DEPARTMENT OF ENVIRONMENTAL QUALITY

AIR QUALITY DIVISION

FCE Summary Report

Facility :	WEYERHAEUSER NR COMPANY	**SRN :**	B7302
Location :	4111 W FOUR MILE RD	**District :**	Gaylord
		County :	CRAWFORD
City :	GRAYLING **State:** MI **Zip Code :** 49738	**Compliance Status :**	Non Compliance
Source Class :	MAJOR	**Staff :**	Sharon LeBlanc
FCE Begin Date :	1/1/2017	**FCE Completion Date :**	2/22/2018
Comments :	scheduled site inspection completed over multiple site visits- Only one non compliance issue was noted (self reported) at the time of evaluation. The issue has been corrected by Facility, no VN was issued.		

List of Partial Compliance Evaluations :

Activity Date	Activity Type	Compliance Status	Comments
02/22/2018	Scheduled Inspection	Non Compliance	scheduled site inspection- non-compliance issue has been corrected and reflects record keeping for isolated event.
02/12/2018	ROP Annual Cert	Compliance	Annual ROP (MI-ROP-B7302-2016b) Certification submittal for the calendar year 2017 included documentation of the following deviations; first semi annual period = 2 deviations for EUPRESSLINE and 8 deviations for FGDRYERS, second semi annual period = 2 deviations for EUPRESSLINE and 6 deviations for FGDRYERS. The deviations appear to have been limited in duration, and promptly corrected by the facility. The submittal contained no summary sheets or statements for other EUs (EUIBW, EUEUPAINTBOOTH, FGDIESEL-ENGINES or FGWOODHANDLING) were included as part of the submittal. Note only FGDRYERS are identified as being subject to CAM, and are included in the compliance statement. No CAM excursions were reported for the calendar year.

Activity Date	Activity Type	Compliance Status	Comments
02/12/2018	ROP SEMI 2 CERT	Compliance	Second Semi-Annual ROP (MI-ROP-B7302-2016b) Certification submittal for the calendar year 2017 included documentation of the following deviations; 2 deviations for EUPRESSLINE and 6 deviations for FGDRYERS. The deviations appear to have been promptly corrected, and of limited duration. The submittal contained no summary sheets or statements for other EUs (EUIBW, EUEUPAINTBOOTH, FGDIESEL-ENGINES or FGWOODHANDLING) were included as part of the submittal. Only FGDRYERS is subject to CAM, and reported no CAM excursions for the period.
02/12/2018	MACT (Part 63)	Compliance	Annual ROP (MI-ROP-B7302-2016b) Certification submittal for the calendar year 2017 included a copy of the Annual Boiler MACT Compliance Report for EUIBW and EUCOEN. Submittal of document to USEPA via Cedri has been confirmed. Most recent annual tune up and burner inspection were completed on 5/24/2017 for EUIBW and 10/18/2017 for EUCOEN.
02/12/2018	CAM Excursions/Exceedances	Compliance	2017 Second Semi-Annual CAM Reporting identified a total of 8 deviations (2 for EUPRESSLINE and 6 for FGDRYERS) for the period, but report that no CAM excursions occurred during the period. Reported deviations appear to have been for a very limited time period, and were corrected promptly.

Activity Date	Activity Type	Compliance Status	Comments
01/17/2018	Excess Emissions (CEM)	Compliance	4th Quarter 2017 Excess emissions report and monitor malfunction report dated 1/11/2018 was received by AQD District office on 1/16/2018. Submittal package included appropriate Cert form, and indicated that excess emissions were limited to Opacity reported at the RO Stack. The submittal reported 15 minutes (0.01% of operating time) of emissions above the 20% opacity limit. Other know causes were identified as the reason for the opacity issues. Issue appears to have been corrected in a timely manner.

Activity Date	Activity Type	Compliance Status	Comments
01/17/2018	CAM monitor downtime	Compliance	4th Qtr 2017 Monitor Downtime and Excess Emissions Report Submittal dated 1/11/2018 and received on 1/16/2018. The referenced submittal contained an appropriate cert form for the period. Monitor downtimes reported for the period included 6.88 hours of VOC CEMS downtime for the EUPRESSLINE. This downtime reflects 0.34% downtime for the period. The RO Stack Opacity COMs reported 16 minutes of downtime (0.013%of operating period). This downtime consisted primarily of other known causes (10 minutes) and Monitor equipment malfunctions (5 minutes). A review of the downtime summary spreadsheet indicated that the other known causes, consisted of downtime while facility staff worked on the purge sensor pressure switch on 12/8/2017. In addition to the COMS associated with the RO Stack, CEMS downtime was reported for the CO CEMS (2.66 hours totaling 0.13% of total operating time). 2.05 hours of the 2.66 hours of downtime was reported to be for monitor equipment malfunctions and was over 11/28/2017 and 11/29/2017. The VOC CEMS for the RO Stack was reported to have been down for 9.04 hours (0.43% total operating time). 8.84 hours was reported to be monitor equipment malfunctions, which occurred over 7 days during the period of 11/21 - 11/29/2017. the facility reports having replaced the monitor with a spare and sent the unit to the manufacturer for additional repairs. All events appear to have been responded to and corrected in a timely basis, bringing the units back online.

Activity Date	Activity Type	Compliance Status	Comments
01/17/2018	CEM RATA		AQD District Staff received a copy of the Report for EUPRESSLINE and FGDRYERS testing conducted December 5th and 6th, 2017. Testing for the period included RATA for VOC CEMS/CERMS for post biofilter emissions, as well as Formaldehyde mass destruction efficiency of biofilter. In addition, Testing included RATA for CO and VOC CEMS/CERMS of the FGDRYERS regenerative thermal oxidizer (RTO). EUPRESSLINE RESULTS - Formaldehyde mass removal efficiency was determined over three test runs and averaged 97.7% reduction. Well above the 90% minimum destruction required under the ROP. The average formaldehyde mass emission rate post bio-filter was reported to be 0.09 lb/hr. The emission limit for the parameter is 1.0 lb/hr. All three of the test run results were reported below the referenced formaldehyde limit. The 15 minute average for the media bed (biofilter) was reported to be 79.16 degrees F, which is between the 24 hour bed average temperature range identified in the MAP. RATA results for EUPRESSLINE VOC CEMS, indicated that the average relative accuracy was 6.7%, meeting the less than or equal to 20% required. FGDRYERS RESULTS - RATA results for the VOC CEMS reported an average relative accuracy of 3.3%, below the 10% applicable standard (note that the 10% standard is appropriate when the measured emissions are less than 50% than the applicable standard, which in this case the standard was 19.5 lb/hr). The CO CEMS was reported to have had a relative accuracy of 7.4%, below the 20% allowed.

Activity Date	Activity Type	Compliance Status	Comments
01/17/2018	Other Non ROP	Compliance	Notification of update to the Facilities Pollution Incident Prevention Plan (PIPP). PIPP is a SARA plan so all about spill prevention and pollution control. The letter indicated that some updates have been made and include the following: change of plant manager last name, updated google earth site location, updates to tables 1-3 and 5 with reference to removed tanks and newly added tanks, addition of local health dept to follow up reporting and updated site drawing with tank locations. No air issues.
01/11/2018	ROP Other	Compliance	Dryer VOC Monitor Malfunction Report for 164 minutes of FGDRYER VOC CEMS - The CEMS was down for a period of 164 minutes after the monitor failed the automatic calibration, and the follow up manual calibration. Trouble shooting determined the sample pump was bad, and the unit was rebuilt. The facility reports that the dryer systems and control equipment were operated normally during the monitor downtime.

01/11/2018	ROP SEMI 2 CERT	Compliance	PCWP MACT Semi-Annual Report for second half of 2017. This document summarizes gaseous and opacity excess emission and continuous monitoring system performance for EUPRESSLINE and FGDRYERS. - EUPAINTBOOTH does not have a CPMS. The facility reports that the RTO has been verified to achieve removal of 90% THC, and that a minimum 3-hour block temperature has been maintained. The Biofilter has been verified to achieve 90% formaldehyde reduction in emissions and that the 24-hour block average bed temperatures have been established by testing. The most recent test dates referenced were for 2016, however, additional testing was conducted in 2017, the test reports had not been received by the facility at the time of report preparation. With respect to reported deviations, only FGDRYERS/RTO system were reported to have had any deviations during the period. The total number of hours reported was 11.41 hours (0.29% of the total operating time) and occurred during 4 events over 3 days. A review of information presented indicates that 6.18 of the 11.41 hours of deviations occurring in the second half of 2017 were due to control device maintenance. The maintenance activities were reported for 1 event in which a "bake out" was conducted under the control device maintenance exemption. With respect to Startup Shutdown and Malfunctions, the report contains a log of all startups, shutdowns and bypasses for the period. Startup and shutdowns included scheduled maintenance activities as well as unanticipated events. The facility reported only 4 malfunctions during the second half of 2017.These included 2 mechanical failures and 1 process failure of the RTO, as well as 1

01/11/2018	ROP SEMI 2 CERT	Compliance	power failure to the WESP. No malfunctions of the bio filter was reported to have occurred. It should be noted that thermal oil heater #1 (EUCOEN) is fired on gas during startup, shutdown events and at that time it vents thru its own stack. USEPA in 2015 determined that when venting thru it's own stack the EU is subject to the Boiler MACT. So EUCOEN was not included in the report.
12/14/2017	ROP Other	Compliance	VOC Monitor Malfunction Report submitted for 161 minutes of monitor downtime (December 4th, 2017) resulting from blow fuse and delay in refiring analyzer.
12/14/2017	ROP Other	Compliance	Facility replaced VOC CEMS for FGDRYERS with a spare model. The replacement unit is reported to be a CAI model 600 HFID, SN B05010. Submittal included notification of swap out and a copy of Calibration Gas Audit Report conducted on November 30, 2017. Reported calibration error ranged from 0.02-0.61%. Well within acceptable range.
12/05/2017	CEMS Test Observation	Compliance	Onsite observations of AQD Staff for CEMS RATA and biofilter destruction efficiencies as noted: December 5 & 6, 2017 - EUPRESSLINE – Relative Accuracy Test Audit (RATA) for VOC Continuous Emission Monitor System (CEMS) and Formaldehyde destruction efficiency for the biofilter (SVBIOFILTER). ·December 6, 2017 - FGDRYERS – RATA for VOC and CO CEMS at the Regenerative Thermal Oxidizer (RTO) outlet.

Activity Date	Activity Type	Compliance Status	Comments
11/27/2017	ROP Other	Compliance	Press VOC Monitor Malfunction Report- Facility reported Press Stack VOC Monitor downtime event totaling 147 minutes on November 16, 2017. The downtime appeared to be the result of IT system upgrade pushes in combination with the facility being down for a routine maintenance day. The combination resulted in a failed calibration drift not being received by the control room staff. Automated e-mail notifications were sent out to environmental staff associated with the facility. However, control room alarms were not received upon startup due to monitor issues associated with the upgrade push. During the 147 minutes, all process and control equipment was reported to have operated normally, and no excess emissions were reported. District staff was left a voice mail as soon as the appropriate facility staff was notified. The corrections were made in a manner to minimize downtime.
11/15/2017	CEM RATA	Compliance	Corrected Cert form has been requested for semiannual COMS compliance audit for the RO Stack (FGDRYERS special condition V.4). Corrected form was submitted electronically on 11/21/2017. Corrected hard copy of form was sent U.S. Mail and received on December 1, 2017. On November 1, 2017, District office received a copy of semi annual audit results for the continuous opacity monitor (COM) installed on the RTO stack which services exhaust gases for FGDRYERS. of optical alignment, calibration error and zero compensation. In addition audit activities included annual zero-alignment testing.

Activity Date	Activity Type	Compliance Status	Comments
10/17/2017	Excess Emissions (CEM)	Compliance	Third Quarter Excess Emissions and Monitor Summary Report were received 10/16/17. The referenced submittal package contained an original certification form signed by the plant manager. PRESS BIOFILTERSTACK - No excess emissions were reported for the Press Biofilter Stack for the period. RO STACK - The 3rd Quarter submittal reported no excess emissions for Opacity for the RO Stack. No excess CO or VOC emissions were reported for the RO Stack for the period.
10/17/2017	CAM monitor downtime	Non Compliance	Third Quarter Excess Emissions and Monitor Summary Report were received 10/16/17. The referenced submittal package contained an original certification form signed by the plant manager. PRESS BIOFILTERSTACK - With respect to the Press Biofilter Stack, A single downtime event totaling 1 minute was reported for the VOC monitor. RO STACK - The 3rd Quarter submittal reported no downtime for Opacity monitor for the RO Stack. The CO CEMS for the RO Stack was reported to have a total of 3.11 hours of downtime totaling 0.17% of the operating time. A total of The referenced time was over four events (August 19, 2017, September 19, 2017, September 23, 2017 and September 30, 2017). The VOC CEMS associated with the RO stack was reported to have 2.48 hours or 0.14% of operating time of CEMS downtime. The 2.48 hours occurred over 4 events (August 23, 2017, September 19, 2017, September 22, 2017, and September 30, 2017) for the period. All emission monitoring systems were online at the end of the quarter.

Activity Date	Activity Type	Compliance Status	Comments
10/16/2017	ROP Other	Compliance	Notification of testing the EUPRESSLINE biofilter and FGDRYERS to evaluate compliance with 40 CFR Part 63, Subpart DDDD and MI-ROP-B7302-2016A.- Testing proposed includes Relative accuracy testing for onsite CEMS: VOCs for EUPRESSLINE biofilter exhaust stack and CO and VOC for FGDRYERS RTO exhaust Stack. Proposed testing also will include testing for formaldehyde emissions and removal efficiencies for EUPRESSLINE.
09/27/2017	ROP Other	Compliance	Cylinder gas audit for 3rd Quarter 2017. Audit on CO and VOC monitor for Dryers and VOC monitor on Press stack. Results are within the allowable accuracies of +/- 5% for VOC and +/- 15% for CO.
08/28/2017	ROP Semi 1 Cert	Compliance	Semi Annual/CAM excursions/CAM downtime contained within one document. Five deviations reported. All were monitor related, all documented and remediated in a timely manner.
08/28/2017	CAM Excursions/Exceedances	Compliance	Semi Annual/CAM excursions/CAM downtime contained within one document. No excursions or exceedances reported.
08/28/2017	CAM monitor downtime	Compliance	Semi Annual/CAM excursions/CAM downtime contained within one document. No CAM monitor downtime reported.
08/28/2017	MACT (Part 63)	Compliance	PCWP MACT semi annual report. This report details excess emissions, monitoring downtime, and startup, shutdown, malfunction (SSM) issues. Report appears complete. Excess emissions and downtime <2% of operating time. SSM issues documented and remediated in a timely manner.
08/25/2017	Excess Emissions (CEM)	Compliance	
06/08/2017	Other	Compliance	Observation of EPA inspection

Activity Date	Activity Type	Compliance Status	Comments
05/30/2017	ROP Other	Compliance	Cylinder gas audit for 2nd Quarter 2017. Audit on CO and VOC monitor for Dryers and VOC monitor on Press stack. Results are within the allowable accuracies of +/- 5% for VOC and +/- 15% for CO.
04/18/2017	Excess Emissions (CEM)	Compliance	Jan-March 2017. 1st Quarter EER. Report includes EUPRESSLINE (Press Biofilter Stack) VOC; and FGDRYERS' RTO (RO Stack) COM, two (one per stack) CO, and VOC. Both excess emissions and monitor downtime were below one percent.
04/18/2017	ROP Other	Compliance	Jan-March 2017 Cylinder Gas Audit (CGA) Report for Dryer RTO Stack CO & VOC monitors, and Press VOC monitor. Report includes: All accuracies were within the allowable limit of plus or minus 5% for VOC and plus or minus 15% for CO.
04/18/2017	ROP Other	Compliance	October 2016 - March 31, 2017. Opacity Filter Audit for EUDryers and EUCOEN RTO. The report includes: All accuracies were within the allowable limit of 3.0%.
04/12/2017	MACT (Part 63)	Compliance	2016. Boiler MACT Annual Compliance Certification Report. 40 CFR, Part 63, Subpart DDDDD, 63.7550.
03/02/2017	Telephone Notes	Compliance	Meeting to discuss submitting application(s) to update press and dryers.
02/09/2017	MACT (Part 63)	Compliance	January-December 2016. 40 CFR Part 63, Subpart DDDD, the PCWP MACT Semi-Annual Report.
02/09/2017	ROP Annual Cert	Compliance	January-December 2016. Annual Cert MI-ROP-B7302-2016a.
02/08/2017	Other	Compliance	Email communication about the ROP, Appendix 7.
01/20/2017	ROP SEMI 2 CERT	Compliance	July- December 2016 Semiannual Report Certification. During the reporting period the permittee reported 6 deviations and corrective actions taken.
01/20/2017	CAM monitor downtime	Compliance	July-December 2016 CAM Monitor Downtime. No monitor downtime reported.

Activity Date	Activity Type	Compliance Status	Comments
01/20/2017	CAM Excursions/Exceedances	Compliance	July- December 2016 CAM Excursion/Exceedance. Zero excursion or exceedance reported.
01/13/2017	Excess Emissions (CEM)	Compliance	Oct-Dec 2016. 4th Quarter EER. Report includes EUPRESSLINE (Press Biofilter Stack) VOC; and FGDRYERS' RTO (RO Stack) COM, two (one per stack) CO, and VOC. Both excess emissions and monitor downtime were below one percent.
01/13/2017	Stack Test	Compliance	2016 RATA & Tests Results. EUPRESSLINE (VOC) & FGDRYERS (VOC & CO) CEMS RATA. EU PRESS LINE (PM10 , Formaldehyde, CO), FG DRYERS/RTO both chambers (PM10 Formalde- hyde, SO2, NOx, CO, THC), FGDRYERS RTO one chamber (PM10, CO), EUIBW (NOx, CO).
01/13/2017	MAERS	Compliance	2016 MAERS, Check MAERS for any review comments

Name: Shawn VanBlaricom **Date:** 3/5/2018 **Supervisor:** SAJ

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

B730243409

FACILITY: WEYERHAEUSER NR COMPANY		**SRN / ID:** B7302
LOCATION: 4111 W FOUR MILE RD, GRAYLING		**DISTRICT:** Gaylord
CITY: GRAYLING		**COUNTY:** CRAWFORD
CONTACT: Kathi Moss , Environmental Health and Safety Coordinator		**ACTIVITY DATE:** 02/22/2018
STAFF: Sharon LeBlanc	**COMPLIANCE STATUS:** Non Compliance	**SOURCE CLASS:** MAJOR
SUBJECT: scheduled site inspection- non-compliance issue has been corrected and reflects record keeping for isolated event.		
RESOLVED COMPLAINTS:		

From November 7, 2017 through February 22, 2018, AQD district Staff visited the Weyerhaeuser NR Company Facility (B7302) located at 4111 West Four Mile Road, Grayling, Crawford County, Michigan. The visits during the referenced time period were for the following purposes:

- **November 7, 2017 – Familiarization with the Biofilter pollution control device operation**
- **November 21, 2017 – Familiarization with the Airsum monitoring/recordkeeping system**
- **December 5th & 6th, 2017 – Testing Activities**
- **February 22, 2018 – Operations Inspection**

Information obtained during the referenced visits are incorporated into the compliance determination summarized in this report. The most recent site inspection report was dated March 1, 2016, and the facility was found to be in compliance with permit conditions. The referenced site visits were conducted to allow MDEQ AQD Staff to familiarize themselves with process activities onsite as part of the Full Compliance Evaluation (FCE) for the 2018 Fiscal year.

The referenced facility is a Major Source and is permitted under Renewable Operating Permit (ROP) Number MI-ROP-B7302-2016b. The initial ROP was renewed on March 8, 2016, and was amended most recently on October 12, 2017, and approved on December 1, 2017.

Gaylord Field Office Staff met with Ms. Kathi Moss, Environmental Manager.

FACILITY

The Weyerhaeuser NR Company Facility (AKA WNR) was opened in 1982 as Weyerhaeuser's first oriented strand board (OSB) mills. The product contains layers of dry wood flakes (referred to as strands), resin and wax pressed under high temperature and pressure to form a panel. OSB panels are commonly used as construction materials. Note that the various products manufactured at WNR are defined in part by a" Species Mix" or recipe as well as by the OSB thickness.

The process begins with whole logs which are debarked and chipped into strands at the southern end of the facility. The strands are then dried using four rotary dryers that utilize waste wood and/or natural gas for fuel. Strands are then sorted by size and stored in silos until needed.

At the press line, the strands are conveyed on to mats/screens, oriented to increase the strength of the finished product, and mixed with wax and resins. These mats are then fed to the press which applies temperature and pressure. Heat to the press line is from hot oil supplied by two thermal oil heaters. The result is a structure panel. The panels are cut to size and prepared for shipping. The plant has regularly scheduled plantwide shutdowns for maintenance activities. This normally equates to a 10-hour down period every 2 weeks.

Fuel source for the facility include Natural Gas (NG) and waste wood. The wood fuel used by the facility is generated/collected from various wood handling components in the OSB board production. WNR staff indicated that the wood bark and coarse wood fragments are sold to the neighboring cogeneration plant.

FACILITY CHANGES - Information provided by WNR Staff indicated the following facility upgrades or changes have been completed since the last inspection:

- **Replacement of the wet ESP and two RTOs that serve the dryers (2015- 2016).**
- **Hardwiring of a portable diesel air compressor (to be added to ROP in 2021 renewal)**

- New "Generac" generator for gate and scales (propane fueled).
- Upgrade to the Strander Air Quality (SAQ) baghouse and addition of storage bin/conveyors under exemptions 285(2)(d) and (b) (2016-2017).
- Biofilter media replacement (August 2017)
- Construction of supplemental storage area for equipment on the northwest corner of the facility (2017-2018)

The summer of 2018, WNR has plans to upgrade their press line. In anticipation of the activities, the facility submitted a permit application on April 19, 2017. The activities were approved under PTI 535-94F on august 24, 2017.

On January 29, 2018, WNR submitted a permit application for the replacement of the existing rotary dryers with like kind replacement in dryer technology. The project includes replacement of the existing 40 MMBtu/hr burners with 60 MMBtu/hr burners. The increase in burner rating is the result of a new manufacturer of the equipment, the previous manufacturer having went out of business. In addition to the dryer drums, the facility will be installing new primary classifiers, ductwork, foundations, fans, motors, burners and other auxiliary equipment. The referenced activities are tentatively scheduled to occur from July 16 to October 7, 2018.

EQUIPMENT

The Manufacture of OSB is completed in stages. A shutdown of one stage in the process depending on the nature and duration of the shutdown, may result in a shutdown of the entire process. Storage bins for dried wood strands allow continued but limited operation for process activities both before and after the bins. A brief description of each stage/activity is provided and permitted equipment is identified in *Italics.*

Pre-Chipping – Initial steps in the manufacturing process include transfer and debarking of logs delivered to the wood yard onsite. This is completed using flumes and a de-barker. The waste material generated from the de-barker (aka residuals) as previously noted are sold to the neighboring cogeneration plant. Prepped logs are sent down the line for chipping (aka stranding).

Chipping – De-barked ~~the~~ logs are transferred to a chipper more appropriately referred to as a "strander" that generates the wood strands used in the manufacturing process.

Drying & Screening – Following the creation of the "strands" from the wood logs, the material is transported to the dryer room. In the dryer room, 4 rotating dryers (*EUDRYER1, EUDRYER2, EUDRYER3* and *EUDRYER4*) are used to dry the wood strands which then are put into storage prior to being sent to form into mats. Pollution control devices associated with the rotary dryers includes cyclones, Wet Electro Static Precipitator (WESP) and Regenerative Thermal Oxidizer (RTO).

It should be noted that when fired by wood and/or wood dust *EUCOEN*'s exhaust is directed through the dryers and the associated pollution control devices. The facility reports that *EUCOEN* has been fueled predominantly of wood/wood dust and minor quantities of NG (to keep the pilots lit), operation solely on NG is normally limited to upset conditions. *FGDRYERS* includes all 4 dryers as well as *EUCOEN.*

Waste wood materials collected during the various screening, trimming, finishing and cleanup processes of *FGWOODHANDLING* are delivered as dry fuel (*EUDRYFUEL*) to the wood burners in *FGDRYERS.* This system is controlled by a cyclone and baghouse.

Mat Forming – Equipment associated with these activities includes those associated with the transfer and screening of wood strands to the press line. The activities, includes *EUBLENDENT,* EUFLAQ, *and EUMATTRIM. EUBLENDENT,* is the resin storage and blending; and core transfer area installed in July 14, 2012, is reported to have be controlled by a baghouse. *EUFLAQ,* the Form Line Air Quality cleanup system with baghouse (previously EUSANDER) was reported to have been installed on June 17, 2010. EUMATTRIM cleanup system with baghouse was installed in August 1980. *EUBLENDVENT, EUFLAQ, and EUMATTRIM* are included in *FGWOODHANDLING.*

Pressing – *EUPRESSLINE* covers the OSB press as well as any associated board conveying equipment. The building housing *EUPRESSLINE* is kept under negative pressure and meets the wood products enclosure in 40 CFR 63.2292. At the time of report preparation, WNR staff have indicated that

construction of a new press line is scheduled for 2018, at which time the facility will be down for approximately 3 months.

Pollution controls for emissions associated with EUPRESSLINE includes a biofilter and total enclosure controls. The facility reports that WNR has not bypassed the biofilter since 2007. WNR also reports that they have over the years changed the process by which they conduct media changeouts in the biofilter, completing the job within the 5-day window allowed under Federal Regulations.

Two Thermal Oil Heaters (TOH) are used to generate the heat required for the press line include:

- ***EUIBW* (AKA TOH #2) is a 1980 International Boiler Works (IBW), 40 MMBTU/hr NG-fueled burner which heats oil for use in the presses and the plant building heaters. This EU exhausts directly to the atmosphere through it's stack.**
- ***EUCOEN* (AKA TOH#1) is a 1995 Coen Model 230-DAZ-22, 40 MMBTU/hr burner oil-heater when firing NG. MAERS records indicate that the unit was installed in November 1, 1995. This EU is also capable of firing on wood and wood dust (50 MMBTU/hr). When firing NG it may exhaust directly through it's stack. When firing wood, the exhaust is directed through the dyers and the Wet Electro Static Precipitator (WESP) and Regenerative Thermal Oxidizer (RTO). The heated oil generated enhances the heat in *EUPRESSLINE*.**

Neither unit is reported to have oxygen trim systems.

Trimming & Cleanup – Following heat treating of the resin and wax impregnated mats, the pressed OSB mats are trimmed, finished off to the final product and packaged for shipping (*EUFINISHING*). Collection of waste materials (EUCLEANUP) generated during the flake screening process, and cleanup systems for screens, dry bins, sanding line, and wood handling systems. Pollution controls associated with the referenced equipment includes the following:

EMISSION UNIT	CONTROL DEVICE(S)	PARAMETERS MONITORED	FLEXIBLE GROUP
EUMATTRIM	Baghouse	PM, PM10 and PM 2.5	FGWOODHANDLING
EUFINISHING	Cyclone and Baghouse		FGWOODHANDLING
EUCLEANUP	Baghouse		FGWOODHANDLING
EUDRYFUEL	Cyclone and Baghouse		FGWOODHANDLING

Painting –Following trimming and cleanup, the stacks of OSB are painted along the trimmed edges and labeled prior to staging for shipping in *EUPAINTBOOTH* (installed in June 1987).

Backup Equipment – Three Reciprocating Internal Combustion Engines (RICE)which act as emergency generators and are associated with process equipment and include; *EUDIESELHOTOIL* (installed in July 2006), *EUEMERGENCYGEN* and *EUFIREPUMP*

Other – A number of exempt EUs are of record for the facility these include:

- **Two 300K BTU/hr, NG fired service water heaters (EUHOTSYENERGY and EUHOTMAINT)**
- **One 300K BTU/hr, Propane fired service water heater (EUHOTSYPORTABLE)**
- **Two NG-fired, 30K BTU/hr furnaces (EUTDCFURNACE1 and EUTDCFURNACE2)**
- **One NG-fired, 400K BTU/hr water heater for office area (EUWATERHEATER)**
- **Two 80K BTU/hr, NG-fired furnace for space heater (EUFURNACE1 and EUFURNACE2)**
- **Two 1K gallon capacity LP storage tanks (EULPTANK01 and EULPTANK02)**
- **Two NG-fired, 1 million BTU/hr boilers used to heat vats (EUPONDBOILER1 and EUPONDBOILER2)**
- **Two parts washers in maintenance shop (EUPARTSWASHER1 and EUPARTSWASHER2), and**
- **Methylene diphenyl diisocynate (MDI) Resin tanks used for resin storage (EUMDITANKS)**

On June 6, 2017, WNR notified AQD District staff that due to weather events experienced in other parts of the country that had impacted their supply chain that they anticipated having to resort to using the 100% Phenol-Formaldehyde (PF) Resin used in their process prior to MDI. The PF Resin use was anticipated to last for approximately two months and the Facility indicated that it would be exempt under

Rule 285(b). District Staff were notified on July 20, 2017 that the facility was once again using MDI in the process.

REGULATORY

As previously indicated WNR operates under MI-ROP-B7302-2016b. The referenced document was initially issued on March 8, 2016. The referenced document has undergone two modifications since that date, the latest being approved on December 1, 2017.

WNR has been determined to have the potential to emit over 100 tons per year of the following criteria pollutants and is a major source of:

- **Particulate Matter (PM),**
- **Nitrogen Oxides (NOx),**
- **Carbon Monoxide (CO) and**
- **Volatile Organic Compounds (VOCs).**

In addition, the facility has the potential to emit 10 tons per year or more of any single Hazardous Air Pollutant (HAP) or the potential to emit any combination of HAPS emissions greater than or equal to 25 tons per year.

The facility was subject to review under the Prevention of Significant Deterioration (PSD) regulations of 40 CFR 52.21, because at the time of New Source Review (NSR) permitting the potential to emit of CO was greater than 250 tons per year.

EUs subject to Compliance Assurance Monitoring under 40 CFR Part 64 (AKA CAM) are those with control devices and potential pre-control emissions of PM greater than 100 tons. These CAM subject EUs are all part of Flexible Group FGDRYERS:

- **EUDRYER1,**
- **EUDRYER2,**
- **EUDRYER3,**
- **EUDRYER4 and**
- **EUCOEN (when firing wood)**

The following EUs are subject to Federal Standards:

EMISSION UNIT	40 CFR SUBPART	TITLE
EUPRESSLINE	Part 63, Subpart A and DDDD	Maximum Achievable Control Technology (MACT) Standards for National Emission Standards for HAPs (NESHAP), Plywood and Composite Wood Products (PCWP)
EUCOEN (when firing wood)	Part 63, Subpart A and DDDD	MACT for NESHAP, PCWP
FGDRYERS	Part 63, Subpart A and DDDD	MACT for NESHAP, PCWP
EUIBW	Part 63, Subpart A and DDDDD	MACT for NESHAP for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters (BOILER MACT)
EUCOEN (when firing NG and exhausting through SVCOEN)	Part 63, Subpart A and DDDDD	BOILER MACT
EUDIESELHOTOIL	Part 63, Subpart A and ZZZZ	NESHAP for RICE (AKA RICE MACT)
EUEMERGENCYGEN	Part 63, Subpart A and ZZZZ	RICE MACT
EUFIREPUMP	Part 63, Subpart A and ZZZZ	RICE MACT

Initial notifications and compliance status reports on file with the AQD District Office include the following:

EMISSION UNIT	40 CFR SUBPART - DOCUMENT	SUBMITTAL DATE
EUIBW EUCOEN	Initial Boiler MACT Compliance Status Report	February 10, 2016
EUPRESSLINE EUCOEN FGDRYERS	Initial Notification for the Plywood and Composite Wood Products MACT	December 1, 2004

COMPLIANCE EVALUATION

District Files have no records of complaints received or Violation Notices (VNs) issued to the Facility since the March 1, 2016, site inspection. In addition, all previous consent orders (Numbers 17-991 and 14-1984) identified as still open during the previous site compliance evaluation (March 1, 2016) have been terminated.

Annual Emissions Reporting (MAERS) are of record as being submitted in a timely manner in compliance with general permit requirements. At the time of report preparation, the most recent submittal was on January 12, 2017, for the 2016 calendar year.

Required Quarterly, Semi-annual, Annual and other reporting requirements are of record as having been complete and submitted in a timely manner, in compliance with the ROP. Documents reviewed since the March 1, 2016, compliance inspection/evaluation indicated general compliance with permit conditions. These and other reporting requirements are summarized below:

EMISSION UNIT	PERMIT CONDITION	REPORT TYPE	FEQUENCY OF SUBMITTAL
SOURCE WIDE EUPRESSLINE EUPAINTBOOTH EUIBW EUCOEN FGDRYERS FGWOODHANDLING FGDIESEL-ENGINES	GC 21 & 22, VII.1	Prompt Reporting of Deviations	Based on event.
SOURCE WIDE EUPAINTBOOTH EUIBW EUCOEN FGWOODHANDLING FGDIESEL-ENGINES	VII.2	Semi-Annual Compliance	Semi Annual (6 months)
SOURCE WIDE EUPRESSLINE EUPAINTBOOTH EUIBW EUCOEN FGDRYERS FGWOODHANDLING FGDIESEL-ENGINES	VII.3	Annual Compliance	Annual (12 months)
EUPRESSLINE FGDRYERS	VII.2 VII.4 VII.5 VII.10	Semi-Annual Compliance	Semi Annual (6 months)
EUPRESSLINE FGDRYERS	VII.12	EER and Monitor Downtime	Quarterly (3 months)
EUIBW	VII.8 & 9		Annual

		Subpart DDDDD Annual Compliance Report	(12-months)
EUCOEN	VII.5 & 6	Subpart DDDDD Annual Compliance Report	Annual (12-months)
EUPRESSLINE	VII.5	Subpart DDDD Annual Compliance Report to USEPA	Annual (12-months)

Malfunction Abatement Plan (MAP) or Startup, Shutdown, or Malfunction Plans (SSMP) are required under the ROP or under Federal regulations for the following EUs:

EMISSION UNIT	PERMIT CONDITION	MAP or SSMP on File with AQD	MOST RECENT PLAN DATE
EUPRESSLINE	IX.1	SSMP	July 19, 2016 (revision 17)
EUPAINTBOOTH	III.2	MAP	July 19, 2016 (revision 17)
EUIBW	III.1	MAP	July 19, 2016 (revision 17)
EUCOEN	III.2	MAP	July 19, 2016 (revision 17)
FGDRYERS	VI.9	MAP	July 19, 2016 (revision 17)
FGDRYERS	IX.1	SSMP	July 19, 2016 (revision 17)

Documentation in the March 1, 2016, AQD compliance evaluation report indicated that the above referenced documents were merged into a single document, a SSMAP dated June 3, 2015. The document was updated and received by the District Office on July 20, 2016, to include the Boiler MACT requirements. WNR reports the last revision was 8/28/2017 (no copy in district files).

Additional Plans on file with the District Office include the following documents:

EMISSION UNIT	PERMIT CONDITION	ADDITIONAL PLANS on File with AQD	MOST RECENT PLAN DATE/ APPROVAL DATE
FGDRYERS	SC IX.6	QA/QC Continuous Opacity Monitor System (COMS) PLAN	September 4, 2015 /July 26, 2016
FGDRYERS	SC IX.6	QA/QC CEMS PLAN	January 6, 2015 /July 26, 2016
FGDRYERS	SC IX.5	CAM	October 19, 2009

The referenced plans have been previously approved by AQD staff indicating that the plans meet any appropriate quality assurance/quality control activities required by permit.

With regards to monitoring and recordkeeping requirements, the facility has multiple software programs, data acquisition software and databases that monitor and record the various operational data required under the ROP as well as for their own business purposes. In addition to monitoring and record keeping, the system(s) in place send out real-time electronic alarms to appropriate WNR Staff and work stations so corrective actions may be made. Information obtained during site visits and record reviews has indicated that overall the data required by the ROP to be monitored and recorded is being maintained by the facility in compliance with the ROP conditions, and that corrective actions when necessary are conducted in a timely manner in compliance with operating requirements.

Source Wide - Conditions associated with the Source include; emission limits, calculation of monthly and 12-month rolling total emissions of CO (SC VI.1 & 2) and both annual and semi-annual reporting (SC VII,2 & 3). Emission limits in the ROP are limited to CO emission limits of 224.9 tpy, based on 12-month rolling total (SC I.1). For 2017, the facility reports total CO emissions for the site of 86.96 tons, the bulk of it generated by activities associated with FGDRYERS (78.2 tpy CO).

EUPRESSLINE –As previously indicated this EU includes the OSB press and associated board conveying equipment. Pollution control devices associated with the EU include the biofilter and the total enclosure controls. The ROP requires that the whole press line is housed inside an enclosure that meets the definition of a wood products enclosure in 40 CFR 63.2292 (SC.IV.4). SC VII.11 requires that the WNR submits documentation that the enclosure meets the press enclosure design, this was reported completed with submittal of the notification of compliance status by WNR on February 11, 2007. The facility reports having applied for approval of a Control Device Routine Maintenance Device exemption for EUPRESSLINE on August 30, 2007 (SC IX.2) Confirmation that the press enclosure is operating properly can be seen by closed doors and negative pressure within the enclosure.

The biofilter controls VOC and HAP emissions generated during press heating of waxes and resins. The biofilter is constructed of two chambers of douglas fir mulch and lime (pH balance) that provides an environment for microbial growth. Temperature, moisture content and air flow thru the media is reported by the facility to be key in proper operation of the control.

The facility reports that the biofilter has not been bypassed since 2007, and therefore the following conditions are not applicable at this time: III.2, VI.4, VI.5. Biofilter media change-out activities by WNR are reported to be completed within a 5-day shutdown and that a premature bed failure has not occurred for over 5 years.

No material limits are associated with EUPRESSLINE. However, tons of finished product and hours of operation for EUPRESSLINE are monitored and recorded daily in compliance with SC VI.6. The data is used to calculate CO emissions for EUPRESSLINE (Appendix 7). Continuous monitoring associated with the biofilter includes:

MONITOR	EMISSION UNIT	PARAMETER MONITORED	ROP CONDITION
Continuous Emissions Monitor (CEMS)	EUPRESSLINE	Volatile Organic Carbon (VOC)	IV.1, VI.3 VII.7
Thermocouples	EUPRESSLINE	Biofilter Bed Temperature	IV.2, IV.3, VI.8, VI.9
Air Flow Monitors	EUPRESSLINE	Volumetric Flow thru the Biofilter	VI.2

To meet the requirements of SC IV.1 and SC V.1, the facility has installed a VOC CEMS (AKA CERMS). The referenced unit is a Flame Ionization Detector (FID) and both EUPRESSLINE and FGDRYERS use the same make and model FID to monitor VOC emissions (total carbon). Housed adjacent to the biofilter, the unit is calibrated daily, and the required cylinder gas and relative accuracy audits required under 40 CFR Part 60 Appendices B and F are conducted and reported as required (SC V.3 and Appendix 3).

Not only does WNR have trained staff to conduct CEMS maintenance activities, but the VOC CEMS for both EUPRESSLINE and FGDRYERS are the same make and model FID. WNR keeps a spare VOC CEMS onsite incase operational issues occur with one in operation. Just such a case occurred in late November-early December 2017, and the Facility swapped out the spare with the unit that had been operating (FGDRYERS) so that it could be sent to the manufacturer for issues noted by onsite equipment specialists. AQD District staff were notified of the swap out and the appropriate 7-day drift records were submitted in a timely manner.

Operational parameters for the biofilter are monitored continuously and recorded as required by permit. During compliance testing data recorded by the Facility is used to establish the operational ranges for the biofilter (SC III.1, SC III.3). The Facility reports that proper biofilter operation is determined by monitoring of multiple parameters, including but not limited to bed temperature, water application rate, humidifier pressure drop. Continuous monitoring of the biofilter bed temperature is conducted in 15-minute cycles as required under SC IV.3 and 24-hour block temperatures (SC III.1, VI.9). In compliance with SC IV.3 the facility maintains the necessary parts for routine repairs and checks as well as record the results of inspections calibrations and validation checks. The Facility reports having extra thermocouples onsite to replace or validate thermocouples in use and records reviewed as part of the compliance evaluation indicate compliance with permit requirements.

WNR reports the biofilter and its monitors are maintained (SC IV.2) using a standardized maintenance work order process, as well as immediate response to alarms built into the software when parameters are out of range, or when scheduled events such as daily calibrations fail to occur. In compliance with permit conditions, 24-hour block averages of biofilter temperatures are determined from the data collected (VI.8). Operational temperature ranges set for the biofilter are kept within the 24-hour block averages ranges recorded during performance testing and identified in the MAP (SC VI.8 & VI.9).

Biofilter operational parameter 24-hour average bed temperature ranges determined as a result of testing are summarized below:

TEST DATE	AVERAGE MIN TEMP	AVERAGE MAX TEMP
2/10/2009	77.6 degrees F	--
08/04/2009	--	99.9 degrees F

Parameters documented at time of site visit are presented below and show compliance with respect to the SSMAP:

DATE	INSTANTANEOUS BED TEMP (degrees F)	BED AIR FLOW (SCFM)	INSTANTAEOUS VOCs (pph)
12/5/2017	79.16	NR	14.3
12/6/2017	79.03	92,452 -98,111	NR
2/22/2018	80.145	101,000	8.997
SSMAP Range	77.6-99.9	NA	<19.5

Air Flow Monitors associated with the biofilter are tested in conjunction with RATAs. Testing requirements for EUPRESSLINE include the following verification tests:

PARAMETER	TESTING REQUIREMENT	PERMIT LIMIT*	TEST RESULTS (November 8-16, 2016)	TEST RESULTS (November 26-29, 2012)
PM	Every 5 years (SC V.1)	10.5 pph*	Not Tested	Not Tested
PM10	Every 5 years (SC V.1)	10.5 pph*	4.9 pph	7.8 pph
PM2.5	Every 5 years (SC V.1)	10.5 pph*	Not Tested	Not Tested
CO	Every 5 years (SC V.1)	11.4 pph	2.0 pph	2.6 pph
Formaldehyde	Every 5 years (SC V.1)	1.0 pph*	0.23 pph	0.1 pph

*-Note the emission limit for PM was changed from 8.4 pph to 10.5 pph and Formaldehyde was changed from 2.3 pph to 1.0 pph with issuance of PTI 535-94F on August 24, 2017.

In addition to the above referenced testing requirements, the ROP requires confirmation of the formaldehyde destruction efficiency of the biofilter. A 90% efficiency is required over the course of a three-hour test period (SC I.7 and V.2) The formaldehyde destruction efficiency testing is required to be completed within 2 years following the previous performance test and within 180 days after replacement of any portion of the biofilter bed media with a different type of media, or with each replacement of more than 50% by volume of the biofilter bed media with the same type of media (SC V.2). WNR records indicated that the last change out of biofilter bed media was in August 2017.

The destruction efficiencies for the biofilter determined by testing is summarized below:

PARAMETER					

	TESTING REQUIREMENT	PERMIT LIMIT	TEST RESULTS (December 5-6, 2017)	TEST RESULTS (November 8-16, 2016)	TEST RESULTS (November 26-29, 2012)
Formaldehyde	SC I.7 and SC V.2	90% or greater	97.7%	92.2 %	98%

In compliance with SC V.1 and SC VII.7 through 10, test protocols, notifications and test results have been submitted in a timely manner. CO test results are utilized by the facility to determine total emissions (SC VI.7). A review of annual emissions data confirms that the company is in compliance with the 50 tpy CO limits (SC I.5).

CO LIMIT (tpy) (SC1.5)	MAERS CALENDAR YEAR	REPORTED CO EMISSIONS (tpy)	EMISSION FACTOR SOURCE	EMISSION FACTOR (LB/ E3 FT2)
50	2015	10.5	Stack Testing	4 E-2
50	2016	10.83	Stack Testing	0.059
50	2017	8.23	Stack Testing	0.0461

EUPAINTBOOTH – This EU is used to paint the edges of the finished OSB wood product and has a dry fabric filters to control emissions and reflects one of the final stages in production. WNR reports that the differential pressure across the dry filters are monitored by differential pressure gauges (or equivalent) (SC III.2 and IV.1) and are recorded once per shift on log sheets (SC VI.1). Select data was reviewed and is presented in below:

DATE	DIFFERENTIAL PRESSURE	SSMAP OPERATING RANGE
11/1/2017	0.12	0.03 – 1 inch
11/30/2017	0.12	0.03 – 1 inch
2/22/2018	0.24	0.03 – 1 inch

In addition, the Facility has standard practices for maintenance associated with the unit as well as with other control devices at the facility.

In compliance with permit conditions, WNR maintains monthly records of the amount of paint used in gallons (SC VI.2). The Facility reports that the monthly totals reflect estimates, and are reconciled at the end of the year with purchase records. (SC VI.3). Particulate (PM) emissions for EUPAINTBOOTH are to be calculated pursuant to Appendix 7 of the ROP (SC VI.3). PM emissions reported by the Facility include the following:

CALENDAR YEAR & Source	PM LIMIT (pph) (SC I.1)	REPORTED EMISSIONS (pph)	PM LIMIT (tpy) (SC I.2)	REPORTED EMISSIONS (TPY)
2013 (MAERS)	0.94	—	4.1	1.24
2014 (MAERS)	0.94	—	4.1	1.296
2015 (MAERS)	0.94	—	4.1	Not Reported in MAERS
2016 (MAERS)	0.94	—	4.1	1.718
2017 (Facility)	0.94	0.44	4.1	1.74

SC VI.4 requires records verifying the use of only non-HAP coatings as defined in SC.IX.1. The Facility reports that in 2015 one of their edge sealants was found to have contained a non-VOC HAP, the coating/sealant was removed from use on July 8, 2015. The facility made a voluntary disclosure to USEPA and AQD on June 22, 2015. The 2017 second semi-annual Part 63 Subpart DDDD report (January 8, 2018) for the Facility indicated that no HAP containing coatings were used for the second half of the calendar year, and is consistent with records reviewed as part of this compliance evaluation.

EUIBW – This NG-fired EU (SC IX.1) is referred to as the "Number 2 TOH" and supplies heat to EUPRESSLINE and the plant building heaters. In the winter, it also supplies heat to the water vat used to thaw and clean logs entering the flume and debarker. No control device is associated with EUIBW, the emissions from the NG-burner exhausts directly to the atmosphere through it's independent stack.

Notifications required for EUIBW under the Boiler MACT (SC IX.2) include the initial notification (February 10, 2016) (SC VII.7) as well as annual notifications required by the 15th of March for the previous calendar year (SC VII.8). WNR submitted the required annual compliance report for 2017 on February 6, 2018 (SC VII.8). Submitted reports were reviewed and determined complete with respect to information required under conditions VII. 7 and VII. 9. Copies of this and all other notifications and reports submitted to comply with the Boiler MACT are maintained onsite and are readily available for review (SC VI.4 and VI.5). Total hours of operation of EUIBW for 2017 were reported to be 5013.2.

As previously noted, the EU is subject to the Boiler MACT, initial notification was submitted on February 10, 2016. The initial tune-up (SC VII.8) and one-time energy assessment (SC III.3) were reported to have been completed prior to the January 31, 2016 compliance date. The most recent annual tune-up (SC III.4 and VIII.8) was conducted on May 24, 2017.

Emission limits associated with EUIBW includes NOx (SCI.1) and CO (SCI.2) in pounds per hour (pph). Verification testing for the referenced parameters are required once every five years (SC V.1). A review of district records indicates that submittal of test protocols (SC VII.4), 7-day notification of anticipated tests dates (SC VII.5) and test reports (SC VII.6) have been in compliance with conditions. The next required testing would be 2021. The last two test results are summarized below:

TEST DATE	EMISSION LIMIT NOX (pph) (SCI.1)	NOX TESTING RESULT (pph)	EMISSION LIMIT CO (pph) (SCI.1)	CO TESTING RESULT (pph)
11/26-29/2012	1.9	1.6	2.3	0.001
11/8-16/2016	1.9	0.87	2.3	0.20

Annual NOx and CO emissions are calculated using the EF based on test results and hours of operation (SC VI.3). No annual emission limit for the two pollutants/parameters are identified for the EU.

Monitoring/recordkeeping requirements for EUIBW include monitoring and recording of the amount of NG used (SC VI.1). A NG meter is located onsite, and is recorded on a daily log sheet, in compliance with permit conditions (SC VI.2).

EUCOEN – The "Number 1 TOH" is permitted to operate fired by NG (40 MMBTU/hr) or wood/wood dust (50 MMBTU/hr). The heat/hot oil generated from this thermal oil heater is used to enhance the heat in the press plates of EUPRESSLINE. Facility staff report that EUCOEN, with the exception of maintenance shutdowns, runs 24/7 (two 12-hour shifts). Normal operation is with wood/wood dust as fuel, and a minor quantity of NG to keep the pilots lit.

When firing NG the emissions may be by-passed to it's own stack rather than going through the WESP and RTO pollution control devices associated with FGDRYERS (SC III.1). Operation solely on NG is limited to upset periods.

A review of data provided, and discussions with NWR Staff indicates that WNR operates and maintains EUCOEN as recommended by the manufacturer and contained in the approved MAP (SC III.2) and by work practice standards outlined in SC III.6. The initial (2016) tune-up (January 5, 2016) and one-time

energy assessment (SC III.4) were completed prior to the January 31, 2016 compliance date. Supplemental annual tune- ups (SC III.5 and VIII.5) were conducted on May 23, 2017 and October 18, 2017.

Initial notification for the Boiler MACT (SC VII.4) for this unit was dated February 10, 2016. Annual compliance notifications are required by the 15th of March for the previous calendar year (SC VII.5). The required annual compliance report for 2017 was submitted on February 6, 2018 (SC VII.5). Submitted reports were reviewed and determined complete with respect to information specified under SC VII.6. Copies of this and all other notifications and reports submitted to comply with the Boiler MACT are maintained onsite and are readily available for review (SC VI.4 and VI.5).

Emission limits associated with this EU includes NOx and CO, but are limited to operation fueled by NG. (SC I.1 and I.2) Verification testing for the referenced parameters is not required under the ROP. Due to the limited operation using NG, the EU In lieu of testing, bases emissions on stack testing results from EUIBW and hours of operation for EUCOEN (VI.3). The hours of operation of EUCOEN are monitored and recorded in compliance with SC VI.2. Total hours of operation firing NG (and subject to the Boiler MACT) totaled 189.1 hrs in 2017, and 10.2 hrs on the February 22, 2018 site visit.

Monitoring/recordkeeping requirements for EUCOEN include monitoring and recording of the amount of NG used (SC VI.1). A NG meter is located onsite, and use is recorded and tracked in the data acquisition system, and on a shift log sheet, in compliance with permit conditions (SC VI.2). NG usage records are maintained by the Facility in compliance with the permit conditions. NG consumption on February 22, 2018, was reported to be 1843.251 MCF.

FGDRYERS – This flexible group contains the four, triple pass, direct heat, wood flake dryers (EUDRYER1 through EUDRYER4) and EUCOEN when it is fired on wood and wood dust. The emissions from these units pass through their respective cyclones and feed into a single duct that passes to the WESP further removing particulate prior to reaching the RTOs (SC III.1 and III.4). Emissions from the RTOs are monitored by VOC and CO CEMS (SC III.6, IV.2 and VI.5) as well as a COMs for opacity (SC IV.1, IV.4 and VI.6).

The RTO is referred to as a single device in the ROP, however, the control device consists of two Megtec RTO units. The Facility reports both must be operated to meet the destruction efficiency requirements, and that when a bypass occurs it is either a malfunction or routine maintenance activities conducted under the PWCP MACT. The RTO operated for a total of approximately 334 days for 2017. The permittee monitors and records the operating time of FGDRYERS, as well as any time in which one or both of the RTO units are bypassed (SC VI.3). A review of records indicated that FGDRYERS operated with no control for less than 1 hour for 2017. No material limits presently exist for FGDRYERS.

EUCOEN is reported to have operated burning wood and wood dust for the majority of it's operating time. Operational conditions for EUCOEN when firing wood are found in FGDRYERS and include the following:

- When burning wood in EUCOEN the exhaust gases from the EU are required to be discharged through the WESP and RTO following safe operating procedures (SC III.4)

Based on the reported control operating times for 2017, and except for the less than one-hour period identified, the FG has not operated without the WESP and RTO controls. Furthermore, WNR has a well-developed safety plan and operating procedures for their equipment and carefully monitor operational parameters to insure safe operation.

- The permittee shall not bypass one or both RTO units for more than 3% of the annual operating uptime for the FG. (SC III.2)

2017 records provided by the Facility indicated that one-RTO was bypassed for 55.39 hours (0.69% of total operation) of operation. Both RTOs were bypassed for 38 minutes (0.0062% of total hours of operation) in 2017. Well under the 3% of annual operating time allowed.

- Operation of FGDRYERS with a properly operating WESP and RTO (SC III.1) except under necessary maintenance, repair or parts replacement of the RTO, at which time 1) only the WESP

or the WESP and partially bypassed RTO may be used, 2) the production rates and/or amount of pine being processed will be adjusted to a level necessary to achieve compliance with the limits for PM10, VOC and CO emissions, and 3) continuous monitoring of VOC and CO emissions by the CEMS. (SC III.3)

As previously indicated the Facility has regularly scheduled downtime for maintenance activities which includes FGDRYERS and their associated pollution control devices. Records provided by WNR staff indicated that the Facility operated FGDRYERS with both the RTOs bypassed for 1.4 hours in 2017. A review of the WESP operational data indicates that it was not bypassed at all during 2017.

In addition, production rates and the amount of pine processed are monitored and recorded. A review of the records clearly show fluctuations in the volume of pine processed on a monthly basis over the course of the year. The average percent pine was reported to be 15% for 2017. CEMs downtime and total emissions for the referenced parameters of VOC and CO are carefully monitored by the facility and reported in compliance with the permit conditions. Review of the quarterly, semi-annual and annual reporting indicates that the monitors are carefully monitored and that corrective actions are conducted in a timely manner.

- If hourly and/or yearly PM10, VOC and CO emission limitations for FGDRYERS can not be achieved, or if the COMs, CEMS or CPMS systems are inoperable then material feed to the dryers will cease and input feed to FGDRYERS shall not be restarted until the dryers emission control system and/or the continuous system monitors are back online and operating properly. (SC III.3)

Records provided by the facility indicated the emissions reported by the CEMS are well below the permit limits for FGDRYERS. In addition, based on quarterly monitor downtime reports submitted any continuous monitoring device downtime have been reported to be isolated, and promptly corrected.

A review of CEMS emissions reported for FGDRYERS by the Facility included the following data:

DATE	VOC (AS CARBON) 30-DAY ROLLING TIME PERIOD LIMIT (SC I.15)	REPORTED VOC 30-DAY ROLLING AVERAGE	VOC (AS CARBON) 12-MONTH ROLLING TIME PERIOD (SC I.16)	REPORTED VOC EMISSIONS (12 -MONTH ROLLING TOTAL
January 30, 2017	18.6 pph	3.62 pph	81.5 tpy	—
December 30, 2017	18.6 pph	3.91 pph	81.5 tpy	19.38 tpy
January 30, 2018	18.6 pph	—	81.5 tpy	—

Instantaneous VOC concentrations reported on February 22, 2018 was 1.8 pph.

DATE	CO LIMIT for 24-HOUR ROLLING TIME PERIOD (SC I. 10)*	REPORTED CO 24-HOUR ROLLING AVERAGE	CO 12-MONTH ROLLING TIME PERIOD (SC I.12)	REPORTED CO EMISSIONS (12-MONTH ROLLING TOTAL)
January 30, 2017	147.3 pph	106.95pph	149.8 tpy	89.24 tpy
December 30, 2017	147.3 pph	86.33 pph	149.8 tpy	78.2 tpy
January 30, 2018	147.3 pph	--	149.8 tpy	--

*The time period/operating scenario for this limit includes 2-unit RTO operation, except during RTO maintenance and washing.

Instantaneous CO concentrations reported on February 22, 2018 was 114.95 pph.

Emission limits for FGDRYERS include PM10, SO2, NOx, CO, Formaldehyde, VOC and Total HAP (measured as THC). Except for VOC and CO, emissions which are determined by CEMs, emissions are

verified by stack testing activities. Testing requirements for FGDRYERS include the following verification tests:

PARAMETER and EU	TESTING REQUIREMENT	PERMIT LIMIT	TEST RESULTS (November 8-16, 2016)	TEST RESULTS (November 26-29, 2012)
PM10 FGDRYERS (during 2 -unit RTO operation)	Every 5 years (SC V.1)	0.030 gr per dscf	0.0043 gr per dscf	0.0065 gr per dscf
PM10 FGDRYERS (during 2 -unit RTO operation)	Every 5 years (SC V.1)	29.8 pph	4.0 pph	6.5pph
PM10 FGDRYERS (during 1 -unit RTO operation)	Every 5 years (SC V.1)	0.057 gr per dscf	0.0053 gr per dscf	0.016 gr per dscf
PM10 FGDRYERS (during 1 -unit RTO operation)	Every 5 years (SC V.1)	56.6 pph	5.3 pph	19 pph
SO2 FGDRYERS	Every 5 years (SC V.1)	5 pph	0.16 pph	0.7pph
NOx FGDRYERS	Every 5 years (SC V.1)	23.15 pph	21.07 pph	23.40 pph (production issues noted)
Formaldehyde FGDRYERS	Every 5 years (SC V.1)	2.4 pph	0.53 pph	1.2 pph
Total HAP measured as THC (as carbon) FGDRYERS	Every 2 years (SC V.2)	90% reduction of total HAP entering RTO	92.5%	92%

Test protocols (SC VII.6), 7-day notifications (SC VI.8) and test reports (SC VI.9) for the most recent sampling events were submitted per permit requirements. Annual emission limits for the above referenced pollutants/parameters are calculated using based on the emission factors derived from the most recent stack test data (SC VI.14 and Appendix 7). Annual emissions for FGDRYERS are summarized below:

DATE	SO2 Limit (tpy)	SO2 Emissions (tpy)	NOx Limit (tpy)	NOx Emissions (tpy)	PM10 Limit (tpy)	PM10 Emissions (tpy)
2017	21.9	1.892	101.4	83.22	136.4	15.79
2016	21.9	3.13	101.4	94.22	136.4	29.40
2015	21.9	3.09	101.4	96.31	136.4	45.79
2014	21.9	2.98	101.4	84.71	136.4	30.56

VOC and CO are monitored using a CEMS at the RTO exhaust. (SC IV.2, VI.5 and VI.10) Opacity for FGDRYERS is monitored using a COMS, when the EUs in FGDRYERS are firing wood (SC IV.1, VI.6 and VI.10). Both are installed to read emission from the RTO exhaust stack (SC IV.2)

Available records indicate that the CEMS and COMS units are calibrated, operated and maintained in accordance with the procedures set forth in 40 CFR 60.13, 40 CFR Part 60, Appendix B (SC IV.4) and Appendix F (SC V.4) as well as per the AQD approved Monitoring Plan (SC IX.6). The Facility reports maintaining the necessary parts for routine repairs (SC VI.12). CEMS and COMS test protocols are submitted per permit requirements (SC VII.7).

Annual CO and VOC emission limits and reported emissions (both in tons per year) for FGDRYERS are determined using CEMS data. Ton per year totals reported in MAERS are presented below:

DATE	CO Limit (tpy)	CO Emissions (tpy)	VOC Limit (tpy)	VOC Emissions (tpy)
2016	149.8	83.02	81.5	21.21
2015	149.8	82.37	81.5	32.36
2014	149.8	69.46	81.5	31.93

In addition to tons per year emission limits, VOCs (as carbon) are limited to 18.6 pph, based on a 30-day rolling average (SC I.15). As part of the February 22, 2018, site visit a 30-day rolling average of 1.6 pph VOC was reported.

CO emission limits also include 24-hour rolling limits of 147.3 pph (SC I.10). As part of the February 22, 2018 site visit a 24-hour rolling average CO value of 84.6 pph was reported.

VEs are monitored and recorded on a continuous basis by the COMS (SC VI.6). Opacity data reviewed indicated opacities of less than 5% opacity. No opacity limits exist for FGDRYERS. A review of permit conditions for opacity are limited to 6-minute average of 20%, with an allowed single 6-minute average per hours of 27% or less. (GC 11). Instantaneous opacity reading noted at the time of the February 22, 2018 visit was 3.88% opacity.

In addition to temperature monitoring which will be addressed below, the Facility is required to monitor the volumetric flow at the RTO stack (SC VI.1). No limit was noted in the permit, and no operational range was identified in the SSMAP. Instantaneous flow readings at the time of the February 22, 2018 site inspection was 156,844 scfm.

Temperature for both of the RTOs is monitored by a Continuous Parameter Monitoring System (CPMS) capable of meeting the minimum of 1 reading every 15-minutes (SC III.6 and VI.2). The temperature monitoring device is located where it will provide a representative temperature in the area of the RTO firebox that achieved by the RTO (SC IV.3). The Facility reports that both RTOS have 2 temperature probes, one to confirm the temperature of the other, and that the temperatures are monitored continuously. The RTO firebox temperature is reported to be used as an indicator of proper functioning for the WESP (SC VI.7) and compliance with PM10 limits (SC VI.9).

Temperature monitoring data collected for the RTOs is per permit compiled into 3-hour block averages. (SC VI.8) The averages do not include data recorded during monitoring malfunctions, associated repairs, out of control periods or quality assurance activities (SC VI.2). The permit requires that when operating FGDRYERS the RTO 3-hour block average fire box temperature is at or above the minimum temperature 1424 degrees F (SC III.5). The average minimum RTO operating temperatures was determined during performance testing conducted onsite every 2 years (SC V.3) the last testing was conducted on November 8, 2016.

To determine compliance District Staff requested three-hour block average operating temperatures for three different time periods. Data provided indicated that the RTOs are operated at a consistent temperature range, and that the temperatures are above the average minimum operating temperatures determined during performance testing (1424 degrees F). The data provided by WNR is summarized below:

WEEK OF	RTO#1 AVERAGE 3-HOUR BLOCK TEMPERATURE RANGE (degrees F)	RTO#2 AVERAGE 3-HOUR BLOCK TEMPERATURE RANGE (degrees F)	COMBINED RTO AVERAGE 3-HOUR BLOCK TEMPERATURE RANGE (degrees F)
March 5, 2017	1549	1518-1548	1534-1549
Oct. 9, 2017	1549	1518-1519	1534
Jan. 1, 2018	1549	1528-1578	1539-1544

Instantaneous average temperature for both units was reported to be 1548 degrees F on February 22, 2018 and is above the average minimum temperature determined during performance testing. Operating temperatures for the three dryers in operation at that time were reported to range from 1308 -1406 degrees F. The fourth dryer had been shut down earlier and was reported to be 224 degrees F.

The Facility has trained staff that initiates corrective actions for the EUs of FGDRYERS, the associated pollution controls and monitoring devices in accordance with good air pollution practices for minimizing emissions. In compliance with permit conditions, appropriate CAM practices have been implemented, documented and reported in a timely manner. The practices are contained in the Facilities SSMAP, as well as in the equivalent in-house quality assurance plan (SC VI.11 & 13). Records of corrective actions, monitor and equipment performance and monitoring data are maintained as required by permit (SC VI.13).

FGWOODHANDLING – The system is a pneumatic system with dust pickups and associated controls (cyclones and baghouse) (SC IV.1) which collect waste wood material. The collected material is transferred from the below referenced sources and is delivered as dry fuel to the wood burners in FGDRYERS:

- Flake screening areas,
- Screen and dry bin cleanup area,
- Sanding line, and
- Wood handling systems including press board trim line, press board finish area.

EUs included in FGWOODHANDLING includes:

- EUFLAQ,
- EUFINISHING,
- EUMATTRIM,
- EUCLEANUP,
- EUDRYFUEL, and
- EUBLENDVENT

No material limits or verification testing is associated with the FG. Process/operational restrictions require that FGWOODHANDLING is not operated unless the associated cyclones and baghouses (SC IV.1) are maintained and operated in a satisfactory manner (SC III.1). Each baghouse is equipped with a gauge to continuously measure the pressure drop across the baghouse (SC III.2, IV.2 and VI.3) Monitoring and recordkeeping requirements associated with the FG include continuous monitoring and recording once daily the pressure drop across each of the baghouses. (SC VI.3) A review of staff logs for select dates verified the referenced compliance monitoring and record keeping requirements. In addition, no dust or wood fragments were noted in the FGWOODHANDLING areas.

Visible Emissions (VE) are collected by WNR staff from each baghouse and associated ductwork, vents dampers or blowers to verify proper operation. Each VE is reported to be a 6-minute reading and is collected a minimum of once per day during routine operating conditions. (VI.4) Records provided included the date, time, name of reader, status of the VEs and whether the reader is certified (VI.5). In addition, the log sheets document leak check activities, proper operation of the cyclone or baghouse, the differential pressure for the baghouse, as well as the appropriate operating range for each.

VE limits for FGWOODHANDLING (SC I.4) are limited to 5% opacity. Log sheets (SC VI.5) reviewed for 2017 reported VEs well below the 5% limit.

PM Emissions for this flexible group are calculated per the formula found in Appendix 7 (SC VI.2). Total emissions for 2017 were reported to be 6.11 tons. No emission limits are associated with this flexible group.

FGDIESEL-ENGINES – The FG consists of three emergency, diesel-fired engines for use during power outages for the following purposes:

- Circulate hot oil for the press and building heat at the facility (EUDIESELHOTOIL),
- Provide emergency electricity (EUEMERGENCYGEN), and
- Pump water during fires (EUFIREPUMP)

In addition to the three identified above, the Facility reports the purchase of a portable generator, exempt under Rule 285 (2)(g) has been hardwired in, and have indicated that they intend to add the EU at the next ROP renewal. This EU is referred to as the "Sullivan Portable Diesel".

No emission limits, minimum stack parameters or verification testing requirements exist for the FG. Material limits for the FG are limited to No. 1 or 2 diesel fuels with no greater than 0.5% sulfur content. (SC II.1). The Facility reports using super low diesel fuel. Verification records provided by the Facility for the most recent fuel analysis was for samples collected on August 25, 2015. The analysis was conducted by Weyerhaeuser's inhouse lab located in Federal Way, Washington and reported % sulfur by weight of 0.012. The facility reports that fuel analysis is conducted every 5 years. No "verification testing" is required under the present version of the ROP.

Operational limits for each diesel engine are in a large part based on requirements of Federal Regulations and include:

- Installation of a non-resettable hour meter (SC IV.1)
- Minimization of idle times during startup, and the startup-time period needed for appropriate and safe loading to not to exceed 30 minutes (SC III.9)
- Unlimited emergency operation (SC III.3)
- 100-hours/year of non-emergency operation (SC III.2)

The 100 hours/year of non-emergency operation includes up to 50 hours of operating in non-emergency situations (SC III.5), maintenance checks and readiness testing (if recommended) (SC III.4) and diesel engine testing (SC III.2). In addition, the 100 hours/ year of non-emergency operation includes operation of EUDIESELHOTOIL and EUEMERGENCYGEN as needed when normal process equipment is not operating properly, and EUFIREPUMP at any time to help combat fires. (SC III.1)

Hours of operation from non-resettable hour meters on each engine are recorded manually on a log sheet by Facility Staff (SC VI.1). Operation data for the EUS in FGDIESEL-ENGINES provided by the facility indicated total hours of operation well below the 50-hour and 100-hour operational limits and are summarized in the table below:

DIESEL ENGINE	HRS of EMERGENCY OPERATION 2016	HRS of NON-EMERGENCY OPERATION 2016	HRS of EMERGENCY OPERATION 2017	HRS of NON-EMERGENCY OPERATION 2017
EUDIESELHOTOIL	15.1	6.7	17.4	13.9
EUEMERGENCYGEN	0	7.2	5.2	14.4
EUFIREPUMP	5.4	25.95	7.41	26.64
Sullivan Portable Diesel	NA	NA	22.6	0.1

Work Practice Standards associated with FGDIESEL-ENGINES includes:

- Oil and oil filter changes every 500 hours of operation or annually, whichever is first. (SC III.7)
- Inspection of all hoses and belts every 500 hours of operation or annually, whichever is first, and replace as necessary. (SC III.7)
- Inspection of the engines air cleaner every 1,000 hours of operation or annually, whichever is first and replacement as necessary (SC III.7)

A review of records provided by the facility (SC VI.1), indicates that the annual hours of operation are well below the 500 hours of operation that would trigger the above referenced work practice standards more frequently than annual. The facility maintenance is conducted based on issuance of work orders for regularly scheduled maintenance activities as well as supplemental activities determined necessary. As previously indicated, the Facility conducts plantwide maintenance activities every 2 weeks which based on records provided appear to consist of at minimum consistent of fluid level and AutoStart checks for FGDIESEL-ENGINES.

Maintenance activities such as those required above (SC III.7) are reported to be conducted done annually. However, due to changes in the work order issuance program/software work orders for annual maintenance activities the work orders for 2016 and 2017 were not generated for EUHOTOIL and EUEMERGENCYGEN. Though reported completed for all RICE by appropriate maintenance staff, proper documentation of the activities was unable to be provided. The program error has since been corrected, and the first two 2018 work orders for annual maintenance activities have been reported issued. With the exception of those records already noted, requested records provided by the Facility appear to be in order and consistent with the requirements of FGDIESEL-ENGINES condition VI.1. As the facility has conducted the above referenced work practice standards annually, records for oil sampling identified in condition VI.2 are not applicable at this time.

SUMMARY

From November 7, 2017 through February 22, 2018, AQD district Staff visited the Weyerhaeuser NR Company Facility (B7302) located at 4111 West Four Mile Road, Grayling, Crawford County, Michigan. The visits during the referenced time period were for the following purposes:

- November 7, 2017 – Familiarization with the Biofilter pollution control device operation
- November 21, 2017 – Familiarization with the Airsum monitoring/recordkeeping system
- December 5th & 6th, 2017 – Testing Activities
- February 22, 2018 – Operations Inspection

Information obtained during the referenced visits are incorporated into the compliance determination summarized in this report. The most recent site inspection report was dated March 1, 2016, and the facility was found to be in compliance with permit conditions. The referenced site visits were conducted to allow MDEQ AQD Staff to familiarize themselves with process activities onsite as part of the Full Compliance Evaluation (FCE) for the 2018 Fiscal year.

The referenced facility is a Major Source and is permitted under Renewable Operating Permit (ROP) Number MI-ROP-B7302-2016b. The initial ROP was renewed on March 8, 2016, and was amended most recently on October 12, 2017, and approved on December 1, 2017.

Non-compliance issues identified as part of the Facility compliance evaluation were limited to documentation of maintenance activities associated with EUHOTOIL and EUEMERGENCYGEN for 2016 and 2017. The Facility has implemented actions to correct the work order process that requests and documents maintenance activities. No violation notice (VN) will be issued as corrective actions have been implemented.

NAME Shawna LaBlanc DATE 3/20/18 SUPERVISOR SN