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

N172261771

FACILITY: BIEWER SAWMILL INC		**SRN / ID:** N1722
LOCATION: 6251 GERWOUDE DR, MCBAIN		**DISTRICT:** Cadillac
CITY: MCBAIN		**COUNTY:** MISSAUKEE
CONTACT: Kris Demel ,		**ACTIVITY DATE:** 02/01/2022
STAFF: Kurt Childs	**COMPLIANCE STATUS:** Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: 2022 FCE		
RESOLVED COMPLAINTS:		

Introduction

On February 1, 2022, I conducted a Full Compliance Evaluation of Biewer Sawmill - McBain for compliance with PTI's 89-20 (Wood Fired Boiler and New Planer System), 104-18 (Continuous Drying Kiln), and 10-21 (Batch Kilns) and the Air Pollution Control Rules. Changes since the last inspection include the installation of an entirely new planer system (FGPLANERSYS20) which replaced the previous "new" planer. This included construction of a new building housing the equipment and new control equipment including a cyclone and filter that vents back inside the building. FGPLANERSYS20 was permitted under PTI 89-20 which included incorporating the previous requirements for EUWOODBOILER. During planning for the planer system, Biewer Sawmill determined they are a major source for Carbon Monoxide emissions and have subsequently submitted an initial Renewable Operating Permit application. The existing Batch Kilns have also been permitted under PTI 10-21. The Renewable Operating Permit will include the requirements from these three permits. There is also PTI exempt equipment including the sawmill, an emergency diesel fire pump engine and one small parts cleaner.

Prior to the inspection I observed the facility from off-site. There were no visible emissions, fugitive dust or significant odors. Mr. David Bowman of the AQD Gaylord field Office accompanied me on this inspection and we met with Mr. Kris Demel of Biewer Sawmill to tour the plant and inspect each of the permitted and exempt processes.

At the time of the inspection the weather was overcast, 30 degrees F, with south winds at 15 mph. As previously mentioned, there were no visible emissions from any of the stacks or dust collection equipment, only water vapor from the kiln stacks and the boiler. Additionally, I did not observe any fugitive dust being generated on the site. We noted that all roadways and yard areas we observed are now paved and were being kept clean.

Biewer Sawmill Inc. produces non-treated dimensional lumber from logs. Processes occurring at the facility include log cutting, debarking, sawing, kiln drying, planing, and chipping. There is a storage yard, sawmill (emissions released to general in-plant environment), wood chip collection, storage, and loading (cyclone dust collector), Four steam heated batch kilns, one continuous lumber kiln, Lumber planing department with cyclone filter dust collector, and one wood fired boiler using waste wood chips from on-site sawmill process. There are also storage silos equipped with cyclones for the wood chip boiler fuel and two storage bins with cyclones for sawdust that is sold in bulk and bags for horse bedding. Sources of air emissions include transport and storage of wood chips/sawdust, Kiln and burner emissions, planing, wood fired boilers, and wood-chipper.

We inspected the entire facility with particular focus on sources of air emissions and pollution control equipment. The sawmill portion of the plant is a highly automated process that processes logs by debarking and sawing each log to maximize lumber production. Bark and woodchips from the process are conveyed pneumatically to the wood fuel storage bins for use as fuel in the EUWOODBOILER. Sawdust from the sawmill is collected and transported by conveyor to several load-out bins that are controlled by a cyclone dust collector. Prior to the inspection Mr. Bowman observed truck loading from the bins and did not see any visible emissions during the load-out.

We observed the wood fired boiler and associated cyclone and electrostatic precipitator (ESP) control equipment which were operating. The wood fired boiler provides steam to the four batch steam kilns (EUBATCHKILNS). The boiler and ESP operation are monitored in a small control room as are the lumber kiln operations. The ESP operating parameters observed at the time of the inspection were as follows:

ESP

Section	Amp	Volt	MA	KV	SCR	KW	S/M
1	01	104	0	21.1	150	0	30
2	04	173	19	10	134	0	30

The opacity monitor was reading 21% but we had not observed visible emissions prior to entering the building. When we exited we also observed the stack and there were no visible emissions.

Both the batch kilns and the continuous drying kiln were operating at the time of the inspection. As previously indicated, there were no visible emissions or odors.

We also inspected the new planer process which is a highly automated system for finishing, sorting, and stacking the lumber. Sawdust from the system is collected and stored in a loadout bin outside the building for resale. The loadout bin has a small cyclone type dust collector on it that showed light dust accumulation near the exhaust exit but no visible emissions were present. Air from the main dust collection system is returned to the interior of the plant and there are no other stacks.

Following our site-inspection, we reviewed plant records in Mr. Breitmeyer's office. Records required by the PTI's are maintained in a three-ring binder and are also used for the quarterly CEMS reports. Records were complete and up to date, the attached records were provided by email following the inspection.

With regard to the specific requirements of each of the permits I made the following observations:

PTI 89-20, EUWOODBOILER and FGPLANERSYS20

EUWOODBOILER

I.1. and 2 The PM and PM-10 emissions from the wood fired boiler are limited to 0.10 pounds per 1000 pounds of exhaust gas. Compliance with this limit is determined through stack testing. The one-time compliance demonstration stack test was completed on April 20, 2007.

I.3. and 4. The PM and PM-10 emissions from the wood fired boiler are limited to 6.04 pounds per hour. Compliance with this limit was verified during the April 20, 2007, stack test.

I.5. The PM emissions from the wood fired boiler are limited to 0.10 pounds per MMBTU. Compliance with this limit is determined through stack testing and development of emissions factors which were verified during the April 20, 2007, stack test.

II.1 Wood fuel use is limited to 9.7 tons per hour. Records indicate maximum fuel usage was 6 tons per hour.

II.2. No painted or treated wood or other waste material may be used for fuel. The facility only burns clean virgin wood waste that is a byproduct of their operations.

III.1. A SSM plan has been submitted to the AQD as part of the PM-MAP. This plan was approved by AQD on 1/25/2011.

III.2. An MAP has been submitted to the AQD and was approved by AQD on 1/25/2011.

IV.1. The cyclone and ESP were in operation at the time of the inspection and appeared to be functioning properly.

IV.2. The opacity monitor was installed and operating at the time of the inspection.

IV.3. Wood fuel usage was being recorded as required (see attached sample record).

V.1. PM emission testing has been completed as required and no additional testing has been requested.

VI.1. At the time of the inspection emissions records were being maintained and were available for inspection.

VI.2. Daily wood fuel usage records were being maintained and were available for inspection.

VIII.1. Stack parameters for the stack on the ESP have not been modified and appear correct.

40 CFR Part 63 Subpart JJJJJJ

The wood fired boiler is subject to the area source boiler MACT which was amended 12/20/2012. Requirements that apply to this "Existing Large Boiler" are for a one-time energy assessment and tune-ups on a five-year cycle. Reporting of tune-ups is upon request. The compliance date is March 21,2014. The AQD received notification of the energy assessment on 2/23/12. Records of annual boiler tune ups conducted by the boiler manufacturer Wellons are maintained.

FGPLANERSYS20

I. EMISSION LIMITS

Pollutant	Limit	Time Period / Operating Scenario
1. PM	0.01 gr/dscf of exhaust air	Hourly
2. PM	1.36 pph	Hourly
3. PM10	0.59 pph	Hourly
4. PM2.5	0.45 pph	Hourly

Compliance with these limits is determined through control device monitoring and maintenance, and emissions calculations.

III.1. An MAP has been submitted to the AQD and was approved by AQD on 604/2021.

IV.1. The cyclone was in operation at the time of the inspection and appeared to be functioning properly at that time. The differential pressure reading was 0.3". The air intake from the dust collection system discharges inside the building.

VI.1. Emission calculation records are maintained.

VI.2. Inspections and maintenance of the air emission control system includes continuous monitoring of baghouse internal pressure, greasing logs, belt checks and fire suppression system checks. Each of these is documented and maintained. (Examples of the pressure monitoring and fire suppression system are attached)

PTI 104-18, Continuous Direct Fired Kiln (EU-CDK)

I.1. VOC emissions are limited to 31.50 tpy. Compliance is based on recordkeeping of process throughput and the application of proper emission factors. The limit is based on a 12-month rolling time period and records are maintained. Records initially provided by Biewer Sawmill; Inc. indicate that monthly emissions were less than 2 tons per month but increased to 4-5 tons per month from April 2021 to October 21. This was the result of a corresponding increase in the amount of reported wood dried in the kiln during that period. As a result, the 12 month rolling average VOC emissions exceeded the emission limit from August 2021 through December 2021. However, the wood production data during that period exceeded the actual capacity of the kiln (63 MMBF/yr). A records

review by Biewer revealed that errant data had been entered and an updated spreadsheet was provided. The new spreadsheet indicates that monthly VOC emissions are 1-2 tons per month and the 12-mos rolling VOC emissions were 21 tons as of December 2021.

II.1. The only fuel allowed is natural gas. The Kiln burner can only burn natural gas.

II.2. Only hardwoods and/or softwoods may be processed in the kiln. Biewer Sawmill, Inc. only processes hardwoods and softwoods, primarily softwoods and mostly red pine.

II.3. The process limit is 63 MMBF per year per 12-mos. rolling time period. As indicated above, initial records provided by Biewer Sawmill, Inc. indicated the kiln processed around 5 MMBF each month for the first two years of operation but production increased from April 2021 through October 2021 to over 10 MMBF per month. This indicated production rates greater than the 63 MMBF limit from May 2021 through December 2021. Based on the updated spreadsheet, 12-mos rolling time period dried wood production was 58 MMBF as of December 2021.

VI.1. Calculations of VOC emissions are maintained (see attached sample record).

VI.2. Records necessary to demonstrate compliance with the emission limit are maintained and provided with each quarterly excess emission report (see attached sample record).

VII.1. Notification of completion of construction is required. The AQD received notification on April 11, 2019.

VIII.1. and 2. Stack dimensions. Stacks appear to meet the Max. 28" diameter and Min. 50' height, Mr. Breitmeyer previously confirmed the height was 50'.

40 CFR Part 60 Subpart IIII

Exempt Diesel Fire Pump Engine (EUFPE)

I. Emission Limits compliance with limits for NMHC +NOx and PM demonstrated by purchasing an engine certified by the manufacturer to meet the emission limits. Biewer Sawmill provided an engine data sheet that states the engine is USA EPA NSMS Tier 3 emissions certified to NSPS 40 CFR Part 60 Subpart IIII requirements. (copy attached)

II. Material limits require nonroad diesel fuel that meets the requirements of 40 CFR 80.510(b). Biewer sawmill provided a bill of lading indicating sulfur content was 15 ppm or less.

III. Limit non-emergency operation to 100 hrs. per year including maintenance and readiness testing. The engine is equipped with an hour meter and has only operated 43 hours since it was installed in 2019.

Summary

As a result of this inspection it was determined that the plant was operating properly. The required emission records and supporting operational records were being maintained and demonstrated compliance with the applicable emission limits and other permit requirements.

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