

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

P069968701

FACILITY: ARAUCO NORTH AMERICA		SRN / ID: P0699
LOCATION: 5851 ARAUCO RD, GRAYLING		DISTRICT: Cadillac
CITY: GRAYLING		COUNTY: CRAWFORD
CONTACT: Jim Osga , Environmental Manager		ACTIVITY DATE: 08/01/2023
STAFF: Rob Dickman	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MAJOR
SUBJECT: On site portion of an inspection of this major source.		
RESOLVED COMPLAINTS:		

Arauco is a medium density particleboard plant with a design capacity of 750,000 cubic meters (424 million square feet, $\frac{3}{4}$ inch basis) per year. The facility receives whole logs as well as wood chips and other wood residuals, such as saw dust. Raw wood materials have a typical moisture content of around 50 percent.

The logs are debarked and chipped. Bark is shredded and stored in a silo to be used as fuel in the facility's thermal energy plant. Wood chips are sliced into small pieces and the resulting flakes are dried in two single pass rotary dryers. The dryers are heated by natural gas and the exhaust from the thermal energy plant. The dried flakes are then be screened to separate out over size and fine material and to separate the properly sized flakes into core and surface material. Oversized flakes are sent to mills to reduce the size; the milled flakes are then be rescreened. Fine material is stored in a silo to be used as fuel for the thermal energy plant.

Core and surface material are cleaned in sifters and then blended with the appropriate urea-formaldehyde resins, catalysts, wax emulsions, and urea as needed. Resin coated material from the blenders are formed into core and surface mats. These mats are then be fed to a continuous press where heat and pressure forms the mats into raw particle board. The raw board is then be cut into panels. After being cut, the panels are sent to the board cooling system where air is circulated to prevent the panels from warping as they cool. Cooled panels are then sanded and cut to the final product size. Some panels are packaged and shipped off site while others are sent for further processing. Rejected panels are broken up and the resulting material is either stored to be used as fuel for the thermal energy plant or sent to the raw material sawdust silo.

Two paper treating lines use web-based coaters to coat paper (purchased from a third party vendor) with a urea formaldehyde base coat and a paper formaldehyde top coat. Each coater is followed by a natural gas fired dryer. The coated paper is applied to particleboard panels in three thermally fused lamination lines. The finished boards are packaged and shipped off site.

The facility's thermal energy plant combusts wood derived fuel (such as sander dust, fines from screening, material from the board breaker, and bark), clean cellulosic biomass, and natural gas in a biomass burner. The biomass burner has suspension burners to burn fine material, such as sander dust, and grates to burn large material, such as bark. In addition, natural gas burners are used during startup of the biomass burner to minimize emissions. The heat generated in the thermal energy plant is used in the flake dryers.

The facility has two natural gas fired thermal oil heaters to supply heat to the continuous press and the thermally fused lamination lines, natural gas fired air management units to provide comfort heat, a diesel fired emergency generator engine, and a diesel fired fire pump engine. The facility also has storage tanks for resins and other materials used in the particleboard process and the paper treating lines, as well as diesel fuel storage tanks for the emergency engines and mobile equipment. In addition, the facility has silos to store wood materials and paved roadways for facility truck traffic.

I performed a walk-through inspection of this facility per Permit to Install 59-16G on August 1, 2023. At the time of the inspection, the facility was in full operation, but went down during the inspection due to a broken belt on the press. Therefore, only some of the equipment was in operation during the inspection.

All required records for this facility have been previously received, reviewed and documented in a separate report prior to this walk-through inspection. Additionally, all required testing and reporting for this facility has been previously reviewed and documented and is not addressed as part of this report. Accompanying me on the inspection was Jim Osga, Environmental Manager for Arauco, Grayling and Tammi VanTil of Madison Consulting. Following are the findings of this inspection.

EUFLAKERS

Seven (7) green flakers. Emissions are controlled by baghouse BH04. While the dryer is operating, emissions are also controlled by the Thermal Energy Plant Dry Electrostatic Precipitator (DESP1) and the dryer Regenerative Thermal Oxidizer (RTO1).

Emission Limits

The following pollutants have limited emissions when the flakers are operating in bypass of the dry ESP and RTO:

Volatile Organic Compound (VOC)	76 lb/hr
Particulate Matter (PM)	1.01 lb/hr
Particulate Matter (PM)	0.002 gr/dscf
Particulate Matter <10 microns (PM-10)	1.01 lb/hr
Particulate Matter <2.5 microns (PM2.5)	1.01 lb/hr
Formaldehyde	0.012 lb/hr
Acetaldehyde	0.27 lb/hr
Opacity	10%
lb/hr - pounds per hour, gr/dscf – grains per dry standard cubic foot	

Compliance with these limits is through limiting flaker operation when in bypass condition to 460 hours per 12-month rolling time period. Records received from the facility indicate the highest 12-month rolling average for bypass during the reporting period occurred in October of 2022 at 113.55 hours. The department may also request testing for these parameters prior to the control equipment but have not as of the date of this report.

Material Limits

The facility is allowed to only burn wood derived fuel (such as sander dust, fines from screening, material from the board breaker, and material reject) and clean cellulosic biomass (such as, but not limited to, bark), as defined by the Wood Fuel Procurement and Monitoring Plan (WFPMP). The facility only burns this type of material. This plan was last revised on July 23, 2018 and approved in January of 2022. It is being followed to ensure only this type of material is used.

Process or Operational Restrictions

Flaker operation when in bypass condition is limited to 460 hours per 12-month rolling time period. Records received from the facility indicate the highest 12-month rolling average for bypass during the reporting period occurred in October of 2022 at 113.55 hours.

When not in bypass, emissions from the flakers are also controlled by an RTO. Establishment of a minimum RTO temperature, by stack testing, is required. The most recent testing was performed in March of 2019 and demonstrated a minimum temperature of 1525 F.

Design or Equipment Parameters

The baghouse is required to be operating when the flakers are operating. At the time of the inspection, this baghouse was in operation. Records for it indicate consistent operation when the flakers are operating.

Except when in bypass condition, the RTO and ESP are required to be operating when the flakers are in operation. At the time of the inspection, the RTO and ESP were in operation. Records for these indicate consistent operation when the flakers are operating.

The minimum RTO temperature established by stack testing must be maintained when the energy plant is operating. This temperature is 1525 F and was established March of 2019. Records reviewed indicate no time when the RTO temperature was below the tested minimum.

The secondary voltage or total power for the ESP is required to be monitored and maintained in accordance with the facility Malfunction Abatement Plan (MAP). The acceptable range as listed in the MAP is 30-55 kV. Records review indicated values in this range. Instant reading taken during the inspection were as follows:

Trans 1	Trans 2	Trans 3
44 Kv	44 Kv	40 Kv

A pressure drop monitoring device is required to be installed the baghouse, this baghouse is so equipped. An instant reading taken during the inspection was 7 millibars (mbar). The acceptable range for pressure drop established in the MAP is 1.0 to 20 mbar. A device to measure the time of bypass of the RTO is required to be installed. The RTO is so equipped and automatically begins to record time when the RTO is bypassed.

Stack/Vent Restrictions

The stack for the baghouse is limited to 49.2 inches in diameter and must be at least 65.6 feet tall. The stack appears to meet these parameters.

Other Requirements

There are no other requirements associated with this section.

EUENERGY

Thermal Energy Plant. Combusts wood derived fuel (such as sander dust, fines from screening, material from the board breaker, and material reject) and clean cellulosic biomass (such as, but not limited to, bark). Emissions are controlled by a dry electrostatic precipitator (DESP1) and exhaust is then routed to the dryers as make up air before exhausting through the dryer RTO (RTO1), except during bypass of RTO1 and DESP1. Propane and/or diesel fuel is used for startup.

Emission Limits

There are no emission limits associated with this section.

Material Limits

Only clean wood derived fuel is allowed to be burned at the facility consistent with the Wood Fuel Procurement and Monitoring Plan (WFPMP). The facility only burns wood waste generated on site that does not include any chemically treated wood.

Process or Operational Restrictions

Feed to the energy plant must cease upon bypass of the RTO and ESP unless the maximum heat input is less than 25 million BTU's (MMBTU) per hour. When a bypass is engaged, the feed to the energy plant is reduced to below this criterion immediately. The facility tracks this time in bypass automatically.

The minimum RTO temperature established by stack testing must be maintained when the energy plant is operating. This temperature is 1525 F and was established March of 2019. Records reviewed indicate no time when the RTO temperature was below the tested minimum.

The secondary voltage or total power for the ESP is required to be monitored and maintained in accordance with the facility Malfunction Abatement Plan (MAP). The acceptable range as listed in the MAP is 30-55 kV. Records review indicated values in this range. Instant reading taken during the inspection were as follows:

Trans 1	Trans 2	Trans 3
44 Kv	44 Kv	40 Kv

The WFPMP is required to be submitted to the AQD and approved prior to operation of the energy plant. This plan was submitted in August of 2018 and approved in October of 2018. Actual startup of the facility was not until May of 2019.

Design or Equipment Parameters

Except during bypass, the RTO and ESP are to be operating when the energy plant is operating. At the time of inspection, this equipment was in operation. Records indicate the control equipment is consistently operating when the energy plant is in operation and not in bypass.

The maximum heat input for the energy plant is not to exceed 110 MMBTU per hour. This is the design capacity for this plant.

The DESP is to have devices installed that measure secondary voltage and total power. This DESP is so equipped.

Stack/Vent Restrictions

Bypass Stack 1 is required to have a diameter no greater than 51 inches and a minimum height of 101 feet. Bypass Stack 2 is to have a diameter no greater than 72 inches and a minimum height of 90 feet. Upon inspection, these stacks appear to meet these parameters.

Other Requirements

There are no other requirements associated with this section.

FGAMU

Natural gas-fired air handling units, space heaters, and small water heaters. Emission units included in this group are EUMU-01 through EUMU-15 and EUAHU-01 through EUAHU-04. Nitrogen Oxides (NOx) control is through installation of low NOx burners.

Emission Limits

There are no emission limits associated with this section.

Material Limits

Only pipeline natural gas is allowed to be burned in these units. The facility only receives pipeline natural gas for use. Records provided by the facility included a sample invoice from the natural gas vendor. Use of this gas is limited to 429 million standard cubic feet (MMSCF) per year based on a 12-month rolling time period as determined at the end of each calendar month. As of March of 2023, monthly usage was 10.74 MMcf was used and 54.58 MMcf had been used based on a 12-month rolling time period.

Process or Operational Restrictions

A device to monitor natural gas usage is installed and operating for this group. This group is so equipped.

Design or Equipment Parameters

Heat input for each hot water generator is not to exceed 10 MMBTU per hour. These units were installed as specified in the permit application. Upon inspection, none of these units exceed this parameter.

Stack/Vent Restrictions

There are no stack or vent restrictions associated with this section.

Other Requirements

There are no other requirements associated with this section.

FGFUGITIVES

Fugitive emission sources at the facility. Emission units included in this group are EUROADS, EUDEBARK, EUWOODSTORAGE, and EUBB.

Emission Limits

Opacity from these sources is limited to 20%. Compliance with this limit is through weekly non-certified visible emissions readings that are recorded. Roads for this facility are paved and records of sweeping were available for review. The other units in this group are enclosed to limit fugitive emissions. At the time of the inspection, no fugitive emissions were noted from the conveyor enclosures, roads, or any other potential fugitive source.

Material Limits

There are no material limits associated with this section.

Process or Operational Restrictions

The facility is to maintain plant roadways for fugitive emissions per their approved Fugitive Emissions Plan (FEP). Most plant roadways are paved and were in good condition at the time of inspection. The FEP was submitted by the facility August of 2018 and approved in October of 2018. General housekeeping at the facility was good.

Design or Equipment Parameters

The facility is to pave roads that are routinely used. Most plant roadways are paved and were in good condition at the time of inspection.

Stack/Vent Restrictions

There are no stack or vent restrictions associated with this section.

Other Requirements

There are no other requirements associated with this section.

FGDRYERRTO

Process equipment normally exhausted through the dryer RTO (RTO1). Emission units included in this group are EUFLAKERS, EUDRYER1, EUDRYER2, and EUENERGY.

Emission Limits

The following pollutants have limited emissions from this group.

Pollutant	Limit	Test Result
Carbon Monoxide (CO)	36.3 lb/hr and 0.43 lb/oven dried ton	12.3 lb/hr and 0.22 lb/oven dried ton
Nitrogen Oxides (NOx)	170 lb/hr and 2.0 lb/oven dried ton	80.5 lb/hr and 1.4 lb/oven dried ton
Volatile Organic Compound (VOC)	7.1 lb/hr and 95% reduction by weight	5.4 lb/hr and 97.3% reduction by weight
Particulate Matter (PM)	29.1 lb/hr	16.7 lb/hr
Particulate Matter <10 microns (PM-10)	28.4 lb/hr	16.7 lb/hr
Particulate Matter <2.5 microns (PM2.5)	16.55 lb/hr	8.4 lb/hr
GHG as CO ₂ e	257,292 tpy	EF
Formaldehyde	3.5 lb/hr	0.92 lb/hr
Acetaldehyde	3.5 lb/hr	1.2 lb/hr
lb/hr - pounds per hour, tpy - tons per year		

Compliance with these limits is through stack testing. Stack testing was performed October of 2019 and March and May of 2021 and the results of it are listed in the table.

Green House Gas as CO₂e emissions are limited to 257,292 tons per year based on a 12-month rolling time period as determined at the end of each month. Compliance with this limit is through approved emission factors and emissions calculations. As of March of 2023, CO₂e emissions were 9960 tons for the month and 104,604 tons based on a 12-month rolling time period.

Visible emissions are limited to 20% opacity. Compliance with this limit is through weekly non-certified visible emissions readings. These readings are required to be recorded. While only weekly readings are required, daily readings are taken and recorded. These records are non-certified readings and indicated whether fugitive emissions were noted at several fugitive sources. No fugitive emissions were noted in any of these readings.

Total HAP emissions are limited to any one of the following:

- 90% reduction, measured as Total Hydrocarbon (THC) (as carbon)
- 20 ppmvd THC (as carbon)
- 90% reduction of methanol
- 1 ppmvd methanol (if uncontrolled methanol entering the control device is greater than 10 ppmvd)
- 90% reduction of formaldehyde; or 1 ppmvd formaldehyde (if formaldehyde emissions entering the control device are greater than 10 ppmvd).

Compliance with these limits is through stack testing. Stack testing was performed in October of 2019 and demonstrated a result of 97.3% THC reduction (as carbon).

Material Limits

Only pipeline natural gas is allowed to be burned in these units. The facility only receives pipeline natural gas for use. Records provided by the facility included a sample invoice from the natural gas vendor.

Process or Operational Restrictions

A device to monitor natural gas usage for EUDRYER1, EUDRYER2 and RTO1 must be installed. This equipment is so equipped. Tune ups and maintenance on this equipment must also be performed. Records indicate the dryers were tuned on 12/9/20 and 7/16/21.

The dryers are not to be operated unless a minimum temperature on the RTO is maintained. This temperature is 1525 F and was established March of 2019. Records reviewed indicate no time when the RTO temperature was below the tested minimum.

The RTO consists of four chambers, only three of which are required to operate at any given time. Instant readings taken for the active chambers were:

- Chamber 1 – 1569 F
- Chamber 2 – 1572 F
- Chamber 3 – 1569 F
- Chamber 4 – 1574 F

Minimum temperature of the firebox of the RTO must be maintained for a three-hour block average. Records reviewed indicate no time when the RTO temperature was below the tested minimum of 1525 degrees F.

Design or Equipment Parameters

The dryers are limited to a maximum heat input of 139.9 MMBTU/hr. The RTO is limited to a maximum of 25 MMBTU/hr. This equipment was installed as indicated in the permit application and meet this criterion.

The minimum RTO temperature established by stack testing must be maintained when the energy plant is operating. This temperature is 1525 F and was established March of 2019. Records reviewed indicate no time when the RTO temperature was below the tested minimum.

The RTO is to have low NO_x burners and a device to measure natural gas usage. This RTO is so equipped.

A device to measure RTO firebox temperature must be installed. The RTO is so equipped.

Stack/Vent Restrictions

SV 24 (RTO stack) is limited to a maximum diameter of 123 inches and a minimum height of 109.9 feet. South bypass stack (S-1) is limited to a maximum diameter of 79 inches and a minimum height of 72.2 feet. North bypass stack (N-1) is limited to a maximum diameter of 79 inches and a minimum height of 72.2 feet. These stacks appear compliant with these parameters.

Other Requirements

There are no other requirements associated with this section.

FGMTRLHNDL

Material handling sources at the facility with emissions controlled by baghouses. Emission units included in this group are EUOVERS1, EUOVERS2, EUOVERS3, EUFINES, EUSIFTER, and EUBARKSTG. EUOVERS1, EUOVERS2, and EUOVERS3 are controlled by BH05, EUFINES is controlled by BH20, EUSIFTER is controlled by BH08, EUBARKSTG is controlled by BH14B.

Emission Limits

The following pollutants have limited emissions from this group. All values are in pounds per hour unless otherwise noted.

	PM/10/2.5	VOC	Opacity
Over Mills 1&2	0.61	20.6	10%
EUFINES	0.03	1.93	10%
EUSIFTER	0.41	18.0	10%
EUBARKSTG	0.06	0.55	10%

All values in pounds per hour unless otherwise specified

Compliance with the emissions limits is through visible emissions readings, emission factors, and emissions calculations. Emission factors and calculations were included in the records review submission. The AQD also has the option to request testing for these pollutants on any or all units in this group. Records are being kept on a monthly and 12-month rolling basis. Following are the calculated emissions, in tons, as of March of 2023 for each unit in this group:

	PM/10/2.5 Monthly	PM/10/2.5 12-month	VOC Monthly	VOC 12-Month
Bark Storage	0.02	0.22	0.17	2.06
Fines	0.01	0.11	0.94	11.34
Overs	0.19	2.28	3.86	46.69
Sifter	0.12	1.54	3.36	40.73

A review of records indicated compliance with these emission limits.

Opacity from each emission unit in this group is limited to 10%. Compliance with this limit is through visible emissions readings and recordkeeping. These records are non-certified readings and indicated whether fugitive emissions were noted at several fugitive sources. In reviewing these records, no fugitive emissions were noted in any of these readings.

Material Limits

There are no material limits associated with this section.

Process or Operational Restrictions

There are no process or operational restrictions associated with this section.

Design or Equipment Parameters

The corresponding baghouses for each emission unit in this group must be in operation when the unit is in operation. At the time of the inspection, these baghouses, except for 14B were in operation. It was not in operation because the unit it controls, EUBARKSTG, was not in operation. Records for them indicate consistent operation when the processes are operating.

A device to measure pressure drop across each baghouse in this group is required. These baghouses are so equipped. Pressure drop readings taken during the inspection were:

	Delta P millibars	MAP Range
BH05	5	1-20
BH08	3	1-20
BH14B	NIO	1-20
BH20	3	1-20

NIO-not in operation

Stack/Vent Restrictions

Following are the stack requirements associated with this group:

Stack & Vent ID	Maximum Exhaust Diameter (in.)	Minimum Height Above Ground (feet)
SV-05 (EUOVERS 1,2)	39.4	59.1
SV-20 (EUFINES)	8.2	75.5
SV-08 (EUSIFTER)	31.5	50.9
SV-14B (EUBARKSTG)	18.1	52.5

At the time of the inspection, these stacks appeared to meet the required parameters.

Other Requirements

There are no other requirements associated with this section.

FGBLNDFRM

Blending and forming operations. Emission units included in this group are EUBLENDING and EUFORMING. Control is through three baghouses, BH-11, BH-12, and BH-13

Emission Limits

EUBLENDING	Limit
Particulate Matter (PM)	0.41 lb/hr
Particulate Matter <10 microns (PM-10)	0.41 lb/hr
Particulate Matter <2.5 microns (PM2.5)	0.41 lb/hr
Volatile Organic Compound (VOC)	9.34 lb/hr
Formaldehyde	0.25 lb/hr

Acetaldehyde 1.19 lb/hr
 lb/hr - pounds per hour

EUFORMING	Limit	Test Result
Particulate Matter (SV-11)	1.05 lb/hr	0.99 lb/hr
Particulate Matter <10 microns (SV-11)	1.05 lb/hr	0.99 lb/hr
Particulate Matter <2.5 microns (SV-11)	1.05 lb/hr	0.99 lb/hr
Particulate Matter (SV-13)	0.66 lb/hr	0.49 lb/hr
Particulate Matter <10 microns (SV-13)	0.66 lb/hr	0.49 lb/hr
Particulate Matter <2.5 microns (SV-13)	0.66 lb/hr	0.49 lb/hr
Volatile Organic Compound (VOC)	9.34 lb/hr	6.12 lb/hr
Formaldehyde	0.76 lb/hr	0.53 lb/hr
Acetaldehyde	2.9 lb/hr	1.0 lb/hr

lb/hr - pounds per hour

Compliance with EUFORMING limits is through stack testing and emissions calculations. Stack testing was performed in March and May of 2021 and the results of it are listed in the table.

Compliance with EUBLENDING limits is through emission factors and emissions calculations. Emission factors and calculations were included in the records review submission. The AQD also has the option to request testing for these pollutants on any or all units in this group.

Following are the calculated monthly and 12-month rolling emissions, in tons, as of March of 2023:

	PM/10/2.5 Monthly	PM/10/2.5 12-month	VOC Monthly	VOC 12-Month
Forming 11	0.32	3.93	1.75	21.14
Forming 13	0.20	2.48	0.00	0.00
Blending 12	0.12	1.54	4.05	49.00

Visible emissions from each emission unit in this group is limited to 10% opacity. Compliance with this limit is through non-certified visible emissions readings. A review of records indicated no fugitive emissions were noted in any readings taken.

Material Limits

There are no material limits associated with this section.

Process or Operational Restrictions

There are no process or operational restrictions associated with this section.

Design or Equipment Parameters

The corresponding baghouses for each emission unit in this group must be in operation when the unit is in operation. At the time of the inspection, these baghouses were in operation. Records for them indicate consistent operation when the processes are operating.

A device to measure pressure drop across each baghouse in this group is required. These baghouses are so equipped. Pressure drop readings taken during the inspection were:

Delta P MAP
 millibars Range

BH11	5	1-20
BH12	4	1-20
BH13	3	1-20

Stack/Vent Restrictions

Following are the stack requirements associated with this group:

Stack & Vent ID	Maximum Exhaust Diameter (in.)	Minimum Height Above Ground (feet)
SV-11(EUFORMING)	49.2	85.3
SV-12(EUBLENDING)	31.5	85.3
SV-13(EUFORMING)	39.4	85.3

At the time of the inspection, these stacks appeared to meet the required parameters.

Other Requirements

There are no other requirements associated with this section.

FGPRESSCOOL

Continuous Press and Board cooling system. Equipped with a wet scrubber (WS01) to control particulate emissions. Emission units included in this group are EUPRESS and EUCOOLING.

Emission Limits

FGPRESSCOOL	Limit	Test Result
Carbon Monoxide	2.85 lb/hr	1.19 lb/hr
Carbon Monoxide	0.042 lb/1000ft	0.019 lb/1000ft
Nitrogen Oxides	2.5 lb/hr	1.1 lb/hr
Nitrogen Oxides	0.04 lb/1000ft	0.017 lb/1000ft
Volatile Organic Compound (VOC)	49.5 lb/hr	22.9 lb/hr
Volatile Organic Compound (VOC)	0.728 lb/1000ft	0.362 lb/1000ft
Particulate Matter (PM)	4.74 lb/hr	3.67 lb/hr
Particulate Matter <10 microns (PM-10)	4.74 lb/hr	3.67 lb/hr
Particulate Matter <2.5 microns (PM2.5)	4.74 lb/hr	3.67 lb/hr
Formaldehyde	4.4 lb/hr	2.37 lb/hr
Acetaldehyde	1.1 lb/hr	0.41 lb/hr

lb/hr - pounds per hour
 lb/1000ft - pounds per 1000 sq. ft. of board 3/4-inch basis.

Compliance with these limits is through stack testing. Stack testing was performed March of 2021 and the results of it are listed in the table.

Emission calculations for CO, NO_x, VOC, PM, PM10, and PM2.5 are to be kept monthly and annually. These records are being kept accordingly. Following are these records as of March of 2023:

CO Monthly	CO	NOx Monthly	NOx	VOC Monthly	VOC
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	12-Month		12-Month		12-Month
0.30	3.65	0.27	3.27	5.74	69.56

PM Monthly/12-Month	PM10 Monthly/12-month	PM2.5 Monthly/12-Month
0.92/11.14	0.92/11.14	0.92/11.14

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Material Limits

No more than 595,680,000 square feet, on a ¾" thickness basis (gross) of particleboard is to be processed per 12-month rolling time period. As of March of 2023, monthly production was 31,735.6 million square feet and 384,287 million square feet based on a 12-month rolling time period.

Process or Operational Restrictions

The process is not allowed to operate unless the wet scrubber is in operation. At the time of the inspection, this scrubber was in operation. Water flow through the scrubber must have a minimum flow rate as established by stack testing. This testing was performed March of 2021 and demonstrated a minimum flow rate of 813 gallons per minute. An instant reading taken on site demonstrated a flow of 878 gallons per minute.

Design or Equipment Parameters

A device to measure the flow rate through the scrubber is required to be installed. This scrubber is so equipped. An instant reading taken during the inspection was 878 gallons per minute.

Stack/Vent Restrictions

The wet scrubber stack (SV-33) is to have a maximum diameter at the outlet of 60 inches and a minimum height of 101.7 feet. This stack appears to meet these parameters.

Other Requirements

There are no other requirements associated with this section.

FGTOH

Two natural gas-fired thermal oil heaters. EUTOH is 38 MMBtu/hr and EUTFLTOS1 is 10.2 MMBtu/hr. Emission units included in this group are EUTOH and EUTFLTOS1.

Emission Limits

Pollutant	Limit	Unit or Group
CO	0.082 lb/MMBTU	Each emission unit in FGTOH
CO	13.71 tpy	EUTOH
CO	3.69 tpy	EUTFLTOS1
NO _x	0.05 lb/MMBTU	Each emission unit in FGTOH
NO _x	8.16 tpy	EUTOH
NO _x	2.2 tpy	EUTFLTOS1
VOC	0.0054 lb/MMBTU	Each emission unit in FGTOH

VOC	0.9 tpy	EUTOH
VOC	0.24 tpy	EUTFLTOS1
PM	0.0075 lb/MMBTU	Each emission unit in FGTOH
PM	1.24 tpy	EUTOH
PM	0.33 tpy	EUTFLTOS1
PM10	0.0005 lb/MMBTU	Each emission unit in FGTOH
PM10	0.08 tpy	EUTOH
PM10	0.02 tpy	EUTFLTOS1
PM2.5	0.0004 lb/MMBTU	Each emission unit in FGTOH
PM2.5	0.07 tpy	EUTOH
PM2.5	0.02 tpy	EUTFLTOS1
GHG as CO ₂ e	19,490 tpy	EUTOH
GHG as CO ₂ e	5,254 tpy	EUTFLTOS1
Formaldehyde	0.01 tpy	EUTOH
Formaldehyde	0.003 tpy	EUTFLTOS1

Compliance with these limits is through calculations utilizing emission factors that are generally accepted and approved or from the most recent stack testing data. Emission factors and calculations were included in the records review submission. Stack testing is not required but can be requested by the AQD.

Emission calculations for CO, NO_x, VOC, PM, PM10, and PM2.5 are to be kept monthly and annually. These records are being kept accordingly. Following are these records as of March of 2023:

EUTOH

Date	PM tpm/ 12-month rolling	PM10 tpm/ 12-month rolling	PM2.5 tpm/ 12-month rolling	CO tpm/ 12-month rolling	NOx tpm/ 12-month rolling	VOC tpm/ 12-month rolling
March 2023	0.04/0.47	0.003/0.03	0.002/0.03	0.43/5.19	0.26/3.09	0.03/0.34

EUTFLTOS1

Date	PM tpm/ 12-month rolling	PM10 tpm/ 12-month rolling	PM2.5 tpm/ 12-month rolling	CO tpm/ 12-month rolling	NOx tpm/ 12-month rolling	VOC tpm/ 12-month rolling
March 2023	0.01/0.08	0.001/0.01	0.00/0.00	0.08/.94	0.05/0.56	0.01/0.06

Greenhouse gases (CO₂e) emissions are to be calculated and recorded monthly and on a 12-month rolling time period. As of March of 2023, for EUTOH, monthly CO₂e emissions were 614 tons and 7730 tons based on a 12-month rolling time period. For EUTFLTOS1 monthly CO₂e emissions were 116 tons and 1332 tons based on a 12-month rolling time period.

Material Limits

Only pipeline natural gas is allowed to be burned in these units. The facility only receives pipeline natural gas for use. Records provided by the facility included a sample invoice from the natural gas vendor.

Use of this gas is limited to 326.4 MMSCF in EUTOH and 87.6 MMSCF in EUTFLTOS1 per year based on a 12-month rolling time period as determined at the end of each calendar month. As of March of 2023, for EUTOH monthly usage was 10.28 MMcf and 123.52 MMcf based on a 12-month rolling time period. For EUTFLTOS1 monthly usage was 1.94 MMcf and 22.3 MMcf based on a 12-month rolling time period.

Process or Operational Restrictions

A device to monitor natural gas usage is installed and operating for this group. These units are so equipped.

Design or Equipment Parameters

The maximum design heat input capacity for EUTOH is not to be larger than 38 MMBTU per hour, the maximum design heat input capacity for EUTFLTOS1 is not to be larger than 10.2 MMBTU per hour. Units installed meet these parameters.

Stack/Vent Restrictions

The EUTOH stack (SV-35) is to have a maximum diameter at the outlet of 29.9 inches and a minimum height of 50.9 feet. The EUTFLTOS1 (SV-36) is to have a maximum diameter at the outlet of 16.4 inches and a minimum height of 32.8 feet. These stacks appear to meet these parameters.

Other Requirements

There are no other requirements associated with this section.

FGFINISH

Sanding, sawing, and cutting of boards and conveyance of reject material to the RM silo. Emissions are controlled by baghouses. Emission units included in this group are EUFCOS, EUSANDING, EUCTPSAW and EURMSILO.

Emission Limits

Pollutant	Limit	Unit or Group
VOC	10.3 lb/hr	EUFCOS
PM	0.55 lb/hr	EUFCOS
PM10	0.55 lb/hr	EUFCOS
PM2.5	0.55 lb/hr	EUFCOS
Formaldehyde	1.93 lb/hr ¹	EUFCOS
VOC	6.9 lb/hr	EUSANDING
PM	1.43 lb/hr	EUSANDING
PM10	1.43 lb/hr	EUSANDING

PM2.5	1.43 lb/hr	EUSANDING
Formaldehyde	0.3 lb/hr ¹	EUSANDING
Acetaldehyde	0.15 lb/hr ¹	EUSANDING
VOC	3.0 lb/hr	EUCTPSAW
PM	0.44 lb/hr	EUCTPSAW
PM10	0.44 lb/hr	EUCTPSAW
PM2.5	0.44 lb/hr	EUCTPSAW
Formaldehyde	0.21 lb/hr ¹	EUCTPSAW
VOC	0.54 lb/hr	EURMSILO
PM	0.06 lb/hr	EURMSILO
PM10	0.06 lb/hr	EURMSILO
PM2.5	0.06 lb/hr	EURMSILO
PM	0.002 gr/dscf	Each emission unit in FGFINISH
Opacity	10%	Each emission unit in FGFINISH

Compliance with these limits is through calculations utilizing emission factors that are generally accepted and approved or from the most recent stack testing data. Emission factors and calculations were included in the records review submission. Stack testing is not required but can be requested by the AQD. Opacity limit verification is to be performed by daily non-certified visible emissions observations.

Material Limits

There are no material limits associated with this section.

Process or Operational Restrictions

There are no process or operational restrictions associated with this section

Design or Equipment Parameters

The corresponding baghouses for each emission unit in this group must be in operation when the unit is in operation. At the time of the inspection, these baghouses were in operation. Records for them indicate consistent operation when the processes are operating.

A device to measure pressure drop across each baghouse in this group is required. These baghouses are so equipped. Pressure drop readings taken during the inspection were:

	Delta P	MAP
	millibars	Range
BH17	5.8	1-20
BH18	6.7	1-20

BH19	3.2	1-20
BH14A	Not Taken	1-20

Stack/Vent Restrictions

Following are the stack restrictions for this group:

Stack & Vent ID	Maximum Exhaust Diameter (in.)	Minimum Height Above Ground (feet)
SV-17 (EUF COS)	39.4	82
SV-18 (EUSANDING)	63	91.9
SV-19 (EUCTPSAW)	31.5	82
SV-14A (EURMSILO)	18.1	75.5

These stacks appear to meet these parameters.

Other Requirements

There are no other requirements associated with this section.

FGTFL

The three thermally fused lamination lines. Emission units included in this group are EUTFL1, EUTFL2, and EUTFL3. At the time of this inspection, only lines 1 and 2 were installed.

Emission Limits

Pollutant	Limit	Unit or Group
VOC	0.05 lb/hr	Each emission unit in FGTFL
VOC	0.24 tpy	Each emission unit in FGTFL
PM	0.33 lb/hr	Each emission unit in FGTFL
PM	0.002 gr/dscf	Each emission unit in FGTFL
PM	1.45 tpy	Each emission unit in FGTFL
PM10	0.33 lb/hr	Each emission unit in FGTFL
PM10	1.45 tpy	Each emission unit in FGTFL
PM2.5	0.33 lb/hr	Each emission unit in FGTFL
PM2.5	1.45 tpy	Each emission unit in FGTFL
Formaldehyde	0.05 lb/hr ¹	Each emission unit in FGTFL
Opacity	10%	Each emission unit in FGTFL

Compliance with these limits is through calculations utilizing emission factors that are generally accepted and approved or from the most recent stack testing data. Emission factors and calculations were included in the records review

submission. Stack testing is not required but can be requested by the AQD. Opacity limit verification is to be performed by daily non-certified visible emissions observations.

Material Limits

There are no material limits associated with this section.

Process or Operational Restrictions

There are no process or operational restrictions associated with this section

Design or Equipment Parameters

The corresponding baghouses for each emission unit in this group must be in operation when the unit is in operation. At the time of the inspection, these baghouses were in operation. Records for them indicate consistent operation when the processes are operating.

A device to measure pressure drop across each baghouse in this group is required. These baghouses are so equipped. Pressure drop readings taken during the inspection were:

	Delta P millibars	MAP Range
BH28	5	1-20
BH29	4	1-20

Stack/Vent Restrictions

Stack & Vent ID	Maximum Exhaust Diameter (in.)	Minimum Height Above Ground (feet)
SV-28(EUTFL1)	31.5	55.8
SV-29(EUTFL2)	31.5	55.8
SV-30(EUTFL3)	31.5	55.8

Other Requirements

There are no other requirements associated with this section.

FGTANKS

Storage tanks for resins and other materials for the particle board line, resins for the paper treating lines, diesel fuel, and liquid propane. Emission units included in this group are EUCHEMICAL, EUMRESIN, EUUFRESIN, EUDIESEL, and EULPTANKS.

Emission Limits

There are no emission limits associated with this section.

Material Limits

There are no material limits associated with this section.

Process or Operational Restrictions

Breather vents on all non-pressurized tanks in this group are to be installed. Each non-pressurized tank is so equipped.

Design or Equipment Parameters

Submerged fill piping on all non-pressurized tanks in this group are to be installed. Each non-pressurized tank is so equipped.

Stack/Vent Restrictions

There are no stack or vent restrictions associated with this section.

Other Requirements

There are no other requirements associated with this section.

FGRICE

Emergency diesel generator engine, 1,500-kilowatt, emergency diesel generator engine, 568-kilowatt, and diesel fire pump engine, 187-kilowatt. Emission units included in this group are EUEMRGRICE1, EUEMRGRICE2, and EUFIREPUMP.

Emission Limits

Pollutant	Limit	Unit or Group
NMHC + NO _x	4.0 g/KW-hr	EUFIREPUMP
NO _x	1.65 lb/hr	EUFIREPUMP
CO	3.5 g/KW-hr	EUFIREPUMP
CO	1.44 lb/hr	EUFIREPUMP
PM	0.2 g/KW-hr	EUFIREPUMP
PM	0.08 lb/hr	EUFIREPUMP
PM10	0.08 lb/hr	EUFIREPUMP
PM2.5	0.08 lb/hr	EUFIREPUMP
GHG as CO ₂ e	70 tpy	EUFIREPUMP
NMHC + NO _x	6.4 g/KW-hr	EUEMRGRICE1
NO _x	21.2 lb/hr	EUEMRGRICE1
CO	3.5 g/KW-hr	EUEMRGRICE1
CO	11.6 lb/hr	EUEMRGRICE1
PM	0.20 g/KW-hr	EUEMRGRICE1
PM	0.66 lb/hr	EUEMRGRICE1
PM10	0.66 lb/hr	EUEMRGRICE1
PM2.5	0.66 lb/hr	EUEMRGRICE1
GHG as CO ₂ e	590 tpy	EUEMRGRICE1
NMHC + NO _x	4.00 g/KW-hr	EUEMRGRICE2
NO _x	4.4 lb/hr	EUEMRGRICE2

CO	3.5 g/KW-hr	EUEMRGRICE2
CO	3.9 lb/hr	EUEMRGRICE2
PM	0.20 g/KW-hr	EUEMRGRICE2
PM	0.22 lb/hr	EUEMRGRICE2
PM10	0.22 lb/hr	EUEMRGRICE2
PM2.5	0.22 lb/hr	EUEMRGRICE2
GHG as CO ₂ e	209 tpy	EUEMRGRICE2

Compliance with these limits is through calculations utilizing emission factors that are generally accepted and approved or from the most recent stack testing data. Emission factors and calculations were included in the records review submission. Stack testing is not required but can be requested by the AQD.

Material Limits

Diesel fuel burned by units in this group is limited to a maximum sulfur content of 15 ppm (0.0015 percent) by weight, and a minimum Cetane index of 40 or a maximum aromatic content of 35 volume percent. Records for the last shipment of diesel fuel for the facility indicate off road diesel that meets or exceeds these parameters.

Process or Operational Restrictions

Each engine in this group can operate no more than 100 hours per calendar year for the purpose of necessary maintenance checks and readiness testing. Each engine in this group is limited to operate no more than 80 minutes per day except in emergency conditions and required stack testing. For the calendar year 2023, hours of operation were as follows:

EUFIREFUMP – 383 hours
 EUEMRGRICE1 – 57.2 hours
 EUEMRGRICE2 – 59.1 hours

Each of the engines in this group are either Tier 2 or 3 certified engines for stationary emergency use only. Documentation regarding this was supplied by the facility.

Design or Equipment Parameters

Each engine in this group is required to be equipped with a non-resettable hour meter. Each engine is so equipped.

The maximum rated power output of EUFIREFUMP shall not exceed 187 kilowatts, as certified by the equipment manufacturer, the maximum rated power output of EUEMRGRICE1 shall not exceed 1500 kilowatts, as certified by the equipment manufacturer, and the maximum rated power output of EUEMRGRICE2 shall not exceed 568 kilowatts, as certified by the equipment manufacturer. The engines installed meet these power parameters. Documentation regarding this was supplied by the facility.

Stack/Vent Restrictions

Stack & Vent ID	Maximum Exhaust Diameter (in.)	Minimum Height Above Ground (feet)
SV-32A (EUEMRGRICE1)	23.3	19.7
SV-32B (EUEMRGRICE1)	13	19.7
SV-34 (EUFIREFUMP)	6	19.7

Other Requirements

As applicable, each engine in FGRICE must comply with Table 8 of 40 CFR Part 60, Subpart IIII, 40 CFR Part 60, Subpart A and Subpart IIII, 40 CFR, and Part 63, Subpart A and Subpart ZZZZ. By complying with the conditions in this section, each engine is complying with the applicable subparts.

FGPCWPMACT

Emission units subject to the PCWP MACT, 40 CFR 63, Subpart DDDD. Emission units included in this group are EUPRESS, EUCOOLING, EUDRYER1, EUDRYER2, EUFLAKERS, and EUENERGY.

Emission Limits

There are no emission limits associated with this section.

Material Limits

Only non-HAP coatings are to be used at this facility. No coatings are used on a production basis at this facility.

Process or Operational Restrictions

The facility must operate in compliance with work practice standards in the PCWP MACT. The individual conditions located in each applicable flexible group table require process and control equipment to be operated in compliance with this MACT.

Design or Equipment Parameters

There are no design or equipment parameters associated with this section.

Stack/Vent Restrictions

There are no stack or vent restrictions associated with this section.

Other Requirements

The facility is required to comply with all applicable parts of PCWP MACT, 40 CFR 63, Subpart DDDD. By complying with the applicable parts of this section and other related sections of their air permitting, the facility is demonstrating compliance with PCWP MACT.

FGBOILERMACT

Gas 1 Fuel Subcategory requirements for new Boilers/Process Heaters at major sources of Hazardous Air Pollutants per 40 CFR Part 63, Subpart DDDDD. These new boilers or process heaters must comply with this subpart upon startup. Emission units included in this group EUTOH and EUTFLTOS1.

Emission Limits

There are no emission limits associated with this section.

Material Limits

The permittee shall only burn fuels as allowed in the Unit designed to burn Gas 1 Fuel Subcategory definition in 40 CFR 63.7575. A review of this section indicated no such definition. However, this equipment is set up to, and only burns, pipeline natural gas.

Process or Operational Restrictions

Work practice standards, including good air pollution control practices, have been employed at this facility for this equipment. No alternative work practices have been requested. Emission limits established for this equipment are as or more stringent than those listed in the Subpart.

Design or Equipment Parameters

There are no design or equipment parameters associated with this section.

Stack/Vent Restrictions

There are no stack or vent restrictions associated with this section.

Other Requirements

The facility is required to comply with all applicable parts of Boiler MACT, 40 CFR 63, Subpart DDDDD. By complying with the applicable parts of this section and other related sections of their air permitting, the facility is demonstrating compliance with Boiler MACT.

FGFACILITY

The following conditions apply source-wide to all process equipment including equipment covered by other permits, grand-fathered equipment, and exempt equipment.

Emission Limits

There are no emission limits associated with this section.

Material Limits

There are no material limits associated with this section.

Process or Operational Restrictions

The facility is required to have an approved Malfunction Abatement Plan (MAP). The most recent version of this plan is dated April of 2020 and was approved July of 2020.

The facility is required to have an approved Startup, Shutdown, Malfunction Plan (SSMP). The most recent version of this plan is dated April of 2020 and was approved July of 2020.

Design or Equipment Parameters

There are no design or equipment parameters associated with this section.

Stack/Vent Restrictions

There are no stack or vent restrictions associated with this section.

Other Requirements

The facility is required to comply with the following federal regulations:

- 40 CFR Part 63, Subparts A and DDDD, PCWP MACT
- 40 CFR Part 63, Subparts A and DDDDD, Boiler MACT
- 40 CFR Part 63, Subpart A and Subpart JJJJ, Paper and Web Coating MACT
- 40 CFR Part 60, Subpart A and Subpart IIII, NSPS – Compression Ignition Engines
- 40 CFR, Part 63, Subpart A and Subpart ZZZZ, RICE MACT

By complying with the conditions in the equipment specific tables applicable to each of these Subparts, the facility is demonstrating compliance with those Subparts.

At the time of the inspection, this facility was in compliance with their applicable air permitting.

NAME Real Dickman

DATE 11-16-23

SUPERVISOR James Nixon