

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

A621823711

FACILITY: Dunn Paper, Inc.		SRN / ID: A6218
LOCATION: 218 RIVERVIEW ST, PORT HURON		DISTRICT: Southeast Michigan
CITY: PORT HURON		COUNTY: SAINT CLAIR
CONTACT: Scott McNutt , V. P. Technology		ACTIVITY DATE: 11/06/2013
STAFF: Usama Amer	COMPLIANCE STATUS: Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: Inspection of a Synthetic Minor Source		
RESOLVED COMPLAINTS:		

On November 6 & 7, 2013, I conducted a targeted inspection at Dunn Paper, Inc. (Dunn), located at 218 Riverview St., Port Huron, Mi. I finalized the inspection on November 26, 2013. The purpose of the inspection was to verify Dunn's compliance with provisions of Article II Air Pollution Control, Part 55 of Act 451 of 1994, Permit to Install (PTI) No. 514-95A, and Opt-out PTI No. 113-97. Mr. Scott McNutt, V. P. Technology, and Mr. Robert Bombard, Environmental Manager, represented Dunn during the inspection.

2012 MAERS Emissions Comparison Totals Table was used to evaluate Dunn's compliance status. Attachment A

Records of Dunn's material usage, operations and emissions data for the year 2012 and the first 10 months of 2013 were reviewed. Copies of compliance supporting records were obtained, and are attached herewith.

BACKGROUND AND PROCESS DESCRIPTION

- Dunn operates four paper machines under Opt-Out PTI No. 113-97, while PTI No. 514-95A covers the Combustion Engineering (CE) and the Nebraska power steam generating boilers.
- In November, 2011, Dunn modified the dryer of Paper Machine #1 by replacing its 2 burners by 1 burner.
- The CE Boiler is a back up boiler. It was not operated in 2012, and thus far in 2013. Attachments A.1 & A.2
- The Nebraska Power Boiler is subject to the Federal Standards of Performance for New Stationary Sources as specified in 40 CFR 60, Subpart Dc.
- Natural gas and No. 2 & No. 6 fuel oils are permitted to be used as boiler fuel. Currently the facility is using natural gas only.
- The natural gas consumption is divided as follows:
 - 1) 79.2% for the Process Heaters; and
 - 2) 20.8% for the Space Heaters for buildings heating (50% during the winter; and 25% each for spring and summer).
- During 2012 and the first 10 months of 2013, Paper Machine #1 has been running.
- Dunn is not subject to the Pulp and Paper Mill, NESHAP, 40 CER Part 63.
- Dunn manufactures uncoated, and pigment coated paper grades. It operates 24 hours per day, 7 days per week.
- VOC emitted from the wet process is minimal and released into the general in-plant environment.
- The Size presses have the highest VOC emissions, because of the coatings or surface treatment applied.

COMPLIANCE EVALUATION**PTI No. 514-95A – Boilers**

- 1) Nebraska Power Boiler (EU00017) - main boiler for steam generation
- 2) Combustion Engine (CE) Boiler (EU00001) - back up/supplementary boiler to the Nebraska.

The CE boiler is capable of burning fuel oil #6 in addition to natural gas and fuel oil #2. However, it was not operated in 2012, and thus far in 2013.

Attachments A.1 & A.2

EU00017 - Nebraska Power Boiler

* S.C. #2.1 a, #2.1 b, #2.1 d, #2.2, #2.5, #2.8, and #2.9 – No emission data are available as fuel oil #2 was used in 2012, and thus far in 2013.

* S.C. #2.1 c and #2.1 e - limit the NO_x and CO emission rate from the Nebraska Power Boiler to 0.041 lb/MM BTU and 0.15 lb/MM Btu, respectively, when using Nat Gas.

- The above 2 limits are based on the specification of natural gas as received by the supplier. However, Dunn was not able to demonstrate compliance with the above limits for NO_x and CO. Therefore, a stack test of NO_x and CO emissions rates, from the Nebraska Power Boiler, shall be required pursuant to the provisions of General Condition No. 13 of PTI No. 514-95A.

* S.C. #2.3 - limits the heat input capacity of the Nebraska Power Boiler not to exceed 86.2 MM Btu per hour.

- The highest heat input capacity of:

1) 52.2 MM Btu per hour was reported for 1/12 Attachment B.1

$(38852 \text{ MM Btu/mo}) / (31 \text{ day/mo} * 24 \text{ hr/day}) = 52.2 \text{ MM Btu per hour}$

2) 52.4 MM Btu per hour was reported for 1/13 Attachment B.3

$(38988 \text{ MM Btu}) / (31 \text{ day/mo} * 24 \text{ hr/day}) = 52.4 \text{ MM Btu per hour}$

* S.C. #2.6 & #2.10 - Monthly Nat Gas usage record for the Nebraska Power Boiler must be kept.

- Attachments B.2 & B.4 show compliance with above 2 conditions.

FG BOILERS

- The Nebraska Power Boiler was the only boiler used during 2012, and thus far in 2013.

* S.C. #3.1 a - limits the annual SO₂ emission to 89 tpy, based on 12-month rolling time period.

- The max SO₂ emission rate of 0.15 tpy, based on 12-month rolling time period, was reported on Dunn's 2012 MAERS. Attachment A

* S.C. #3.1 b - limits the annual NO_x emission to 45 tpy, based on 12-month rolling time period.

- The max NO_x emission rate of 28.18 tpy, based on 12-month rolling time period, was reported on Dunn's 2012 MAERS. Attachment A

* S.C. #3.1 c - limits the annual CO emission to 81.1 tpy, based on 12-month rolling time period.

- The max CO emission rate of 15.62 tpy based on 12-month rolling time period, was reported on Dunn's 2012 MAERS. Attachment A

Opt-Out PTI No. 113-97 - 4 Paper Machines

* S.C. #13 - limits the VOC emission rate from the four paper machines to 61 tpy; based on a 12-month rolling time period.

- The highest annual VOC emission of:

- 1) 7.81 tpy was reported for 1/12. Attachment C
- 2) 6.93 tpy was reported for 9/13. Attachment C

* S.C. #14 - limits the hourly VOC emission rate from any one of the four paper machines to 40 lb/hr.

- The highest hourly VOC emission rate of 8.8 lb VOC/hr from Paper Machine #3 was reported for 1, 6, 11 & 12/12; and 1, 5, 7 & 9/13. Attachments D.1 & D.2

* S.C. #17 - requires Dunn to keep specific monthly records.

A. VOC containing material used:

- 1) Records of the I.D. and category of each material used have been kept.
- 2) VOC content in lb/gal, -H₂O, as received and as applied for each material. VOC content is kept on a percentage basis.
- 3) Material usage data are being kept in lb, not gal.

- Attachments E.1 – E.4 show the above records.

B. Hours of operation for each paper machine.

- Attachment F.1 & F.2 show the above records.

C. Purchase orders and invoices for all VOC containing material used:

- Above records are being kept at the Purchasing Dept.

D. VOC emission calculations:

- Attachments E.1 – E.4 show the above records.

E. VOC emission calculations, based on a 12-month rolling time period:

- Attachments E.1 – E.4 show the above record.

F. Grease repellent and release agent usages in gal, determining a 12-month rolling time period

- The release agent is no longer in use.

- Attachment G shows the above record is being kept.

* S.C. #18 requires the VOC content of any material used in the process as applied and as received to be determined using Federal Reference Test Method 24. Alternatively, mfg formulation data may be used, upon the AQD's approval

- Dunn has been using mfg formulation and Method 24 analysis data. Major coatings used usually remain consistent. Thus, their physical properties will remain almost constant.

* S.C. #21 - limits the usage of grease repellent agent to 34,000 gal, based on a 12-month rolling time period, for all four paper machine processes.

- The highest usage of grease repellent agent was reported at: (Attachment G)

- 1) 659.4 gal for 10/12
- 2) 736.5 gal for 5/13

* S.C. #22 - limits the usage of release agent usage to 11,000 gal in a 12-month rolling time period in all four paper machine processes.

- The use of the release agent has ceased since 2001.

* S.C. #23 - limits the individual HAP emission rate to 8.9 tpy and a combination of HAPs to 22.4 tpy based on a 12-month rolling time period.

- 2012 & 2013 records indicate that Dunn emitted < 3 tons of total HAPs based on a 12-month rolling time period. Attachments H.1 - H.3

* S.C. #24 - requires Dunn to keep specific monthly records of HAP usage and emissions. Attachments H.1 - H.3 show that the above records are being kept.

CONCLUSION

Based on the inspection and the records submitted by the company, Dunn appears to be in compliance with their air use permits and other applicable requirements. However, Dunn was not able to demonstrate compliance with the limits of NO_x and CO, as specified in S. C. #2.1c & #2.1e. Therefore, a stack test of NO_x and CO emissions rates, from the Nebraska Power Boiler, shall be required pursuant to the provisions of General Condition No. 13 of PTI No. 514-95A.

AMMENDMENT

- On November 21, 2013, Dunn submitted a copy of the Bill of Materials document, as provided by the manufacturer of the Nebraska Boiler's low NO_x burners (Coen Company, Inc.). On page 3 of this document, the table of EMISSIONS GUARANTEED reports the following: (Attachment I)

1) NO_x rate at 35 ppm - This emission rate does not conform to the unit of measure (lbs/MMBtu), which was specified in S. C. #2.1c.

On December 3, 2013, Dunn provided the following explanation after conferring with Coen Company, Inc.: (Attachment J)

"The conversion factor we use for Natural Gas NO_x Conversion is 1ppm = 0.0012 lb/MMBTU."

$(35 \text{ ppm NO}_x) * (0.0012 \text{ lb NO}_x/\text{MMBTU}) = 0.042 \text{ lbs NO}_x/\text{MMBTU}$

2) CO emission rate at 0.15 lbs/MMBtu - This emission rate is compliance with the limits of CO, as specified in S. C. #2.1e.

- Dunn has demonstrated compliance with the limits of NO_x and CO, as specified in S. C. #2.1c & #2.1e. Therefore, a stack test of NO_x and CO emissions rates, from the Nebraska Power Boiler, is not necessary at this time.

NAME U. Sam Amer

DATE 12/4/13

SUPERVISOR CTE