. Violations of this are reported verbally within 24 hours and in writing within 15 days. At no time in the last 12 months have there been violations of this limit.

The facility is required to maintain records of any occurrence when corrective action is required. This information, as applicable, is contained within the quarterly RTO reporting. This reporting has been previously received, reviewed, and documented by AQD staff.

The following records for this emission unit are required to be maintained:

- Records of the black liquor solids firing rate, in tons per day. Records provided indicate a typical operating day appears to average around 210 tons per day of black liquor solids fired. Records regarding this are attached to this report.
- Records of parameter monitoring data including any period when the operating parameter levels were inconsistent with the levels established during the most recent performance test. The facility continuously monitors pertinent parametric data and initiates corrective action per any deviations in that data.
- Records of supporting calculations pertinent to compliance with the HAP limits in the permit. Compliance with this limit was determined through stack testing per the MACT. Therefore, this recordkeeping item is not applicable.
- Records of monitoring parameter ranges established for EUCOPELAND+DISTANK. Parametric ranges established per the most recent stack testing were supplied in the testing report. This report has been previously reviewed and documented by AQD staff.

At a minimum, the facility is required to monitor, and record the differential pressure across the venturi scrubber once every 15 minutes. These records are being kept in a manner consistent with the condition. Any deviations from this requirement are reported as part of the facility CAM reporting semi-annually. This reporting has been received, reviewed and documented previously by AQD staff.

The facility is required to use the differential pressure across the venturi scrubber as an indicator of proper functioning of the scrubber. Any excursions are reported semi-annually as part of CAM reporting. This reporting has been previously received, reviewed, and documented by AQD staff.

In response to an excursion, Restoration of operation of the pollutant-specific emissions unit to its normal operation is to be performed as expeditiously as practicable. Any excursions are reported semi-annually as part of CAM reporting. This reporting has been previously received, reviewed, and documented by AQD staff.

The facility is required to properly maintain the monitoring systems, including keeping necessary parts for routine repair of the monitoring equipment. Spare parts are kept on site.

Venturi scrubber differential pressure monitoring shall be continuous at all times that the EUCOPELAND+DISTANK is operating. Any excursions are reported semi-annually as part of CAM reporting. This reporting has been previously received, reviewed, and documented by AQD staff.

The facility is required to 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 (QIP). No QIP has been developed and is not recommended at this time.

EUWASHERS

Equipment for this unit includes two vacuum drum rotary pulp washers operated in series. Pollution control equipment includes a Low Volume Hydrocarbon (LVHC) Collection System, EUBOILER1, EUBOILER2.

The facility is required to keep, in a manner satisfactory to the AQD, records of the following information:

- Amount of oven dried pulp processed on a monthly basis. For January of 2021, the oven dried pulp produced was 18,932 tons. This appears to be a little higher than average for the last twelve months.
- Operating hours of EUWASHERS on a monthly basis. This unit operates essentially continuously with an average of 5-10 hours per month of downtime.
- Total time that the LVHC Collection System was unavailable or was being bypassed during operation of EUWASHERS on a monthly basis. Downtime of the system is recorded and averages 5-10 hours per month. Records indicate in the last 12 months the system was bypassed approximately 3 hours.
- Annual VOC emissions, based upon a 12-month rolling time period, as determined at the end of each calendar month. Annual VOC emissions for the last 12 months were between 1.0 and 1.2 tons based on a 12-month rolling time period.
- Hourly VOC emissions with and without the LVHC collection system operating, calculated on a monthly basis. Hourly VOC emissions averaged 6.4-6.5 lbs. per hour with collection on. VOC emissions during venting are calculated and tracked. These emissions averaged 13.4 pounds during the three hours of venting noted.

These records are being kept in a manner consistent with the permit and a sample of them is attached.

EUSODA-ASH

Equipment in this unit includes the Soda Ash Silo. Pollution control equipment is a baghouse.

Baghouse differential pressure is to be utilized as an indicator of the proper functioning of the baghouse. The pressure drop is recorded every day at 6:30 am. Most days, this unit is not in operation. When it is in operation, pressure drop across the baghouse is between 3-4 inches of water, gauge. A sample of these records is attached.

The differential pressure monitoring system must be properly maintained, including keeping necessary parts for routine repair of the monitoring equipment. Spare parts are kept on site.

The facility is required to use the differential pressure across the baghouse to assure compliance with the PM limit. This information is reported semi-annually as part of CAM reporting. This reporting has been received, reviewed and documented previously by AQD staff.

In response to an excursion, restoration of operation of EUSODA-ASH to its normal or usual manner of operation is to be performed as expeditiously as practicable. This information is reported semi-annually as part of CAM reporting. This reporting has been received, reviewed and documented previously by AQD staff.

CAM monitoring is required to be continuous. Monitoring system downtime is required to be recorded. This information is reported semi-annually as part of CAM reporting. This reporting has been received, reviewed and documented previously by AQD staff.

The facility is required to 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 (QIP). No QIP has been developed and is not recommended at this time.

EUFLYASH

Equipment in this unit includes the Fly Ash Silo. Pollution control equipment is a baghouse.

In the last 12 months, the facility has only used natural or biogas as fuel. Therefore, there are no required records for this section.

EUPELLET

Equipment in this unit includes the Sodium Carbonate Pellet Storage Silo. Pollution control equipment is a baghouse.

The differential pressure across the baghouse is required to be continuously monitored and recorded once per day. The compliant range for this is 0-6 inches of water, gauge. According to records, this pressure drop rarely exceeds 2 inches of water, gauge pressure drop during pellet transfers. A sample of these records is attached.

FGMACT SUBPART S

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. Subject emission units include: EUDIGESTERS, EUEVAPLTV, EUEVAPFC, EUBOILER1, EUBOILER2, LVHC collection system.

Each enclosure and closed-vent system are required to comply with the following requirements:

- For each enclosure opening, a visual inspection of the closure mechanism is required to be performed at least once every 30-days to ensure the opening is maintained in the closed position and sealed. These inspections were performed, and these records are attached to this report.
- Each closed-vent system is required to be visually inspected every 30-days. These inspections were performed, and these records are attached to this report.
- For positive pressure closed-vent systems no detectable leaks measured initially and annually. This inspection is performed annually. It was last performed in April of 2021. The last submitted report was from testing performed in May of 2020. This report was received, reviewed, and documented by AQD staff.

- The valve or closure mechanism is required to be inspected at least once every 30-days. These inspections were performed, and these records are attached to this report.

Equipment in this unit is inspected per this criterion. Annual testing for leaks has been completed annually with the last test performed in April of 2021. These tests demonstrate compliance. Information regarding testing performed in 2020 has been previously received, reviewed, and documented by AQD staff.

If an inspection identifies visible defects in ductwork, piping, enclosures or connections to covers, or if an instrument reading of 500 ppmv or greater above background is measured, or if enclosure openings are not maintained at negative pressure, then corrective actions is required to be taken as soon as practicable. No issues have been found during inspections performed in this review period.

For each applicable enclosure opening, closed-vent system, and closed collection system, the facility is required to prepare and maintain a site-specific inspection plan. This inspection plan was available for review and contained an overview of the system, system diagrams, inspection procedures, and inspection forms.

Inspection reports were included in the records for this review. For each inspection performed, the facility is required to record the following information:

- Date of inspection; included.
- The equipment type and identification; included.
- Results of negative pressure tests for enclosures; included, negative pressure of the enclosures average 2.0 inches of water, gauge.
- Results of leak detection tests; A total of 161 points are inspected monthly, no issues noted.
- The nature of the defect or leak and the method of detection (i.e., visual inspection or instrument detection); no leaks noted during the review period.
- The date the defect or leak was detected and the date of each attempt to repair the defect or leak; no leaks noted during the review period.
- Repair methods applied in each attempt to repair the defect or leak; no leaks noted during the review period.
- The reason for the delay if the defect or leak was not repaired within 15 days after discovery: not applicable.
- The expected date of successful repair of the defect or leak if the repair is not completed within 15 days: not applicable.
- The date of successful repair of the defect or leak; no leaks noted during the review period.
- The position and duration of opening of bypass line valves and the condition of any valve seals; included, also the status of these is listed.
- The duration of the use of bypass valves on computer-controlled valves. Included.

These records are being kept as part of the inspections of this equipment. A sample of these records is attached.

The facility is required to set the flow indicator on each bypass line to provide a record of the presence of gas flow in the bypass line at least once every 15 minutes. PCA continuously records the time a bypass valve is in the open position or rupture disc release. Flow is assumed at all times if the bypass valve is open or disc ruptures.

Records of malfunctions must be maintained. All malfunction periods are reported in the semiannual Startup, Shutdown, and Malfunction (SSM) report. This reporting has been previously received, reviewed, and documented by AQD staff.

FGBIOGASSYSTEM

This group consists of a 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 units included in this group are EUBOILER1, EUBOILER2, EUBOILER4A, EUBIOGASSYSTEM, EUBIOGASFLARE.

The facility is required to measure and record the heat content, in BTU per cubic foot of biogas, on an annual basis. This testing was performed in May of 2020. This reporting has been previously received, reviewed, and documented by AQD staff.

The facility is required to calculate and keep monthly records of the SO₂, NO_x, CO, VOC, PM, PM-10, lead, hydrogen fluoride, and sulfuric acid mist emissions from EUBOILER4A in tons per calendar year basis. This recordkeeping requirement expired in January of 2019. The facility has requested removal of the condition in their ROP renewal.

The facility is required to maintain a record of the following for EUBOILER1, EUBOILER2, EUBOILER4A, and EUBIOGASFLARE:

- Emission unit identification.
- The type(s) of fuel used in each emission unit.
- The quantity of fuel used in each emission unit on a calendar month basis.
- The emission factor used to calculate emissions.
- The source of the emission factor.
- The heat content of each fuel used.

These records are part of quarterly reporting submitted by the facility. This reporting has been previously received, reviewed, and documented by AQD staff.

The facility is required to measure and record, in cubic feet, the amount of biogas combusted in EUBIOGASFLARE on a monthly basis. These records are being kept. The highest amount combusted was in June of 2020 at 11,693 cubic feet. A sample of these records is attached.

FG-RULE 290

The facility lists 11 Black Liquor storage vessels with emissions less than the criteria listed in the Rule. Records of the following are being kept:

- Identification of each air contaminant; a total of 9 are listed.
- Whether the contaminant is controlled or uncontrolled; all are uncontrolled.
- Whether the contaminant is carcinogenic or non-carcinogenic; 6 of those listed are non-carcinogenic, 3 are carcinogenic.
- Identification of the ITSL or IRSL for the contaminants; included.
- Information regarding quality and quantity of emissions; included.
- Description of the emission unit including control equipment, if applicable; included.

All of these records appear to be complete and consistent with the permit. A sample of these records is included in this report. None of the units are a source of particulate matter emissions, therefore, no non-certified visible emissions testing was performed.

FGRICE1

At the time of issuance of this ROP, the AQD did not have delegation of authority on 40 CFR 63, Subpart ZZZZ. These conditions were not evaluated at that time. The current draft renewal includes evaluated conditions for Subpart ZZZZ.

FGPAPERMACH

Grandfathered paper machines numbers 1 thru 3 all installed prior to 1967. There have been no modifications to this equipment since they were installed. The current draft renewal ROP does not include this group.

There are no monitoring or recordkeeping requirements associated with this equipment, therefore, this section is not applicable.

At the time of the inspection and review of records, this facility was in compliance with their Renewable Operating Permit.

NAME _____

DATE _____

SUPERVISOR _____