

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection

B642026840

FACILITY: E.B. EDDY PAPER INC.		SRN / ID: B6420
LOCATION: 1700 Washington Ave, PORT HURON		DISTRICT: Southeast Michigan
CITY: PORT HURON		COUNTY: SAINT CLAIR
CONTACT: Christine Loeffler, Environmental Manager		ACTIVITY DATE: 09/10/2014
STAFF: Francis Lim	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: Scheduled Inspection		
RESOLVED COMPLAINTS:		

On September 10, 2014, I conducted an inspection of Domtar Industries Inc. – E.B. Eddy Paper Company, located at 1700 Washington Avenue in Port Huron, Michigan. The purpose of the inspection was to determine the facility's compliance with: the federal Clean Air Act Part 55, Air Pollution Control of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, Renewable Operating Permit (ROP) No. MI-ROP-B6420-2011, and 40 CFR Part 63 Subpart ZZZZ (RICE NESHAP).

Ms. Christine Loeffler, Environmental & ISO Systems Manager represented the facility during the inspection.

The facility manufactures lightweight, fine papers, for example medical paper, food packaging paper, paper used for books, and other specialty papers. Facility operates 3 shifts per day, seven days per week, with approximately 240 employees.

EB Eddy is subject to Title V as a major source of criteria pollutants and hazardous air pollutants (HAPs). ROP No. MI-ROP-B6420-2011 contains conditions for the following flexible groups: FGBOILER5, FGPAPERMACHINES, and FGDIESELS. FGBOILER5 includes Boiler No. 5, an ash handling system, and an ash silo. FGPAPERMACHINES includes Paper Machine Nos. 5, 6, 7, & 8. FGDIESELS includes two diesel-fired emergency generators.

FGBOILER5

Boiler No. 5 is a coal fired boiler with a heat capacity rating of 196 MMBTU/hr. The boiler has a natural gas ignition system. Number 2 fuel oil is used during emergency and scheduled shut downs. The boiler was installed in 1968 and modified in 1997.

Particulate emissions from the boiler are controlled by an electrostatic precipitator (ESP) with a sulfur trioxide (SO₃) flue gas conditioning system. The ESP transformer-rectifier set is equipped with silicon-controlled rectifier linear reactor. The ESP has three charged surface coating plates (three fields). The rapping system ensures that two of the plates are in surface coating mode while one plate is actively rapped. The precipitator transformer is checked for proper operation daily and inspected for preventative maintenance quarterly. An annual maintenance is done, usually during the shutdown in May (see attached). Maintenance activities are recorded on pink work order slips. Any problems with proper operation of the transformer are reported and corrective action is immediately taken. The field rappers are checked for proper operation daily. The operators fill out a Precipitator Rapper Daily Check Sheet for each inspection. The ESP field voltage and amperage are checked and recorded three to six times daily on the Precipitator Log. I reviewed the voltage and amperage logs and the numbers seem consistent. If there is a deviation from historical data, operators know there could be a problem with the ESP.

The sulfur trioxide flue gas conditioning system continuously adds sulfur to the gas stream via four nozzles just before it enters the ESP. The presence of SO₃ in the gas stream lowers the resistivity of the particles for better adherence to the ESP plates. The SO₃ system automatically adds sulfur based on boiler load. The sulfur is received as granular prills in 50 pound bags. The sulfur is added to an air heater to generate the SO₃ gas. The sulfur injection system is checked by the operators for proper operation four to six times daily. Air heater outlet temperature, converter inlet temperature, and SO₂ feed rate are recorded on the Boiler and Turbine Log once every hour. The system is equipped with audio and visual alarms for operational problems. An annual maintenance is conducted during May during the shutdown (see attached)

The ROP requires the company to conduct a particulate emission test within 180 days of issuance of the permit. The stack test was conducted January 11, 2012.

A continuous opacity monitoring system (COMS) is installed for Boiler No. 5. The annual audit of the COMS is

done once per year according to the USEPA's "Performance Audits Procedures for Opacity Monitors". The most recent audit was performed on May, 2014 during the shutdown. COMS measurements are made in the mid to upper portion of the stack. The system automatically self-calibrates every morning around 6:30 am. The COMS continuously records opacity readings from the boiler on paper strips. The paper strips show instantaneous readings and six minute averages, and are maintained by the company for at least five years. This information is also tracked by data acquisition system, which plots the data on trending graphs. An alarm is triggered if the COMS measures an opacity greater than 20%. The boiler operators are trained to immediately initiate corrective action if the alarm is signaled. During the inspection I reviewed the strip chart for January 2014; six-minute average is less than 10% opacity. Most of the instantaneous opacity spikes occur due to pluggages, soot blow outs, and hand-raps. Operators maintain excess O₂ in the stack flue gas between 3 to 5%.

Boiler No. 5 is subject to the Compliance Assurance Monitoring (CAM) Plan under 40 CFR 64. Boiler No. 5 has a control device and potential pre-control emissions of particulate matter greater than the major source thresholds. The monitoring for the particulate matter is the continuous opacity monitor (COMS). A correlation was established through a particulate matter stack test that the particulate matter standard will not be exceeded if the opacity, as determined from the COMS is below 20%. The CAM Plan is included in the ROP as Appendix 3.

The CAM Plan references the use of a Malfunction Abatement Plan (MAP) to assure that the ESP is operating properly. The most recent version of the MAP is the March 28, 2011 Revision.

A CAM excursion, which is a continuous two hour duration exceeding 20% opacity has not yet occurred at the site.

EUASHHANDLING includes the equipment used to transfer the ash from the ESP to the silo by vacuum. The conveying air passes through an air washer through which it is cleaned of dust particles by a continuous water spray. A counterflow bin vent filter is used to control emissions from loading of the silo (EUASHSILO). The bin vent filter houses six filter bags. The filter bags are checked semi-annually and are changed as needed. The ash collected in the silo is mixed with water in a wet handling system before it is dropped into a truck for transfer to a landfill. To further minimize fugitive emissions, a curtain shroud is lowered to partially enclose the truck opening during load out. EB Eddy typically has two to four truck loads of ash transferred to Tri City Landfill per week.

The boiler operators perform visible emissions checks of all ash handling system stacks, vents, and valves one to two times weekly. They record their observations on the Boiler Log.

EB Eddy purchases utility grade bituminous coal from DTE St. Clair Power Plant. A boatload of coal is purchased and stored at the St. Clair Power Plant. Coal from this dedicated pile is transferred to EB Eddy by truck on an as needed basis. The coal is unloaded into a hopper located underground. The coal is conveyed to two coal mills, in which it is dried, pulverized, and blown into the boiler. EB Eddy maintains supplier data sheets and shipment information for each shipment of coal.

The ROP requires that the company use only coal with less than 1.5% sulfur content based on a heat value of 12,000 BTU/lb. DTE provides EB Eddy with a Certificate of Analysis for each shipment of coal (not for each truck delivery, since it will come from the same shipment). Facility also performs its own coal analysis. These were done in July 10, 2014 and October 28, 2013. Analysis shows compliance (see attached). In addition to sulfur, the coal is also analyzed for ash content, moisture content, and heat value at least once per year in accordance with Appendix 4 of the ROP.

The facility implements a "Coal Purchase Procedure" to ensure that they follow specification guidelines for each coal purchase. The facility has not purchased "out of spec." coal since implementation of the procedures, therefore, it has not been necessary to conduct any trial burns.

No. 2 fuel oil is used for backup in Boiler No. 5. Facility maintains shipment information and supplier data sheets for each delivery. The ROP requires that the facility only use fuel oil with less than 1.5% sulfur content based on 18,000 BTU/lb. Records of analysis show compliance.

Boiler No. 5 is subject to the Major Source Boiler MACT, 40 CFR 63 Subpart DDDDD. Compliance date is January 31, 2016. The facility obtained a permit to allow them to change fuel from coal to natural gas with fuel oil as backup. The permit, PTI No. 58-14 also has HAPs opt-out limits. The plan is to complete the changeover and remove coal capability by September 2015. After the changeover (and after removing equipment to fire coal) the facility will become a minor source for HAPs but remain major for criteria pollutants. Boiler No. 5 will then be

subject to the Area Source Boiler MACT, 40 CFR 63 Subpart JJJJJJ.

FGPAPERMACHINES

The raw materials used in the paper machines include wood fiber pulp, water, and chemical additives. The pulp is received as dry pulp sheets in 500 pound bales. The pulp is mixed with water and chemical additives in a blending machine. The mixed pulp then goes to a paper machine.

The facility operates four paper machines. Each paper machine includes; conveyors, pulpers, screens, headbox, wire vacuum pumps, presses, steam heater dryer section, size press, and calendar stack and reel. Paper Machine No. 5, installed in 1928, and Paper Machine No. 6, installed in 1956, are grandfathered units. Paper Machine No. 7 was installed in 1962 and modified in 1998. Paper Machine No. 8 was installed in 1969 and modified in 1998.

The chemical additives are delivered in tanker trucks, totes, and 55 gallon barrels. The different additives used are retention aids (improve retention of fine particles and fillers), biocides for cycle basis sterilization, sizing agents to increase paper strength and eliminate bleeding, polymers for fiber bundling, and dyes for coloring. The company maintains the MSDS for each additive in their computer system and maintains a hard copy. The chemicals are added to the blender, and at the start and end of the paper machine.

A computer system tracks the additive usage rates. MSDS is used to determine the VOC content for emission tracking purposes. The company no longer uses any coatings which contain 1,2-dibromo-2,4 dicyanobutane. Records of tons of paper produced, hours of operation, and hourly, monthly, and 12 month rolling VOC emission records are maintained only for the permitted Paper Machine Nos. 7 & 8. For the 12-month period ending in June 2014, VOC emissions are 8.7 tons for Paper Machine No. 8 (limit is 26.2 tons), and 6.59 for Paper Machine No. 7 (limit is 23.2 tons). VOC emissions for Paper Machine Nos. 5 and 6 are also calculated but reported only in MAERS.

The facility is considering running a trial run on Paper Machine No. 5 using two chemicals - acetone and isopropyl alcohol. The facility believes this would be exempt under Rule 283(1)(a)(v). The facility is anticipating six trial runs with each run lasting up to 14 hours. Chris Loeffler is aware that she needs a permit if they plan on using those two chemicals on a regular basis.

FGDIESELS

There are two diesel fired emergency generators located on-site. Only one is operable; the other generator has engine problems and not anticipated to operate again. The operating generator is rated at 1000 KW and is used at the wastewater treatment plant.

The emergency generator is subject to 40 CFR Part 63 Subpart ZZZZ- National Emission Standard for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (RICE MACT). However, there are no specific MACT requirements for large (> 500 HP) engines. The boiler is tested with load weekly for about 15 minutes. The company maintains records of operating hours for the generators. Records show that they operate less than 500 hours per year. NOTE: Diesel engine has oil change annually. Last oil change was January 20, 2014.

The ROP requires that the fuel oil used in the generators contain less than 1.5% sulfur based on a heat value of 18,000 BTU/lb. The company uses the same fuel oil in FGDIESELS as is used in Boiler No. 5 (which is in compliance with the 1.5% sulfur limit) for back-up fuel.

Grandfathered/Exempt Boilers

The facility has three natural gas fired boilers, Boiler Nos. 2, 4, and 6. Boiler #2 was installed in 1966 (69 MMBTU/hr.). Boiler #4 was installed in 1937 and is rated at 91 MMBTU/hr. Boiler #6 was installed in 2002 and is rated at 25 MMBTU/hr. Boiler #'s 2 & 4 are grandfathered units. Boiler #6 is exempt from permitting pursuant to Rule 282(b)(i).

The natural gas-fired boilers are subject to the Major Source Boiler MACT. Compliance date is January 31, 2016. However, when Boiler No. 5 becomes oil-fired, the facility will become a minor source for HAPs and therefore the natural gas fired boilers will be subject to the Area Source Boiler MACT, 40 CFR 63 Subpart JJJJJJ. There are no requirements for natural gas-fired area source boilers.

Other Exempt Equipment

The facility has cold cleaners, but the solvent used is water-based and does not contain any VOCs.

A wastewater treatment is operated on site. The wastewater is pH neutralized and then undergoes primary treatment (clarifiers). Effluent is discharged to Lake St. Clair. The facility has an NPDES permit. Sludge goes to a compost facility.

NAME J. A. J.

DATE 09-16-14

SUPERVISOR CJE