



Montana Department of
ENVIRONMENTAL **Q**UALITY

Brian Schweitzer, Governor

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December 4, 2008

Ellen Porter
Roseburg Forest Products
PO Box 1088
Roseburg, OR 97470

Dear Ms. Porter:

Air Quality Permit #2303-15 is deemed final as of December 4, 2008, by the Department of Environmental Quality (Department). This permit is for Roseburg Forest Products' Missoula Particleboard facility. All conditions of the Department's Decision remain the same. Enclosed is a copy of your permit with the final date indicated.

For the Department,

Vickie Walsh
Air Permitting Program Supervisor
Air Resources Management Bureau
(406) 444-9741

Moriah Peck, P.E.
Environmental Engineer
Air Resources Management Bureau
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VW:MAP
Enclosure

Montana Department of Environmental Quality
Permitting and Compliance Division

Air Quality Permit #2303-15

Roseburg Forest Products
Missoula Particleboard
P.O. Box 4007
Missoula, MT 59806

December 4, 2008



AIR QUALITY PERMIT

Issued to: Roseburg Forest Products
Missoula Particleboard
P. O. Box 4007
Missoula, MT 59806

Permit #2303-15
Application Complete: 9/16/08
Preliminary Decision Issued: 10/17/08
Department Decision Issued: 11/18/08
Permit Final: 12/04/08
AFS #: 063-0002

A Montana Air Quality Permit (MAQP), with conditions, is hereby granted to Roseburg Forest Products (Roseburg), pursuant to Sections 75-2-204, 211, and 215 of the Montana Code Annotated (MCA), as amended, and the Administrative Rules of Montana (ARM) 17.8.740, *et seq.*, as amended, for the following:

SECTION I: Permitted Facilities

A. Plant Location

Roseburg's facility is located in Section 8, Township 13 North, Range 19 West, in Missoula County, Montana. The facility processes raw wood fiber into particleboard by refining the fiber, adding resin, and pressing the mat into boards. This plant also contains a remanufacturing section, which processes the particle board into finished wood that is used in furniture production. A detailed description of the permitted equipment is contained in the permit analysis.

B. Current Permit Action

On September 16, 2008, the Department of Environmental Quality (Department) received a complete application from Roseburg requesting that the Department modify MAQP #2303-14. In order to comply with the Plywood and Composite Wood Product Maximum Achievable Control Technology (MACT) rule, Roseburg installed a regenerative thermal oxidizer (RTO) to control emissions of volatile organic hazardous air pollutants (VHAP) from its existing wood-fired green furnish predryer. This RTO was installed on the outlet of the existing wet electrostatic precipitator and is fueled by natural gas. The installation of the RTO was permitted under MAQP #2303-13, which included a provision limiting the particulate matter emitted from the RTO to 0.10 grains per dry standard cubic foot (gr/dscf) corrected to 12% carbon dioxide (CO₂) and calculated as if no auxiliary fuel had been used. This limit is a Best Available Control Technology (BACT)-derived limit intended to be consistent with ARM 17.8.316. However, since the issuance of MAQP #2303-14, Roseburg has discovered that the RTO is not capable of achieving this BACT-derived limit. Therefore, Roseburg proposes to modify the particulate BACT limit for the RTO in this permit action. The Department has updated the permit based on the revised BACT analysis.

In addition, several de minimis changes have occurred at this facility since the last permit action. These de minimis changes include: the replacement of two saws (the Jenkins 5x16 production saw and the old, existing Giben saw) with a 1991 Giben 12' Angular Panel saw, the installation of a biofilter on the particleboard presses to comply with the Plywood and Composite Wood Product MACT rule, and the installation of an edge banding line in the Remanufacturing (Reman) area of the facility. The edge banding line consists of an edge bander with a capacity of 60.4 million lineal feet per year that utilizes an adhesive product to bind tape to the edge of the particleboard. The emissions change associated with each of these projects are below the de minimis level of 15 tons per year,

as specified in ARM 17.8.745. Therefore, an MAQP was not required. The Department has updated this permit, however, to reflect these de minimis changes.

SECTION II: Limitations and Conditions

A. Plant-Wide Conditions

1. Roseburg shall not cause or authorize to be discharged into the atmosphere from any stack or vent any visible emissions that exhibit an opacity¹ of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).
2. Line 1 shall be limited to a total of 8,500 hours of operation during any rolling 12-month period (ARM 17.8.749).
3. Line 2 production shall be limited to 75-million square feet (MMsqft²) of ¾-inch particle board during any rolling 12-month period (ARM 17.8.749).
4. Roseburg shall install, operate, and maintain control equipment as specified in the application for Permit #2303-07 (ARM 17.8.749).

B. Sander Dust Boiler

1. Particulate emissions from the sander dust boiler shall not exceed 19.8 pounds per hour (lb/hr) of total particulate and 19.8 lb/hr of particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) when venting from the sander dust boiler abort stack (ARM 17.8.749).
2. Roseburg shall not cause or authorize to be discharged into the atmosphere from the sander dust abort stack any visible emissions that exhibit an opacity¹ of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.304).

C. Solagen Burner

1. Roseburg shall not combust more than 26,280 tons of sander dust in the Solagen Burner during any rolling 12-month period (ARM 17.8.749).
2. Roseburg shall not combust more than 352.1-million standard cubic feet (MMscf) of natural gas in the Solagen Burner during any rolling 12-month period (ARM 17.8.749).
3. Emissions from the Solagen Burner shall not exceed the following (ARM 17.8.749):

Oxides of Nitrogen (NO _x)	31.5 lb/hr
Carbon monoxide (CO)	15.6 lb/hr
Volatile organic compounds (VOC)	0.09 lb/hr

D. Roemmc Burner

¹

Compliance with this condition shall be determined by visual observation in accordance with 40 CFR Part 60, Appendix A, Method 9 Visual Determination of Opacity of Emissions from Stationary Sources.

1. Roseburg shall not combust more than 23,000 tons of sander dust in the Roemmc Burner during any rolling 12-month period (ARM 17.8.749).
2. Emissions from the Roemmc Burner shall not exceed the following (ARM 17.8.749 and ARM 17.8.752):

NO _x	115.0 lb/hr
CO	100.0 lb/hr
VOC	0.35 lb/hr

E. GEKA200 Burner

Roseburg shall not combust more than 166.9 MMscf of natural gas in the GEKA200 Burner during any rolling 12-month period (ARM 17.8.749).

F. Remanufacturing Process

1. The production of painted material from Bullnose #2 shall not exceed 14.7-million linear feet per rolling 12-month period (ARM 17.8.749).
2. Paints used on Roseburg's paintline shall be water-based and fillers shall be ultra violet (U.V.) curable (ARM 17.8.749).

G. Wood Particle Dryers (1, 2, 3, 4, 5, 6, and Predryer)

1. Each dryer shall be equipped with multiclone control that is operated and maintained to meet the emission limits as specified by conditions G.2 and G.6 below (ARM 17.8.752).
2. Particulate emissions from each dryer shall not exceed (ARM 17.8.749):

a. Dryer #1	4.9 lb/hr of Total Particulate 4.9 lb/hr of PM ₁₀
b. Dryer #2	4.7 lb/hr of Total Particulate 4.7 lb/hr of PM ₁₀
c. Dryer #3	4.9 lb/hr of Total Particulate 4.9 lb/hr of PM ₁₀
d. Dryer #4	4.9 lb/hr of Total Particulate 4.9 lb/hr of PM ₁₀
e. Dryer #5	6.0 lb/hr of Total Particulate 6.0 lb/hr of PM ₁₀
f. Dryer #6	6.0 lb/hr of Total Particulate 6.0 lb/hr of PM ₁₀
3. The predryer shall be equipped with a medium efficiency cyclone and a wet electrostatic precipitator (WESP) that is operated and maintained to meet the emission limits as specified by conditions G.4 and G.6 below (ARM 17.8.752).

4. Particulate emissions from the predryer shall not exceed 6.21 lb/hr of total particulate and 6.21 lb/hr of PM₁₀ (ARM 17.8.749).
5. Roseburg shall install and operate temperature sensors at the inlet of each wood particle dryer and predryer. The temperature sensors shall have a remote readout and audible alarm. The alarm system shall be audible to the dryer or predryer operator and the operator(s) of all three combustion units. The alarm system shall become activated when exhaust gas exceeds 1100°F. Data from the temperature sensors shall be maintained for a period of at least 5 years and shall be available to the Department upon request (ARM 17.8.749).
6. Roseburg shall not cause or authorize to be discharged into the atmosphere from any dryer or predryer any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.752).
7. The production from the predryer (DRY500) shall not exceed 200,000 bone dry tons (BDT) per rolling 12-month period (ARM 17.8.749).
8. The combined production from the two Line 2 dryers (DRY200 and DRY201) shall not exceed 168,000 BDT per rolling 12-month period (ARM 17.8.749).

H. Baghouse Emission Limitations

1. All emission points equipped with baghouses, as listed in the table below, are required to meet an emission limitation of 0.005 grains per dry standard cubic foot of exhaust gas for total particulate and 0.005 grains per dry standard cubic foot of exhaust gas for PM₁₀ (ARM 17.8.749).

Baghouse Name	Number	Flow Rate (cfm)	Controlled Point
Outside truck dump	BH 50	27470	Outside Truck Dump
Milling and Drying	BH 55	32000	Dryer Loop Vents, Coarse Refiner Loop Vent, M&D Belt Room
Predry Baghouse	BH 60	3000	Predryer Furnish Silo
Line 1 Reject	BH 100	40000	Line 1 Reject System
Reject Receiver	BH 101	3000	Form Mach to Core
5X25	BH 102	28800	5X25 Saws & Hog
5X16	BH 103	28800	5X16 Saws & Hog
Line 2 Face	BH 200	26680	Face Air System
Line 2 Core	BH 201	26680	Core Air System
Line 2 Press Line	BH 202	30000	Former Aspiration and Mat Trim System
Line 2 Sawline	BH 203	30000	Saws & Hog Edging
Line 2 Receiver	BH 204	8000	Saws & Hog to

Baghouse Name	Number	Flow Rate (cfm)	Controlled Point
			Storage
Six-Head Sander	BH 300 A&B	26000 Each	Six-Head Sander System
Six-Head and Reman Receiver	BH 301	4000	Six-Head Sander & Reman Flatline Relay System
Eight-Head Sander	BH 302 BH 303	47000 Each	Eight Head Sander System
Eight-Head Receiver	BH 304	10000	Sander System Relay
Reman Sander	BH 400	20000	Reman Sander
Bullnose Baghouse	BH 401	27000	Shilling & Bullnose Saw System, Edge Bander Line
Reman Receiver	BH 404	1700	Shilling & Bullnose Saw Relay, Edge Bander Line
Melamine Baghouse	BH 500	21000	Dust and Melamine Trim

2. All sander dust handling systems are to be enclosed and equipped with baghouse control. No outside storage of sander dust shall be allowed (ARM 17.8.749).
 3. Roseburg shall install, operate, and maintain a baghouse to control emissions from the three dryer loop vents and the coarse refiner loop vent in Milling and Drying (ARM 17.8.749).
- I. Particle Board Press and Press Vents (PC701 Press Vents A, B, C, D on Line 1 & PC703 Press Vents A, B, C, D on Line 2)
1. Emissions from the particleboard presses shall be controlled by a biofilter, except as allowed under the approved Routine Control Device Maintenance Exemption (ARM 17.8.342 and 40 CFR 63, Subpart DDDD).
 2. The four batch press vent fans (PC701 A, B, C, D on Line 1) shall be limited to 8.0 lb/hr of total particulate and 8.0 lb/hr of PM₁₀ total emissions for all four stacks (ARM 17.8.749).
 3. The four continuous press vent fans (PC703 Press Vents A, B, C, D on Line 2) shall be limited to 6.5 lb/hr of total particulate and 6.5 lb/hr of PM₁₀ total emissions for all four stacks (ARM 17.8.749).
- J. Fugitive Emissions and Raw Material Handling
1. Roseburg shall not cause or authorize to be discharged into the atmosphere from any fugitive sources, any visible emissions that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.308).
 2. Roseburg shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter (ARM 17.8.308[2]).

3. Paving or a dust suppressant shall be applied to all routinely used haul roads within the plant area. If a dust suppressant is used, it shall be reapplied at least once per year. Additional applications of dust suppressants may be required if fugitive dust exceeds 20% opacity from the haul roads at any time (ARM 17.8.308).
4. Contaminated floor sweepings may not be stored outside. Material stored in the contaminated floor sweepings building shall be limited to no more than 50 units (370 cubic yards) (ARM 17.8.749).
5. Roseburg shall plant and maintain vegetation on the sides and trees along the top of the earthen berm constructed around the raw material pile to reduce dust emissions. Sufficient dust control measures shall be applied to the storage pile to ensure that the visible emissions from the storage pile do not exhibit an opacity of 20% or greater averaged over 6 consecutive minutes (ARM 17.8.749).
6. Fugitive particulate emissions from the raw material storage pile, including unloading, conveying to the pile, and transfer back to the mill, shall not exceed 928 lb/day daily maximum and 30 tons/year for total particulate emissions. These same emissions shall not exceed 334 lb/day daily maximum and 9.9 tons/year for PM₁₀. Compliance with these limitations shall be determined as follows (ARM 17.8.749):

$$E = 0.50 (I) (e) [0.33(1-n_{td}) + 0.33(1-n_{rs}) + 0.33(1-n_{rp})]$$

Where:

E = Total fugitive emissions from the raw material pile (lb)

I = Total raw material delivered to plant (bone-dry tons)

e = PM₁₀ emission factor of 0.36 lb/ton, or a PM emission factor of 1.0 lb/ton

n_{td} = Control efficiency at the outdoor truck dump expressed as a ratio (i.e. 99% = 0.99)

n_{rs} = Control efficiency at the radial stacker expressed as a ratio

n_{rp} = Control efficiency at the pile reclaim expressed as a ratio

Notes:

- a. The control efficiencies, as revised in Permit #2303-07, are as follows:

<u>Description</u>	<u>Control Efficiency</u>	<u>Controls</u>
Outdoor truck dump	99%	Covered surge bin and trailer lift with baghouse system
Pile reclaim	50%	Covered hopper and earthen berm
Radial stacker	50%	Reduced drop height and berm

- b. The 0.33 is utilized to account for different control efficiencies at each emission point within the process, assuming that 1/3 of the emissions originate from the truck dump, 1/3 of the emissions originate from the pile reclaim, and 1/3 of the emissions originate from the radial stacker.

The constant of 0.50 at the beginning of the equation is utilized because approximately 50% of the raw material passes through the outside truck dump and the outdoor pile.

- c. If the inside truck dump is shut down, or not otherwise used for an entire day, the constant of 0.50 shall be replaced with a constant of 1.00 to determine compliance for that day.
- d. If the inside truck dump is shut down, or otherwise not used for 1 or more entire days, compliance with the annual average limitation shall be determined as follows:
 - i. Calculate the allowable emissions for the days when the inside truck dump is shut down, using the associated raw material delivery data and the constant of 1.00.
 - ii. Calculate the allowable emissions for the days when the inside truck dump is operated, using the associated raw material delivery data and the constant of 0.50.
 - iii. Add (i) and (ii) above.
- e. Roseburg shall keep daily records of the total bone-dry tons of raw material received at the Missoula plant. Roseburg shall also keep records of any days when either truck dump is not operating for any reason.
- f. Roseburg shall install and maintain enclosures with curtained openings on the Line 2 Fire Dump and the Line 2 Reject Dump to reduce fugitive emissions (ARM 17.8.749).
- g. Roseburg shall install and maintain a cover over the lift portion of the outside truck dump to increase the collection efficiency of the truck dump baghouse (ARM 17.8.749).
- h. Roseburg shall install and maintain a cover over the reclaim hopper to reduce fugitive dust emissions (ARM 17.8.749).

K. Regenerative Thermal Oxidizer

- 1. Roseburg shall install, operate, and maintain an RTO to control VHAP emissions from the wood-fired green furnish predryer (ARM 17.8.749).
- 2. Roseburg shall not cause or authorize to be discharged into the atmosphere from the RTO:
 - a. Any visible emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes (ARM 17.8.752); and
 - b. Any particulate matter emissions in excess of 0.10 gr/dscf (ARM 17.8.752).

L. Testing Requirements

1. Roseburg shall test the Solagen Burner emissions for NO_x and CO, concurrently, within 90 days of start-up of the Solagen Burner to demonstrate compliance with the NO_x and CO emission limits contained in Section II.C.3. The testing shall continue on an every 2-year basis or another testing/monitoring schedule as may be approved by the Department. The source testing shall occur while Roseburg is using sander dust as the fuel for the Solagen Burner unless otherwise approved by the Department (ARM 17.8.105 and ARM 17.8.749).
2. Roseburg shall test the Roemmc Burner emissions for NO_x and CO, concurrently, to demonstrate compliance with the NO_x and CO emission limits contained in Section II.D.2. The testing and compliance demonstration shall take place at least once every 5 years for each unit or on another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105 and ARM 17.8.749).
3. Roseburg shall conduct source testing on the dryers and predryer for particulate and demonstrate compliance with the requirements in Section II.G.2 and II.G.3. The testing and compliance demonstration shall take place at least once every 5 years for each unit or on another testing/monitoring schedule as may be approved by the Department (ARM 17.8.105).
4. Roseburg shall conduct initial source testing on the RTO within 180 days of initial start up to demonstrate compliance with the limitations contained in Section II.K 2.a and b. (ARM 17.8.105).
5. Roseburg shall conduct testing of the RTO and biofilter in accordance with 40 CFR 63, Subpart DDDD (40 CFR 63, Subpart DDDD and ARM 17.8.342).
6. The Department may require additional testing (ARM 17.8.105).
7. All compliance source tests shall conform to the requirements of the Montana Source Test Protocol and Procedures Manual (ARM 17.8.106).

M. Emission Monitoring Requirements

1. An electric eye monitor, similar to those used in incinerators, shall be installed in the ash separator junction of the sander dust boiler stack. This location may not be a direct indicator of stack opacity, but shall be used to alert the boiler operator to possible upset conditions. The monitor shall have a remote readout visible or audible to the operator of the boiler. Roseburg shall immediately initiate corrective action whenever emissions to atmosphere in excess of 20% opacity are observed from the sander dust boiler stack. Data from the monitor need not be recorded and digitized unless the Department has reason to believe a violation of the opacity standard exists and requests that Roseburg record and maintain the data.
2. The Department reserves the right to require opacity monitors at the Solagen Burner abort stack, sander dust boiler abort stack, hot oil heater stack, the Roemmc sander dust burner abort stack, and the RTO abort stack. The decision to require this monitoring shall be based upon whether or not the Department has reason to believe a violation of the opacity standard exists. If excess emissions exist or may exist at these locations, further opacity monitoring may be required.

N. Operational Reporting Requirements

1. Roseburg shall supply the Department with annual production information for all emission points, as required by the Department in the annual emission inventory request. The request will include, but is not limited to, all sources of emissions identified in the most recent emission inventory report and sources identified in this permit. Production information shall be gathered on a calendar-year basis and submitted to the Department by the date required in the emission inventory request. Information shall be in the units required by the Department. The information may be used to calculate permit fees, and/or to determine compliance with permit conditions (ARM 17.8.505).
2. Roseburg shall notify the Department of any construction or improvement project conducted, pursuant to ARM 17.8.745, that would include a change in control equipment, stack height, stack diameter, stack flow, stack gas temperature, source location, or fuel specifications, or would result in an increase in source capacity above its permitted operation or the addition of a new emission unit. The notice must be submitted to the Department, in writing, 10 days prior to start up or use of the proposed de minimis change, or as soon as reasonably practicable in the event of an unanticipated circumstance causing the de minimis change, and must include the information requested in ARM 17.8.745(1)(d) (ARM 17.8.745).
3. Roseburg shall document, by month, the hours of operation of Line 1. By the 25th day of each month, Roseburg shall total the hours of operation of Line 1 for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.2. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).
4. Roseburg shall document, by month, the production of ¾-inch particle board from Line 2. By the 25th day of each month, Roseburg shall total the production of ¾-inch particle board from Line 2 for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.A.3. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).
5. Roseburg shall document, by month, the tons of sander dust combusted in the Solagen Burner. By the 25th day of each month, Roseburg shall total the sander dust combusted in the Solagen Burner for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.C.1. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).
6. Roseburg shall document, by month, the volume of natural gas combusted in the Solagen Burner. By the 25th day of each month, Roseburg shall total the volume of natural gas combusted by the Solagen Burner for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.C.2. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).
7. Roseburg shall document, by month, the tons of sander dust combusted in the Roemmc Burner. By the 25th day of each month, Roseburg shall total the sander dust combusted in the Roemmc Burner for the previous month. The monthly information will be used to verify compliance with the rolling 12-month

limitation in Section II.D.1. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).

8. Roseburg shall document, by month, the volume of natural gas combusted in the GEKA200 Burner. By the 25th day of each month, Roseburg shall total the volume of natural gas combusted in the GEKA200 Burner for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.E. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).
9. Roseburg shall document, by month, the production of painted material from Bullnose #2. By the 25th day of each month, Roseburg shall total the production of painted material from Bullnose #2 for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.F.1. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).
10. Roseburg shall document, by month, the production from the predryer. By the 25th day of each month, Roseburg shall total the production from the predryer for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.G.7. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).
11. Roseburg shall document, by month, the combined production from the two Line 2 dryers (DRY200 and DRY201). By the 25th day of each month, Roseburg shall total the combined production from the two dryers for the previous month. The monthly information will be used to verify compliance with the rolling 12-month limitation in Section II.G.8. A written report of the compliance verification shall be submitted along with the annual emissions inventory (ARM 17.8.749).
12. All records compiled in accordance with this permit must be maintained by Roseburg as a permanent business record for at least 5 years following the date of the measurement. The records must be available at the plant site for inspection by the Department and must be submitted to the Department upon request (ARM 17.8.749).

Section III: General Conditions

- A. Inspection - Roseburg shall allow the Department's representatives access to the source at all reasonable times for the purpose of making inspections or surveys, collecting samples, obtaining data, auditing any monitoring equipment (CEMS, CERMS) or observing any monitoring or testing, and otherwise conducting all necessary functions related to this permit.
- B. Waiver - The permit and all the terms, conditions, and matters stated herein shall be deemed accepted if Roseburg fails to appeal as indicated below.
- C. Compliance with Statutes and Regulations - Nothing in this permit shall be construed as relieving Roseburg of the responsibility for complying with any applicable federal or Montana statute, rule or standard, except as specifically provided in ARM 17.8.740, *et seq.* (ARM 17.8.756).
- D. Enforcement - Violations of limitations, conditions and requirements contained herein may constitute grounds for permit revocation, penalties or other enforcement as specified in Section 75-2-401, *et seq.*, MCA.
- E. Appeals - Any person or persons jointly or severally adversely affected by the Department's decision may request, within 15 days after the Department renders its decision, upon affidavit setting forth the grounds therefore, a hearing before the Board of Environmental Review (Board). A hearing shall be held under the provisions of the Montana Administrative Procedures Act. The filing of a request for a hearing does not stay the Department's decision, unless the Board issues a stay upon receipt of a petition and a finding that a stay is appropriate under Section 75-2-211(11)(b), MCA. The issuance of a stay on a permit by the Board postpones the effective date of the Department's decision until conclusion of the hearing and issuance of a final decision by the Board. If a stay is not issued by the Board, the Department's decision on the application is final 16 days after the Department's decision is made.
- F. Permit Inspection - As required by ARM 17.8.755, Inspection of Permit, a copy of the air quality permit shall be made available for inspection by Department personnel at the location of the permitted source.
- G. Construction Commencement - Construction must begin within 3 years of permit issuance and proceed with due diligence until the project is complete or the permit shall be revoked.
- H. Permit Fees - Pursuant to Section 75-2-220, MCA, as amended by the 1991 Legislature, failure to pay by the annual operation fee by Roseburg may be grounds for revocation of this permit, as required by that Section and rules adopted thereunder by the Board.

Permit Analysis
Roseburg Forest Products
Air Quality Permit #2303-15

I. Introduction/Process Description

A. Site Location

Roseburg Forest Products (Roseburg) Missoula Particle Board plant is located in Section 8, Township 13 North, Range 19 West, in Missoula County, Montana. Roseburg's particle board plant is located within the boundaries of the Missoula particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀) nonattainment area.

B. Source Description

This plant processes raw wood fiber into particle board by refining the fiber, adding resin, and pressing the mat into boards. The raw material, primarily wood shavings from the planning process in sawmills, is transported to Missoula by truck. This material is unloaded at the plant and moved by conveyor to the dryers and the press line, or out to the storage pile. The material is retrieved from the pile by front-end loader and conveyed to the dryers and the press line. Approximately 50% of the plant production is stored in this pile during the year. The wood fiber is then dried, blended with a resin, and introduced to the press line for particle board production. Many baghouses and cyclones are used in the wood fiber handling systems. Sawdust and sander dust is used as fuel for the boiler and sander dust burners. This plant also contains a Remanufacturing (Reman) section, which processes the particle board into finished wood that is used in furniture production. The Reman section includes an edge banding line that utilizes an adhesive product to bind tape to the edge of the particleboard. In addition, this facility applies melamine to its manufactured particleboard. Melamine application involves placing a sheet of melamine paper on the top and bottom surfaces of a particleboard mat and pressing the paper and particleboard in a hot press. The melamine paper that overhangs the particleboard is then trimmed with a saw. A list of the permitted equipment associated with this facility is listed below.

C. Process Equipment and Control Equipment

1. Six direct-contact wood particle dryers with multiclone control (PC212, PC213 and PC206 through PC209). Each of the six dryers has a rated capacity of 20,000 pounds per hour (lb/hr) of wet wood (annual average hourly rate). These dryers are heated with the exhaust gases from the sander dust boiler (PC801), the Roemmc sander dust burner (PC802), and the Solagen sander dust burner (PC804). The sander dust boiler has a capacity of 55-million Btu per hour (MMBtu/hr), the Roemmc sander dust burner capacity is 50-MMBtu/hr, and the Solagen sander dust burner capacity is 42.2-MMBtu/hr. These burners also can be fueled with natural gas. The boiler combustion unit has an abort stack to divert the hot gases to the atmosphere in case of fire or other problems. The Solagen and Roemmc combustion units have an open abort stack, which allows excess combustion gases to escape to the atmosphere under normal operation, and in case of fire or other problems.
2. One direct-contact predryer with multiclone control (PC201). The predryer has a rated capacity of 17,000 lb/hr of wet wood (annual average hourly rate) and is heated with the exhaust from the Solagen sander dust burner. Particulate emissions from the predryer are controlled through a wet electrostatic precipitator (WESP). Volatile organic hazardous air pollutant (VHAP) emissions from the

predryer are controlled by a regenerative thermal oxidizer (RTO). The RTO runs on natural gas and has a burner capacity of 8 MMBtu/hr.

3. A Geka hot oil heater (PC803) with a capacity of 20-MMBtu/hr is fired with natural gas. The hot oil is used in the continuous press line.
4. A steam-heated batch hydraulic press is used to compress the particle board mat formed at the older production line (#1) to the desired thickness. Air emissions generated from the pressing of the mat are controlled by a biofilter. The newer manufacturing line uses a continuous style press, which is heated using thermal oil from the Geka hot oil heater. The emissions generated from pressing at this location are also controlled by the biofilter.
5. One melamine press with an annual production capacity of 90,000 thousand feet per year (Mft/yr), and a melamine natural gas burner with a 3 MMBtu/hr capacity.
6. One edge banding line, including an edge bander with a capacity to process 60.4 million lineal feet per year.
7. Wood waste cyclones and baghouses.

Baghouse Name	Number	Flow Rate (cfm)	Controlled Point
Outside truck dump	BH 50	27470	Outside Truck dump
Milling and Drying	BH 55	32000	Dryer Loop Vents, Coarse Refiner Loop Vent, M&D Belt Room
Predry Baghouse	BH 60	3000	Predryer Furnish Silo
Line 1 Reject	BH 100	40000	Line 1 Reject System
Reject Receiver	BH 101	3000	Form Mach to Core
5X25	BH 102	28800	5X25 Saws & Hog
5X16	BH 103	28800	5X16 Saws & Hog
Line 2 Face	BH 200	26680	Face Air System
Line 2 Core	BH 201	26680	Core Air System
Line 2 Press Line	BH 202	30000	
Line 2 Sawline	BH 203	30000	Saws & Hog Edging
Line 2 Receiver	BH 204	8000	Saws & Hog to Storage
Six-Head Sander	BH 300 A&B	26000 Each	Six-Head Sander System
Six-Head and Reman Receiver	BH 301	4000	Six-Head Sander & Reman Flatline Relay System
Eight-Head Sander	BH 302 BH 303	47000 Each	Eight Head Sander System
Eight-Head Receiver	BH 304	10000	Sander System Relay
Reman Sander	BH 400	20000	Reman Sander
Bullnose Baghouse	BH 401	27000	Shilling & Bullnose Saw System, Edge Bander Line
Reman Receiver	BH 404	1700	Shilling & Bullnose Saw Relay, Edge Bander

			Line
Melamine Baghouse	BH 500	21000	Dust and Melamine Trim

8. Fugitive dust from receiving, storing, and handling of raw material wood particles. This includes the receiving of shavings and sawdust by truck, unloading and conveying to the press line, the indoor storage area, or the outdoor storage pile via the radial stacker. It also includes fugitive emissions from the reclaiming of this material from the outdoor storage pile by front-end loader and conveying back to the press line.

D. Permit History

On September 16, 1986, Louisiana-Pacific (L-P) was granted a general permit for their particle board plant, including the plant expansion and other related equipment, located near Missoula in Missoula County, Montana. The application was given **Permit #2303**.

This particle board plant existed in the Missoula area prior to 1968 and operated under **Permit #1274**. The original mill had a capacity of 100-million square feet of 3/4-inch particle board. L-P expanded the mill capacity in 1987 by 50%, using the offsets provided by the closure of the Evans Products plant. The expanded mill has a capacity of 150-million square feet of 3/4-inch particle board. The existing mill consisted of four rotary dryers, heated by the exhaust gases from the sander dust boiler and a sander dust burner. The old press line utilized a batch press with a capacity of 100-million square feet, 3/4-inch basis. The 1987 expansion added two new wood particle dryers, two new predryers with a Coen sander dust burner, and a new press line with a continuous press. A Geka natural gas heater was also added to heat the new press line.

The first permit modification, to add general fugitive dust control measures to the facility, was issued on March 20, 1992, and was given **Permit #2303-M**. On July 1, 1987, the Environmental Protection Agency (EPA) promulgated new ambient air quality standards for PM₁₀. The annual standard is 50 micrograms per cubic meter and the 24-hour standard is 150 micrograms per cubic meter. These standards were, in turn, adopted by the Montana Board of Health and Environmental Sciences on April 15, 1988. Due to violations of these standards, Missoula was designated as a PM₁₀ nonattainment area. As a result of this designation, the Montana Department of Health and Environmental Sciences and the Missoula County Air Pollution Control Agency developed a plan to control these emissions and bring the area into compliance with the federal and state ambient air quality standards.

In order to identify the emission sources that were contributing to the violation of the PM₁₀ standard, Missoula County conducted a chemical mass balance study (CMB) of the area. The mill was not identified as a significant contributor to the problem by this method, but fugitive dust was a problem at the plant and was addressed at all other point sources in nonattainment areas. Therefore, a permit modification was required in order to add general fugitive dust control measures to this facility.

Since the State Implementation Plan (SIP) process did not identify this source as a significant contributor to the Missoula nonattainment problem, no emission limitations were changed in the permit; only cyclone-controlled and fugitive dust sources were addressed in more detail. Permit #2303-M replaced Permit #2303.

On August 9, 1993, **Permit #2303-02** was issued to L-P for an alteration to their existing air quality permit to install a baghouse and controls to reduce emissions from an existing outside truck dump at the Missoula Particle board facility in Missoula, Montana. The

outside truck dump was located at the southeastern end of the facility, at 3300 Raser Drive.

The baghouse would pull approximately 27,470 cfm of air through the top of the existing surge bin on the truck dump. The surge bin is partially shrouded to allow air to enter along the top and sides of the truck when in the dumping position. The air is pulled towards the back and top of the shrouded surge bin and through the baghouse system. The efficiency of the baghouse is estimated to be 99.99%; however, the reduction of fugitive dust emissions was reduced by the amount of air that could be drawn through the baghouse system. With proper manifold ducting and skirting, an estimated average reduction of 90% of fugitive emissions was expected. Permit #2303-02 replaced Permit #2303-M.

L-P was issued **Permit #2303-03** on March 10, 1995, to replace two existing baghouses at the Missoula facility with two new baghouses. L-P replaced the existing 26,680-cfm Clark baghouse on source PC 401A (forming machine) with a new 35,000-cfm Day Division Model 376 RFW-10 baghouse. In addition, L-P replaced the existing 26,680-cfm Clark baghouse on source PC 401B (forming machine) with a new 5,400-cfm Day Division Model 48 RFW-8 baghouse. The permit alteration resulted in a decrease of particulate matter (PM) emissions of approximately 10 tons per year because the new baghouses had a combined flow less than the combined air flow from the two existing baghouses. Permit #2303-03 replaced Permit #2303-02.

Permit #2303-04 was issued to L-P on March 9, 1997, to alter the allowable particulate emission limitations for the baghouses, cyclones, particle board press vents, and the continuous press vents to more accurately reflect the actual particulate emissions from these sources. The majority of the emission limitations were decreased, although the cyclone and press vent fan limits were increased. Overall, the allowable emissions of the facility decreased by approximately 208 tons of particulate.

In addition, the alteration allowed L-P to increase the outside storage capacity of the contaminated floor sweepings enclosure from 50 cubic yards to 50 units (370 cubic yards). Conditions in Permit #2303-03 required that a control strategy for particulate be employed, which resulted in no increase in associated fugitive emissions. The control strategy proposed by L-P included containing the contaminated floor sweepings within the three-sided enclosure and covering the exposed sides with a screen. The Department of Environmental Quality (Department) approved this control strategy with the caveat that if the fugitive emissions were not controlled by the screen, the Department would require an alternative control strategy be employed. Finally, Permit #2303-04 clarified permit conditions, updated the facility's configuration, incorporated Permit #1274, and updated the permit with current rule citations and permit language.

The following changes were also made, based on comments received after issuance of the Preliminary Determination (PD) and Department Decision (DD):

1. The condition specifying information contained in the 1986 permit application was removed from the permit. However, in order to satisfy all requirements of the condition, Section II.C.1 was added to the permit and D.1 then included a table listing the baghouses required to be operated on the various sources.
2. Section II.G.6.b was reworded for clarification at the request of L-P.
3. Minor changes were made to the permit to clarify permit language. See the analysis for Permit #2303-04 for a complete description of the changes.

Permit #2303-05 was issued to L-P on June 29, 1997, after they requested that the Department modify their air quality permit to clarify language concerning the electric eye in the sander dust boiler abort stack. The language was changed to require corrective action when emissions to atmosphere exceeded 20%. The electric eye monitors the boiler exhaust gas, even when it is not being emitted directly to atmosphere. A sentence stating that data from the monitor need not be recorded unless required by the Department was also put back into the permit.

Permit #2303-06 was issued on July 6, 1998. L-P requested that the Department modify the requirements for the contaminated floor sweepings from a fixed screen, for the control of fugitives, to a fixed roof enclosure. Emissions were expected to decrease with this modification, as the new roof would improve the control of fugitives, offering more protection than the screen system being replaced. The new roof also facilitated the loading and unloading of sweepings from the three-sided bunker. The above floor sweepings bunker was allowed by the previous permit, and this permit modification simply updated the permit to recognize the improvement to the storage bunker.

Permit #2303-07 was issued to L-P on May 17, 1999. This permit alteration allowed them to rebuild the Line 1 press. The rebuilt press was expected to result in smoother board from Line 1, and thus a decrease in the amount of sanding necessary. The reduced sanding was expected to decrease the sander dust burned at the facility. L-P decided to make up the additional heat requirement with natural gas.

The rebuild of the press allowed L-P to increase production of Line 1 from approximately 131 MMft/year to 160 MMft/year. All emissions resulting from the debottlenecking were considered, to determine whether the change would result in a major modification subject to the requirements of the New Source Review Program (NSR) and, in particular, the Prevention of Significant Deterioration (PSD) requirements.

L-P proposed, and the Department agreed, to base the actual emissions from the facility on the years 1993 and 1994. The years 1993 and 1994 were considered most representative for Line 1 because of the degradation of the press during the last several years. Based on the past actual to future potential test, the emissions from the press project would exceed significance levels for both PM and PM₁₀. However, because of the addition of new control equipment, L-P reduced the net emissions increase of particulate matter and PM₁₀ to less than significance levels. Therefore, the requirements of the NSR/PSD program did not apply to this project.

As part of this permit action, L-P proposed to implement the following emission controls at the facility:

1. A cover and curtains over the Line 2 Reject Dump;
2. A cover over the reclaim hopper;
3. A cover over the lift portion of the outside truck dump;
4. A baghouse in milling and drying (M & D) to control three dryer loop vents and the coarse refiner loop vent;
5. A reduction in the allowable emissions from the dryers and from the raw material handling fugitives;

6. A limit on the amount of sander dust which may be combusted in the Coen Burner; and
7. Changing the process of wax addition to the sawdust from prior to the dryers to after the dryers to reduce evaporative losses.

The method of calculating the emissions from the raw material handling at the facility was also modified in this permit. The control efficiencies for several of the processes increased because of the additional controls required by the permit. The control efficiency for the outside truck dump increased from 90% to 99% because L-P was required to install a full cover over the lift portion of the truck dump. The control efficiency for the pile reclaim hopper increased from 0% to 50% because L-P constructed an earthen berm around the exposed sides of the pile and was required by permit to install a cover over the hopper. The control efficiency for the radial stacker increased from 25% to 50% because of the construction of the earthen berm.

The testing requirements for the dryers and predryers were modified in this permit to require the testing of each dryer and predryer once every 5 years. The previous testing requirement was inconsistent with other sources. Permit #2303-07 replaced Permit #2303-06.

Permit #2303-08 was issued to L-P on August 24, 2000. L-P identified three previous changes to the facility that should have undergone PSD permitting, but did not. On January 7, 2000, L-P requested an alteration to Permit #2303-07 that included all three actions. The Department requested additional information from L-P and received the final submittal on June 9, 2000.

On November 8, 1978, a complete application was submitted by L-P to install a 50-MMBtu/hr Roemmc sander dust/natural gas-fired burner, replace the original bullnose line with Bullnose #1, and make various changes to baghouses and wood waste handling systems. In 1986-1987, L-P installed a second production line (Line 2) with associated sources, a 35-MMBtu/hr Coen sander dust/natural gas-fired burner, Predryers 1 and 2, and the GEKA200. In 1991, L-P installed Bullnose #2. The changes made in each of these years triggered the NSR program for PSD regulations; however, none of the changes were permitted at the time through the PSD regulations. In 1978, L-P triggered the PSD regulations for CO and Oxides of Nitrogen (NO_x). In 1986-1987, L-P triggered the PSD regulations for NO_x and Volatile Organic Compounds (VOCs). In 1991, L-P triggered the PSD regulations for VOCs. Permit #2303-08 permitted the 1978, 1986-1987, and 1991 changes in accordance with the PSD regulations and replaced Permit #2303-07.

On March 2, 2001, L-P was issued **Permit #2303-09** to change the emission limits for the Roemmc Burner. Based on more recent source test information, L-P requested new emission limits for the Roemmc Burner that more accurately reflected the emissions from the unit. The emission limits for NO_x, CO, and VOC were increased for the Roemmc Burner in this permit action. Furthermore, the Department removed the requirements and limitations regarding cyclones from the permit, because there were no longer any cyclones that were considered emitting units. All cyclones were either completely removed from the facility or are no longer attached and in use at the facility. Because the previous PSD permit determination (#2303-08) was made using the information that was submitted/discussed with L-P, the Department determined that the changes required another analysis of the PSD issue as they related to the Roemmc Burner. All affected portions of the previous application that changed were required to be resubmitted using the new emission limits that L-P proposed. Permit #2303-09 replaced Permit #2303-08.

On April 24, 2001, the Department received an application (**Permit Application #2303-10**) from L-P for the addition of three temporary natural gas-fired turbines. The turbines were capable of generating approximately 4.5 megawatts of electrical power per turbine. L-P requested to install the generators/turbines to offset the high cost of power at the time. After submittal of the permit application, but before issuance of a preliminary determination, L-P submitted a request to withdraw the permit application.

Permit #2303-11 was issued on August 7, 2002, based on a de minimis modification notice and corresponding modification request to minimize the fire hazard in their Milling and Drying (M&D) operations. The proposal was to install an additional pneumatic line to collect dust in the M&D belt room. The new line connects to the existing M&D baghouse (BH55). Although the emission limit for the baghouse would remain the same, the flow through the baghouse would change from 18,000 dry standard cubic feet per minute (dscfm) to 32,000 dscfm. The permit change was necessary to change the flowrate limit on the baghouse. In addition, the source test frequency for the Roemmc Burner was changed to once every 5 years. L-P requested the change to account for safety concerns that arise during the testing of the Roemmc. **Permit #2303-11** replaced Permit #2303-09.

On February 21, 2003, L-P and Roseburg submitted a request to transfer the permit for the facility from L-P to Roseburg. The permitting action was an administrative amendment and updated rule citations in the permit. **Permit #2303-12** replaced Permit #2303-11.

Permit #2303-13 was issued to Roseburg on December 14, 2005. This permit allowed Roseburg to reconfigure the particleboard predry process by removing one of two predryers and replacing the existing Coen sander dust burner with a new direct-fired, low-nitrogen oxides (NO_x) burner with dryer gas recirculation. In addition, a wet electrostatic precipitator (ESP) was installed on the predryer exhaust to control combustion and dryer emissions.

The single predryer was configured so that approximately 50% of its exhaust gases would be reintroduced into the duct immediately preceding the predryer drum. This configuration allowed the heat to be used more efficiently by increasing the humidity in the predryer to increase heat transfer. Configuring the predry system in this manner resulted in the ability to dry a greater quantity of green sawdust at a higher inlet temperature. Dried sawdust is directed to a storage silo that is controlled with a baghouse. **Permit #2303-13** replaced Permit #2303-12.

On August 14, 2007, the Department received a complete Montana Air Quality Permit (MAQP) application from Roseburg requesting that the Department modify Permit #2303-13. Roseburg proposed to install an RTO to control emissions of VHAP from its existing wood-fired green furnish predryer. This RTO would be installed on the outlet of the existing wet electrostatic precipitator and fueled by natural gas.

In addition, this permit incorporated de minimis changes that had occurred at Roseburg's facility since the issuance of the previous permit. On February 24, 2005, Roseburg notified the Department of a proposed de minimis change that included the construction of a melamine application line. New equipment associated with this melamine line included a conveyor line, a hot press, a natural gas-fired burner, and a baghouse. All potential emissions for this change were estimated to be less than the 15 tons per year de minimis threshold. **Permit #2303-14** replaced Permit #2303-13.

After issuance of the PD, the Department received comments from Roseburg regarding ambient monitoring requirements and bake out provisions for the RTO. Roseburg asked that the ambient monitoring requirements included in Attachment 1 be removed from the current permit as the required monitoring had already been completed. In addition, Roseburg asked that the Department qualify the permit limitations found in Section II.K. of the permit to except periods of time necessary to perform a bake out of the RTO, a necessary preventative maintenance activity. In response to these comments, the Department removed the ambient monitoring requirements included in Attachment 1 from the current permit. No changes were made to the RTO permit limitations, however, as the Department believes bake out of the RTO is a routine maintenance activity that is exempt from air quality permit requirements per the Administrative Rules of Montana (ARM) 17.8.744(1)(k).

E. Current Permit Action

On September 16, 2008, the Department received a complete application from Roseburg requesting that the Department modify MAQP #2303-14. In order to comply with the Plywood and Composite Wood Product Maximum Achievable Control Technology (MACT) rule, Roseburg installed a RTO to control emissions of VHAP from its existing wood-fired green furnish predryer. This RTO was installed on the outlet of the existing wet electrostatic precipitator and is fueled by natural gas. The installation of the RTO was permitted under MAQP #2303-14, which included a provision limiting the particulate matter emitted from the RTO to 0.10 grains per dry standard cubic foot (gr/dscf) corrected to 12% carbon dioxide (CO₂) and calculated as if no auxiliary fuel had been used. This limit is a Best Available Control Technology (BACT)-derived limit intended to be consistent with ARM 17.8.316. However, since the issuance of MAQP #2303-14, Roseburg has discovered that the RTO is not capable of achieving this BACT-derived limit. Therefore, Roseburg proposes to modify the particulate BACT limit for the RTO in this permit action. The Department has updated the permit based on the revised BACT analysis.

Roseburg also requested an extension of 180 days in which to test the particulate on the RTO given the difficulty in meeting the current permitted stack testing timeline. The Department reviewed this request and determined that an additional 180 days to test the RTO is not warranted in this case. While the particulate limit on the RTO is being modified under this permit action, there is no change to the test methods required to demonstrate compliance with this limitation. In addition, the Department received notice of start-up of the RTO and determined that the RTO was only recently installed in order to comply with the MACT requirements effective October 1, 2008. Since the current permit condition requires testing of the RTO within 180 days of initial startup, the Department does not anticipate any difficulty in meeting the current permitted stack testing timeline. Should the stack testing occur before the permit modification becomes final, the Department has the ability to use compliance discretion in determining whether to pursue enforcement action for any violations that may occur.

In addition, several de minimis changes have occurred at this facility since the last permit action. These de minimis changes include: the replacement of two saws (the Jenkins 5x16 production saw and the old, existing Giben saw) with a 1991 Giben 12' Angular Panel saw, the installation of a biofilter on the particleboard presses to comply with the Plywood and Composite Wood Product MACT rule, and the installation of an edge banding line in the Reman area of the facility. The edge banding line consists of an edge bander with a capacity of 60.4 million lineal feet per year that utilizes an adhesive product to bind tape to the edge of the particleboard. The emissions change associated

with each of these projects are below the de minimis level of 15 tons per year, as specified in ARM 17.8.745. Therefore, an MAQP was not required. The Department has updated this permit, however, to reflect these de minimis changes. **Permit #2303-15** replaces Permit #2303-14.

F. Additional Information

Additional information, such as applicable rules and regulations, BACT/Reasonably Available Control Technology (RACT) determinations, air quality impacts, and environmental assessments, is included in the analysis associated with each change to the permit.

II. Applicable Rules and Regulations

The following are partial quotations of some applicable rules and regulations that apply to the facility. The complete rules are stated in the ARM and are available, upon request, from the Department. Upon request, the Department will provide references for locations of complete copies of all applicable rules and regulations or copies where appropriate.

A. ARM 17.8, Subchapter 1 - General Provisions, including, but not limited to:

1. ARM 17.8.105 Testing Requirements. Any person or persons responsible for the emissions of any air contaminant into the outdoor atmosphere shall, upon written request of the Department, provide the facilities and necessary equipment, including instruments and sensing devices, and shall conduct tests, emission or ambient, for such periods of time as may be necessary using methods approved by the Department.
2. ARM 17.8.106 Source Testing Protocol. The requirements of this rule apply to any emission source testing conducted by the Department, any source, or other entity as required by any rule in this chapter, or any permit or order issued pursuant to this chapter, or the provisions of the Clean Air Act of Montana, 75-2-101, *et seq.*, Montana Code Annotated (MCA).

Roseburg shall comply with the requirements contained in the Montana Source Test Protocol and Procedures Manual, including, but not limited to, using the proper test methods and supplying the required reports. A copy of the Montana Source Test Protocol and Procedures Manual is available from the Department upon request.

3. ARM 17.8.110 Malfunctions. (2) The Department must be notified promptly by telephone whenever a malfunction occurs that can be expected to create emissions in excess of any applicable emission limitation, or to continue for a period greater than 4 hours.
4. ARM 17.8.111 Circumvention. (1) No person shall cause or permit the installation or use of any device or any means which, without resulting in reduction in the total amount of air contaminant emitted, conceals or dilutes an emission of air contaminant that would otherwise violate an air pollution control regulation. (2) No equipment that may produce emissions shall be operated or maintained in such a manner that a public nuisance is created.

B. ARM 17.8, Subchapter 2 - Ambient Air Quality, including, but not limited to:

1. ARM 17.8.204 Ambient Air Monitoring
2. ARM 17.8.210 Ambient Air Quality Standards for Sulfur Dioxide
3. ARM 17.8.211 Ambient Air Quality Standards for Nitrogen Dioxide
4. ARM 17.8.212 Ambient Air Quality Standards for Carbon Monoxide
5. ARM 17.8.213 Ambient Air Quality Standard for Ozone
6. ARM 17.8.214 Ambient Air Quality Standard for Hydrogen Sulfide
7. ARM 17.8.220 Ambient Air Quality Standard for Settled Particulate Matter
8. ARM 17.8.221 Ambient Air Quality Standard for Visibility
9. ARM 17.8.222 Ambient Air Quality Standard for Lead
10. ARM 17.8.223 Ambient Air Quality Standard for PM₁₀

Roseburg must maintain compliance with the applicable ambient air quality standards. The SIP demonstration of attainment indicated that the emission limitations contained in this permit, along with control measures applied to other sources, would bring the Missoula area into compliance with the PM₁₀ standards.

C. ARM 17.8, Subchapter 3 - Emission Standards, including, but not limited to:

1. ARM 17.8.304 Visible Air Contaminants. This rule requires that no person may cause or authorize emissions to be discharged to an outdoor atmosphere from any source installed after November 23, 1968, that exhibit an opacity of 20% or greater averaged over 6 consecutive minutes.
2. ARM 17.8.308 Particulate Matter, Airborne. (1) This rule requires an opacity limitation of less than 20% for all fugitive emission sources and that reasonable precautions be taken to control emissions of airborne particulate matter. (2) Under this rule, Roseburg shall not cause or authorize the use of any street, road, or parking lot without taking reasonable precautions to control emissions of airborne particulate matter. (4) This rule requires reasonable precautions for fugitive emission sources and RACT for existing fugitive emission sources located in a nonattainment area.
3. ARM 17.8.309 Particulate Matter, Fuel Burning Equipment. This section requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter caused by the combustion of fuel in excess of the amount determined by this rule.
4. ARM 17.8.310 Particulate Matter, Industrial Process. This section requires that no person shall cause, allow, or permit to be discharged into the atmosphere particulate matter in excess of the amount set forth in this rule.
5. ARM 17.8.316 Incinerators. This rule requires that no person may cause or authorize emissions to be discharged into the outdoor atmosphere from any incinerator, particulate matter in excess of 0.10 grains per standard cubic foot of dry flue gas, adjusted to 12% carbon dioxide and calculated as if no auxiliary fuel had been used. Further, no person shall cause or authorize to be discharged into the outdoor atmosphere from any incinerator emissions that exhibit an opacity of 10% or greater averaged over 6 consecutive minutes. This rule does not apply to the RTO because Roseburg has applied for and received an air quality permit in accordance with ARM 17.8.770 and MCA 75-2-215 for this unit.

6. ARM 17.8.322 Sulfur Oxide Emissions--Sulfur in Fuel. (4) Commencing July 1, 1972, no person shall burn liquid or solid fuels containing sulfur in excess of 1 pound of sulfur per million Btu fired. (5) Commencing July 1, 1971, no person shall burn any gaseous fuel containing sulfur compounds in excess of 50 grains per 100 cubic feet of gaseous fuel, calculated as hydrogen sulfide at standard conditions.
 7. ARM 17.8.324(3) Hydrocarbon Emissions--Petroleum Products. No person shall load or permit the loading of gasoline into any stationary tank with a capacity of 250 gallons or more from any tank truck or trailer, except through a permanent submerged fill pipe, unless such tank is equipped with a vapor loss control device as described in (1) of this rule, or is a pressure tank as described in (1) of this rule.
 8. ARM 17.8.340 Standard of Performance for New Stationary Sources. This section incorporates, by reference, 40 CFR Part 60, Standards of Performance for New Stationary Sources (NSPS). NSPS does not apply to any sources at the Roseburg facility.
 9. ARM 17.8.342 Emission Standards for Hazardous Air Pollutants for Source Categories. The source, as defined and applied in 40 CFR Part 63, shall comply with the requirements of 40 CFR Part 63, as listed below:
 - a. 40 CFR 63, Subpart A – General Provisions.
 - b. 40 CFR 63, Subpart JJ – National Emission Standards for Wood Furniture Manufacturing Operations.
 - c. 40 CFR 63, Subpart DDDD - National Emission Standards for Hazardous Air Pollutants: Plywood and Composite Wood Products.
- D. ARM 17.8, Subchapter 4 – Stack Height and Dispersion Techniques, including, but not limited to:
1. ARM 17.8.401 Definitions. This rule includes a list of definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.402 Requirements. Roseburg must demonstrate compliance with the ambient air quality standards with a stack height that does not exceed Good Engineering Practices (GEP). The proposed height of the new or altered stack for Roseburg is below the allowable 65-meter GEP stack height.
- E. ARM 17.8, Subchapter 5 – Air Quality Permit Application, Operation, and Open Burning Fees, including, but not limited to:
1. ARM 17.8.504 Air Quality Permit Application Fees. This section requires that an applicant submit an air quality permit application fee concurrent with the submittal of an air quality permit application. A permit application is incomplete until the proper application fee is paid to the Department. Roseburg submitted the required permit application fee for the current permit action.
 2. ARM 17.8.505 Air Quality Operation Fees. An annual air quality operation fee must, as a condition of continued operation, be submitted to the Department by each source of air contaminants holding an air quality permit, excluding an open

burning permit, issued by the Department; and the air quality operation fee is based on the actual or estimated actual amount of air pollutants emitted during the previous calendar year.

An air quality operation fee is separate and distinct from an air quality permit application fee. The annual assessment and collection of the air quality operation fee, described above, shall take place on a calendar-year basis. The Department may insert into any final permit issued after the effective date of these rules, such conditions as may be necessary to require the payment of an air quality operation fee on a calendar-year basis, including provisions which pro-rate the required fee amount.

- F. ARM 17.8, Subchapter 7 – Permit, Construction and Operation of Air Contaminant Sources, including, but not limited to:
1. ARM 17.8.740 Definitions. This rule is a list of applicable definitions used in this chapter, unless indicated otherwise in a specific subchapter.
 2. ARM 17.8.743 Montana Air Quality Permits--When Required. This rule requires a facility to obtain an air quality permit or permit alteration if they construct, alter or use any air contaminant sources that have the potential to emit (PTE) greater than 25 tons per year of any pollutant. Roseburg has the potential to emit more than 25 tons per year of PM, PM₁₀, NO_x, CO, and VOCs; therefore, an air quality permit is required.
 3. ARM 17.8.744 Montana Air Quality Permits--General Exclusions. This rule identifies the activities that are not subject to the Montana Air Quality Permit program.
 4. ARM 17.8.745 Montana Air Quality Permits—Exclusion for De Minimis Changes. This rule identifies the de minimis changes at permitted facilities that do not require a permit under the Montana Air Quality Permit Program.
 5. ARM 17.8.748 New or Modified Emitting Units--Permit Application Requirements. (1) This rule requires that a permit application be submitted prior to installation, alteration, or use of a source. Roseburg submitted the required permit application for the current permit action. (7) This rule requires that the applicant notify the public by means of legal publication in a newspaper of general circulation in the area affected by the application for a permit. Roseburg submitted an affidavit of publication of public notice for the September 13, 2008, issue of the *Missoulian*, a newspaper of general circulation in the City of Missoula, in Missoula County, as proof of compliance with the public notice requirements.
 6. ARM 17.8.749 Conditions for Issuance or Denial of Permit. This rule requires that the permits issued by the Department must authorize the construction and operation of the facility or emitting unit subject to the conditions in the permit and the requirements of this subchapter. This rule also requires that the permit must contain any conditions necessary to assure compliance with the Federal Clean Air Act (FCAA), the Clean Air Act of Montana (Act), and rules adopted under those acts.

7. ARM 17.8.752 Emission Control Requirements. This rule requires a source to install the maximum air pollution control capability that is technically practicable and economically feasible, except that BACT shall be utilized. The required BACT analysis is included in Section III of this permit analysis.
8. ARM 17.8.755 Inspection of Permit. This rule requires that air quality permits shall be made available for inspection by the Department at the location of the source.
9. ARM 17.8.756 Compliance with Other Requirements. This rule states that nothing in the permit shall be construed as relieving Roseburg of the responsibility for complying with any applicable federal or Montana statute, rule, or standard, except as specifically provided in ARM 17.8.740, *et seq.*
10. ARM 17.8.759 Review of Permit Applications. This rule describes the Department's responsibilities for processing permit applications and making permit decisions on those permit applications that do not require the preparation of an environmental impact statement.
11. ARM 17.8.762 Duration of Permit. An air quality permit shall be valid until revoked or modified, as provided in this subchapter, except that a permit issued prior to construction of a new or altered source may contain a condition providing that the permit will expire unless construction is commenced within the time specified in the permit, which in no event may be less than 1 year after the permit is issued.
12. ARM 17.8.763 Revocation of Permit. An air quality permit may be revoked upon written request of the permittee, or for violations of any requirement of the Clean Air Act of Montana, rules adopted under the Clean Air Act of Montana, the Federal Clean Air Act (FCAA), rules adopted under the FCAA, or any applicable requirement contained in the Montana State Implementation Plan (SIP).
13. ARM 17.8.764 Administrative Amendment to Permit. An air quality permit may be amended for changes in any applicable rules and standards adopted by the Board of Environmental Review (Board) or changed conditions of operation at a source or stack that do not result in an increase of emissions as a result of those changed conditions. The owner or operator of a facility may not increase the facility's emissions beyond permit limits unless the increase meets the criteria in ARM 17.8.745 for a de minimis change not requiring a permit, or unless the owner or operator applies for and receives another permit in accordance with ARM 17.8.748, ARM 17.8.749, ARM 17.8.752, ARM 17.8.755, and ARM 17.8.756, and with all applicable requirements in ARM Title 17, Chapter 8, Subchapters 8, 9, and 10.
14. ARM 17.8.765 Transfer of Permit. This rule states that an air quality permit may be transferred from one person to another if written notice of intent to transfer, including the names of the transferor and the transferee, is sent to the Department.
15. ARM 17.8.770 Additional Requirements for Incinerators. This rule specifies the additional information that must be submitted to the Department for incineration facilities subject to 75-2-215, MCA.

- G. ARM 17.8, Subchapter 8 - Prevention of Significant Deterioration of Air Quality, including, but not limited to:
1. ARM 17.8.801 Definitions. This rule is a list of applicable definitions used in this subchapter.
 2. ARM 17.8.818 Review of Major Stationary Sources and Major Modifications -- Source Applicability and Exemptions. The requirements contained in ARM 17.8.819 through ARM 17.8.827 shall apply to any major stationary source and any major modification, with respect to each pollutant subject to regulation under the Federal Clean Air Act (FCAA) that it would emit, except as this subchapter would otherwise allow.

This facility is not a listed source, but emissions are greater than or equal to 250 tons per year; therefore, the facility is major. This modification will not cause a net emission increase greater than significant levels and, therefore, does not require a NSR analysis.

- H. ARM 17.8, Subchapter 9 - Permit Requirements for Major Stationary Sources or Modifications Located Within Nonattainment Areas, including, but not limited to:

ARM 17.8.901 Definitions. This rule is a list of applicable definitions used in this subchapter.

This permit action will not result in a significant emission increase for any pollutant, so it is not considered to be a major modification. Therefore, the requirements of this subchapter do not apply.

- I. ARM 17.8, Subchapter 12 - Operating Permit Program Applicability, including, but not limited to:

1. ARM 17.8.1201 Definitions. (23) Major Source under Section 7412 of FCAA is defined as any stationary source having:
 - a. PTE > 100 tons/year of any pollutant;
 - b. PTE > 10 tons/year of any one Hazardous Air Pollutant (HAP), PTE > 25 tons/year of a combination of all HAPs, or lesser quantity as the Department may establish by rule; or
 - c. Sources with the PTE > 70 tons/year of PM₁₀ in a serious PM₁₀ nonattainment area.
2. ARM 17.8.1204 Air Quality Operating Permit Program Applicability. (1) Title V of the FCAA Amendments of 1990 requires that all sources, as defined in ARM 17.8.1204 (1), obtain a Title V Operating Permit. In reviewing and issuing MAQP #2303-15 for Roseburg, the following conclusions were made:
 - a. The facility's PTE is greater than 100 tons/year for PM, PM₁₀, NO_x, CO, and VOC.

- b. The facility's PTE is greater than 10 tons/year for any one HAP and greater than 25 tons/year for all HAPs.
- c. This source is not located in a serious PM₁₀ nonattainment area.
- d. This facility is not subject to any current NSPS.
- e. The facility is subject to current NESHAP standards (40 CFR 63, Subparts A, JJ, DDDD).
- f. This source is not a Title IV affected source, nor a solid waste combustion unit.
- g. This source is not an EPA designated Title V source.

Based on these facts, the Department determined that the facility is subject to the Title V Operating Permit Program. Roseburg's Title V Operating Permit was issued final and effective on July 8, 2008. Further, the current permit action constitutes a significant modification to the existing Title V Operating Permit; therefore, in accordance with ARM 17.8.1227, Roseburg submitted a Title V permit application for this project concurrent with the MAQP application.

J. MCA 75-2-103, Definitions provides, in part, as follows:

- 1. "Incinerator" means any single or multiple-chambered combustion device that burns combustible material, alone or with a supplemental fuel or catalytic combustion assistance, primarily for the purpose of removal, destruction, disposal, or volume reduction of all or any portion of the input material.
- 2. "Solid waste" means all putrescible and nonputrescible solid, semisolid, liquid, or gaseous wastes, including, but not limited to...air pollution control facilities...

K. MCA 75-2-215, Solid or hazardous waste incineration - additional permit requirements:

- 1. MCA 75-2-215 requires air quality permits for all new solid waste incinerators; therefore, Roseburg must obtain an air quality permit.
- 2. MCA 75-2-215 requires the applicant to provide, to the Department's satisfaction, a characterization and estimate of emissions and ambient concentrations of air pollutants, including hazardous air pollutants from the incineration of solid waste. The Department determined that the information submitted in this application is sufficient to fulfill this requirement.
- 3. MCA 75-2-215 requires that the Department reach a determination that the projected emissions and ambient concentrations constitute a negligible risk to public health, safety, and welfare. The Department completed a health risk assessment based on an emissions inventory and ambient air quality modeling for this proposal. Based on the results of the emission inventory, modeling, and the health risk assessment, the Department determined that Roseburg's proposal complies with this requirement.
- 4. MCA 75-2-215 requires the application of pollution control equipment or procedures that meet or exceed BACT. The Department determined that the

proposed incinerator (RTO) constitutes BACT.

III. BACT Determination

A BACT determination is required for each new or altered source. Roseburg shall install on all new or altered source the maximum air pollution control capability, which is technically practicable and economically feasible, except that BACT shall be utilized.

A revised BACT analysis was submitted by Roseburg in Permit Application #2303-15, addressing the achievable particulate matter emission limits from the RTO. The Department reviewed these proposed limits, as well as previous BACT determinations.

Under MAQP #2303-14, particulate matter emissions from the RTO is limited to 0.10 grains per dry standard cubic foot corrected to 12% CO₂ and calculated as if no auxiliary fuel had been used. After issuance of this permit, Roseburg discovered that this particulate matter emission limit is not achievable for the RTO. Specifically, the RTO typically runs at very low CO₂ concentrations of 0.2 to 0.3% with an oxygen concentration of 20.7%. The 12% CO₂ correction factor was originally crafted as a way to standardize boiler emission due to the variability associated with operations such as percentage of excess air and differences in elevation and locations of boilers. When applied, the 12% CO₂ correction factor results in lower reportable emission rates when a boiler's exhaust has a CO₂ concentration of 13%, and higher reportable emission rates when a boiler's exhaust has a CO₂ concentration of 11%. Therefore, if the 12% CO₂ factor is applied to an RTO, the calculation method results in greatly exaggerated RTO CO₂ emissions (from ~0.3% to 12%), thereby overstating the particulate emissions. This exaggeration is further compounded when the result is calculated as if no auxiliary fuel were used. Therefore, Roseburg proposes to amend the particulate matter emission limitation for the RTO to not include the CO₂ and auxiliary fuel correction factors. This limit compares to other permitted RTOs at Roseburg's Oregon facilities. The Department agrees that this revised permit limit constitutes BACT.

IV. Emission Inventory

A. Particulate and PM₁₀ (Allowable)

Source	Particulate (TPY)	PM ₁₀ (TPY)
#1 Dryer (DRY 100)	20.8	20.8
#2 Dryer (DRY 101)	20.0	20.0
#3 Dryer (DRY 102)	20.8	20.8
#4 Dryer (DRY 103)	20.8	20.8
#5 Dryer (DRY 200)	26.3	26.3
#6 Dryer (DRY 201)	26.3	26.3
#1 Predryer (DRY 500)	27.2	27.2
Truck Dump (BH50) Included in Raw Material	0.0	0.0
Milling & Drying (BH55)	5.9	5.9
Predryer Storage Silo (BH 60)	0.6	0.6
Line 1 Reject (BH100)	6.7	6.7

Source	Particulate (TPY)	PM ₁₀ (TPY)
Reject Receiver (BH101)	0.4	0.2
5x25 (BH 102)	6.7	2.1
5x16 (BH 103)	6.7	2.1
Line 2 Face (BH 200)	5.0	2.0
Line 2 Core (BH 201)	5.0	2.0
Line 2 Press Line (BH 202)	5.6	5.6
Line 2 Sawline (BH 203)	5.6	5.6
Line 2 Receiver (BH 204)	1.5	1.5
Six-Head Sander (BH 300 A&B)	9.8	9.8
Six-Head and Reman Receiver (BH 301)	0.8	0.8
Eight-head Sander (BH 302 & 303)	17.6	17.6
Eight-head Receiver (BH 304)	1.9	1.9
Reman Sander (BH 400)	3.8	3.8
Bullnose Receiver (BH 401)	5.1	5.1
Reman Receiver (BH 404)	0.3	0.3
Raw Material Handling	30	9.9
Melamine Burner (INTEC)	0.1	0.1
Melamine Baghouse (BH 500)	3.9	3.9
Regenerative Thermal Oxidizer (RTO)	0.3	0.3
Total Emissions	285.5	250.0

B. Emission Calculation Description

The existing emission estimate includes dryer emissions at the limits specified in Section II. Baghouse emissions were calculated at 0.005 gr/dscf. The press vent emissions were calculated at 2.0 lb/hr for each of the four vents, while the continuous press vent fans were calculated at 6.5 lb/hr for all four vents. Yearly operation was calculated at 8,760 hr/yr for all sources except those associated with line 1, which were calculated at 8,500 hrs. The fugitive emission estimate is based on the limitation in Section II.J.6 and includes the raw material storage pile, unloading, storage, and reclaiming.

C. Emission Inventory - Gaseous Pollutants (Allowable)

The gaseous pollutants are generated by the combustion units that exhaust through the six dryers or one predryer, except for the hot oil heater, which has a separate stack.

Source	(TPY)			
	SO _x	NO _x	VOC	CO
Sander dust boiler	2.1	9.6	19.8	56.7
Roemmc dust burner ¹	1.7	503.7	1.6	438.0
Dryers ¹			176.4	
Solagen dust burner ²				
Sander dust	4.6	136.7	0.3	66.6
Natural gas	0.01	2.2	0.1	1.8
Predryer ²			74.0	
Geka hot oil heater ¹	0.1	8.3	0.5	7.0
Baghouses ¹			62.1	
Line 2 Press Vents ¹		1.6	21	10.4
Line 2 Board Cooler Vents ¹			8.8	16.4
Reman ¹			173.0	
Melamine Burner ³	0.01	1.3	0.1	1.1
Melamine Press ³			0.03	
RTO ⁴	0.02	6.7	0.2	8.1
Edge Banding Line			3.73	
Totals	8.5	670.1	541.63	606.1

¹ See Permit Applications #2303-08 and #2303-09 and supporting documentation for more detail.

² See Permit Application #2303-13 and supporting documentation for more detail.

³ See De Minimis Notification letter dated January 13, 2006 for more detail.

⁴ See Permit Application #2303-14 and supporting documentation for more detail.

Sander Dust Boiler - 55-million Btu/hr capacity

Assume sander dust has 8500 Btu/lb.

Then (55 MMBtu/hr)(1 lb sander dust/8500 Btu) = 6470 lb/hr

or 28,334 ton/yr fuel (8760 hr/yr)

Emission factor = (1-02-009-04) EPA 450/4-90-003 (AIRS Doc)

SO_x - 0.15 lb/ton burned

(28,334 ton/yr)(0.15 lb/ton)(1 ton/2000 lb) = 2.1 TPY

NO_x - 0.68 lb/ton burned

(28,334 ton/yr)(0.68 lb/ton)(1ton/2000 lb) = 9.6 TPY

VOC - 1.4 lb/ton burned

(28,334 ton/yr)(1.4 lb/ton)(1 ton/2000 lb) = 19.8 TPY

CO - 4.0 lb/ton burned

(28,334 ton/yr)(4.0 lb/ton)(1 ton/2000 lb) = 56.7 TPY

Roemmc Sander Dust Burner - 50-million Btu/hr capacity

See Permit Applications #2303-08 and #2303-09 and supporting documentation for more detail.

Assume sander dust has 8500 Btu/lb.

Fuel Consumption: 23000 tons of sander dust per year (permit limit)

Maximum rated design capacity = 2.94 tons/hour (Roseburg Title V App)

$$\text{SO}_x - 0.15 \text{ lb/ton burned (1-02-009-04, wood-fired boiler)} \\ (23,000 \text{ ton/yr})(0.15 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb}) = 1.73 \text{ TPY}$$

NO_x – 115.0 lb/hr (permit limit based on informational testing and application submittal on 12/19/00)

$$(115.0 \text{ lb/hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 503.7 \text{ TPY}$$

VOC - 0.12 lb/ton burned (AP-42, Table 1.6-3, 2/99)

$$(0.12 \text{ lb/ton})(2.94 \text{ tons/hour}) = 0.35 \text{ lb/hr}$$

$$(0.35 \text{ lb/hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 1.55 \text{ TPY}$$

CO – 100.0 lb/hr (permit limit based on informational testing and application submittal on 12/19/00)

$$(100.0 \text{ lb/hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 438.0 \text{ TPY}$$

Dryers

See Permit Application #2303-08 and supporting documentation for more detail.

The two direct contact wood particle dryers (DRY200 and DRY201) draw hot combustion gases from the Roemmc Burner; however, boiler (BOILER#1) gases may also be routed through the dryers. All boiler emissions are quantified from the boiler stack, not through the dryer. DRY200 and DRY201 were the two dryers affected by Permit #2303-08.

SO_x - Not generated by dryers. Four of the dryers receive approximately 15% of the SO_x from the Roemmc Burner, while the remaining two dryers receive 20% of the SO_x from the Roemmc Burner. The following emissions are part of the Roemmc emissions and are therefore not added again into the totals. Not all of the predryers were affected by the current permit action.

$$(1.73 \text{ TPY})(1.0 - 0.85) = 0.26 \text{ TPY for DRY200}$$

$$(1.73 \text{ TPY})(1.0 - 0.85) = 0.26 \text{ TPY for DRY201}$$

$$(1.73 \text{ TPY})(1.0 - 0.85) = 0.26 \text{ TPY for DRY100}$$

$$(1.73 \text{ TPY})(1.0 - 0.85) = 0.26 \text{ TPY for DRY101}$$

$$(1.73 \text{ TPY})(1.0 - 0.80) = 0.35 \text{ TPY for DRY102}$$

$$(1.73 \text{ TPY})(1.0 - 0.80) = 0.35 \text{ TPY for DRY103}$$

NO_x – Not generated by dryers. Four of the dryers receive approximately 15% of the NO_x from the Roemmc Burner, while the remaining two dryers receive 20% of the NO_x from the Roemmc Burner. The following emissions are part of the Roemmc emissions and are therefore not added again into the totals. Not all of the predryers were affected by the current permit action.

$$(381.2 \text{ TPY})(1.0 - 0.85) = 57.2 \text{ TPY for DRY200}$$

$$(381.2 \text{ TPY})(1.0 - 0.85) = 57.2 \text{ TPY for DRY201}$$

$$(381.2 \text{ TPY})(1.0 - 0.85) = 57.2 \text{ TPY for DRY100}$$

$$(381.2 \text{ TPY})(1.0 - 0.85) = 57.2 \text{ TPY for DRY101}$$

$$(381.2 \text{ TPY})(1.0 - 0.80) = 76.2 \text{ TPY for DRY102}$$

$$(381.2 \text{ TPY})(1.0 - 0.80) = 76.2 \text{ TPY for DRY103}$$

VOC – The following emission factor includes VOC emissions from the combustion of fuel in the Roemmc and VOC emissions from the wood in the predryers. Therefore, the following emissions are not summed with the fuel combustion VOC emissions calculated for the Roemmc. Not all of the predryers were affected by the current permit action.

Emission Factor: 0.70 lb/BDT (Interpoll Source Test, 5/94 plus 20% safety)

Production Limit: 84000 BDT/yr (permit limit)

$(0.70 \text{ lb/BDT})(84000 \text{ BDT/yr})(1\text{ton}/2000 \text{ lb}) = 29.4 \text{ TPY}$ for DRY200

$(0.70 \text{ lb/BDT})(84000 \text{ BDT/yr})(1\text{ton}/2000 \text{ lb}) = 29.4 \text{ TPY}$ for DRY201

$(0.70 \text{ lb/BDT})(84000 \text{ BDT/yr})(1\text{ton}/2000 \text{ lb}) = 29.4 \text{ TPY}$ for DRY100

$(0.70 \text{ lb/BDT})(84000 \text{ BDT/yr})(1\text{ton}/2000 \text{ lb}) = 29.4 \text{ TPY}$ for DRY101

$(0.70 \text{ lb/BDT})(84000 \text{ BDT/yr})(1\text{ton}/2000 \text{ lb}) = 29.4 \text{ TPY}$ for DRY102

$(0.70 \text{ lb/BDT})(84000 \text{ BDT/yr})(1\text{ton}/2000 \text{ lb}) = 29.4 \text{ TPY}$ for DRY103

Total for dryers = 176.4 TPY

Total for dryers affected by Permit #2303-08 = 58.8 TPY

CO – The following emission factor includes CO emissions from the combustion of fuel in the Roemmc. The dryers do not produce any additional CO. Four of the dryers receive approximately 15% of the CO from the Roemmc Burner, while the remaining two dryers receive 20% of the CO from the Roemmc Burner. The following emissions are part of the Roemmc emissions and are therefore not added again into the totals. Not all of the predryers were affected by the current permit action.

$(49.6 \text{ TPY})(1.0 - 0.85) = 7.4 \text{ TPY}$ for DRY200

$(49.6 \text{ TPY})(1.0 - 0.85) = 7.4 \text{ TPY}$ for DRY201

$(49.6 \text{ TPY})(1.0 - 0.85) = 7.4 \text{ TPY}$ for DRY100

$(49.6 \text{ TPY})(1.0 - 0.85) = 7.4 \text{ TPY}$ for DRY101

$(49.6 \text{ TPY})(1.0 - 0.80) = 9.9 \text{ TPY}$ for DRY102

$(49.6 \text{ TPY})(1.0 - 0.80) = 9.9 \text{ TPY}$ for DRY103

Solagen Burner (Sander Dust) – 42.2-million Btu/hr capacity

See Permit Application #2303-13 and supporting documentation for more detail. The emissions from the Solagen burner were calculated assuming a worst-case scenario where the annual heat requirement of the Solagen burner would be met by burning sander dust.

Total Ann. Heat Requirements: $42.2 \text{ MMBtu/hr} * 8760 \text{ hr/yr} = 369672 \text{ MMBtu/yr}$
 $(42.2 \text{ MMBtu/hr})/(8500 \text{ Btu/lb}) = 4965 \text{ lb/hr} = 2.5 \text{ tons of dust/hr}$

SO_x – 0.025 lb/MMBtu (AP-42 factor)

$(0.025 \text{ lb/MMBtu})(42.2 \text{ MMBtu/hr}) = 1.055 \text{ lb/hr}$

$(1.055 \text{ lb/hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 4.6 \text{ TPY}$

NO_x - 0.74 lb/MMBtu (Manufacturer emission factor)

$(0.74 \text{ lb/MMBtu})(42.2 \text{ MMBtu/hr}) = 31.2 \text{ lb/hr}$

$(1.055 \text{ lb/hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 136.7 \text{ TPY}$

VOC - 0.02 lb/ton burned (AP-42, Table 1.6-3, 9/03)

$(0.02 \text{ lb/ton})(2.5 \text{ ton/hr}) = 0.05 \text{ lb/hr}$

$(26,280 \text{ ton/yr})(0.02 \text{ lb/ton})(1 \text{ ton}/2000 \text{ lb}) = 0.3 \text{ TPY}$

CO - 0.36 lb/MMBtu (Manufacturer emission factor)

$$(0.36 \text{ lb/MMBtu})(42.2 \text{ MMBtu/hr}) = 15.2 \text{ lb/hr}$$

$$(15.2 \text{ lb/hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 66.6 \text{ TPY}$$

Solagen Burner (Natural Gas) – 42.2-million Btu/hr capacity

See Permit Application #2303-13 and supporting documentation for more detail. The emissions from the Solagen burner were calculated assuming a worst-case scenario where the annual heat requirement of the Solagen burner would be met by burning sander dust. Emissions from burning natural gas in the Solagen burner is calculated only for the minimum amount of natural gas required by the burner to sustain a flame.

$$\text{Sustaining flame on the burner} = 0.005 \text{ MMscf/hr} * 8760 \text{ hr/yr} = 43.8 \text{ MMscf/yr}$$

$$\text{SO}_x - 0.6 \text{ lb/MMscf (AP-42 Fifth Edition Table 1.4-2)}$$

$$(0.6 \text{ lb/MMscf})(43.8 \text{ MMscf/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.01 \text{ TPY}$$

$$\text{NO}_x - 100 \text{ lb/MMscf (AP-42, Table 1.4-1, 7/98)}$$

$$(100 \text{ lb/MMscf})(43.8 \text{ MMscf/yr})(1 \text{ ton}/2000 \text{ lb}) = 2.2 \text{ TPY}$$

$$\text{VOC} - 5.5 \text{ lb/MMscf (AP-42, Table 1.4-1, 7/98)}$$

$$(5.5 \text{ lb/MMscf})(43.8 \text{ MMscf/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.1 \text{ TPY}$$

$$\text{CO} - 84 \text{ lb/MMscf (AP-42, Table 1.4-1, 7/98)}$$

$$(84 \text{ lb/MMscf})(43.8 \text{ MMscf/yr})(1 \text{ ton}/2000 \text{ lb}) = 1.8 \text{ TPY}$$

Predryers

See Permit Application #2303-13 and supporting documentation for more detail. The direct contact wood particle predryer (DRY500) draws hot combustion gases from the Solagen Burner to dry particleboard furnish material. In addition, approximately 50% of the predryer exhaust gases will be reintroduced into the duct immediately preceding the predryer drum. The following predryer emission calculations are based on a process rate of 200,000 bone-dry tons (BDT) per year for each predryer.

SO_x - Not generated by predryers. All SO_x is accounted for in the Solagen Burner.

NO_x - Not generated by predryers. All NO_x is accounted for in the Solagen Burner.

VOC -

$$0.74 \text{ lb/BDT (Manufacturer emission factor)}$$

$$\text{Production Limit: } 200,000 \text{ BDT/yr (permit limit)}$$

$$(.74 \text{ lb/BDT})(200,000 \text{ BDT/yr})(1 \text{ ton}/2000 \text{ lb}) = 74.0 \text{ TPY}$$

CO - Not generated by predryers. All CO is accounted for in the Solagen Burner.

GEKA200 (Natural Gas) - 20-million Btu/hr capacity

See Permit Application #2303-08 and supporting documentation for more detail.

Total Annual Heat Requirements: 20 MMBtu/hr * 8760 hr/yr = 175200 MMBtu/yr
Natural Gas: 175200 MMBtu/yr * 1 scf/1050 Btu = 166.9 MMscf/yr

SO_x - 0.6 lb/MMcf (AP-42 Fifth Edition Table 1.4-2)
(0.6 lb/MMscf)(166.9 MMscf/yr)(1 ton/2000 lb) = 0.05 TPY

NO_x - 100 lb/MMcf (AP-42, Table 1.4-1, 7/98)
(100 lb/MMscf)(166.9 MMscf/yr)(1 ton/2000 lb) = 8.34 TPY

VOC - 5.5 lb/MMcf (AP-42, Table 1.4-1, 7/98)
(5.5 lb/MMscf)(166.9 MMscf/yr)(1 ton/2000 lb) = 0.46 TPY

CO - 84 lb/MMcf (AP-42, Table 1.4-1, 7/98)
(84 lb/MMscf)(166.9 MMscf/yr)(1 ton/2000 lb) = 7.01 TPY

Line 2 Press Vents (PRES200A, PRES200B, PRES200C, PRES200D)

See Permit Application #2303-08 and supporting documentation for more detail.
Production Rate: 75 MMsqft-^{3/4}" per year (permit limit)

NO_x - 10.65 lb/MMsqft-^{3/4}" (Bison Eng. Source Test, 9/98)
(10.65 lb/ MMsqft-^{3/4}")(75 MMsqft-^{3/4}"/yr)(1 ton/2000 lb) = 0.4 TPY
(4 vents)(0.4 TPY) = 1.6 TPY

VOC - 139.8 lb/MMsqft-^{3/4}" (Bison Eng. Source Test, 9/98)
(139.8 lb/ MMsqft-^{3/4}")(75 MMsqft-^{3/4}"/yr)(1 ton/2000 lb) = 5.24 TPY
(4 vents)(5.24 TPY) = 21.0 TPY

CO - 69.4 lb/MMsqft-^{3/4}" (Bison Eng. Source Test, 9/98)
(69.4 lb/ MMsqft-^{3/4}")(75 MMsqft-^{3/4}"/yr)(1 ton/2000 lb) = 2.6 TPY
(4 vents)(2.6 TPY) = 10.4 TPY

Line 2 Board Cooler Vents (L2BCV1, L2BCV2)

See Permit Application #2303-08 and supporting documentation for more detail.
Production Rate: 75 MMsqft-^{3/4}" per year (permit limit)

VOC - 117.12 lb/MMsqft-^{3/4}" (Bison Eng. Source Test, 7/99)
(117.12 lb/MMsqft-^{3/4}")(75 MMsqft-^{3/4}"/yr)(1 ton/2000 lb)= 4.39 TPY
(2 vents)(4.39 TPY) = 8.8 TPY

CO - 218.40 lb/MMsqft-^{3/4}" (Bison Eng. Source Test, 7/99)
(218.40 lb/MMsqft-^{3/4}")(75 MMsqft-^{3/4}"/yr)(1 ton/2000 lb)= 8.19 TPY
(2 vents)(8.19 TPY) = 16.4 TPY

Baghouses

See Permit Application #2303-08 and supporting documentation for more detail.

VOC Emissions:

BH200	Face Baghouse	24.1 TPY
BH201	Core Baghouse	8.0 TPY
BH202	Former Aspiration & Mat. Trim System	6.8 TPY
BH203	Face Baghouse	2.4 TPY
BH204	Line 2, Sawline, & Former Aspiration System Relay	0.4 TPY
BH302-3	Eight Head Top & Bottom Sander System	5.9 TPY
BH304	Eight Head Sander System Relay	0.3 TPY
BH401	Schilling & Bullnose Saw System	2.9 TPY
BH404	Schilling & Bullnose Saw System Relay	0.2 TPY
BH50	Truck Dump Baghouse ($\frac{1}{3}$ attributable to line 2)	11.1TPY
Total for Baghouses		62.1 TPY

Reman

See Permit Application #2303-08 and supporting documentation for details.

VOC Emissions: 173.0 TPY

Melamine Burner (Natural Gas) – 3 MMBtu/hr capacity

See De Minimis Notification letter dated January 13, 2006 for more detail.

Total Annual Heat Requirements: 3 MMBtu/hr * 8760 hr/yr = 26,280 MMBtu/yr

Natural Gas: 26,280 MMBtu/yr * 1 scf/1050 Btu = 25 MMscf/yr

SO_x - 0.6 lb/MMcf (AP-42, Fifth Edition, Table 1.4-2)
(0.6 lb/MMscf)(25 MMscf/yr)(1 ton/2000 lb) = 0.01 TPY

NO_x - 100 lb/MMcf (AP-42, Fifth Edition, Table 1.4-1)
(100 lb/MMscf)(25 MMscf/yr)(1 ton/2000 lb) = 1.25 TPY

VOC - 5.5 lb/MMcf (AP-42, Fifth Edition, Table 1.4-2)
(5.5 lb/MMscf)(25 MMscf/yr)(1 ton/2000 lb) = 0.07 TPY

CO – 84 lb/MMcf (AP-42, Fifth Edition, Table 1.4-1)
(84 lb/MMscf)(25 MMscf/yr)(1 ton/2000 lb) = 1.05 TPY

Melamine Press

See De Minimis Notification letter dated January 13, 2006, for more detail.

Hours of Operation = 8760 hr/yr

Production Capacity = 10.944 Mft²/hr

VOC – 0.0006 lb formaldehyde/Mft² (provided by vendor)
(0.0006 lb/Mft²)(10.944 Mft²/hr)(8760 hr/yr)(1 ton/2000 lb) = 0.029 TPY

0.00011 lb methanol/Mft² (provided by vendor)

$$(0.00011 \text{ lb/ Mft}^2)(10.944 \text{ Mft}^2/\text{hr})(8760 \text{ hr/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.005 \text{ TPY}$$

$$\text{Total VOC} = 0.034 \text{ TPY}$$

RTO (Natural Gas) – 8 MMBtu/hr capacity

See Permit Application #2303-14 and supporting documentation for details.
Total Annual Heat Requirements: 8 MMBtu/hr * 8760 hr/yr = 70,080MMBtu/yr
Natural Gas: 70,080 MMBtu/yr * 1 scf/1050 Btu = 66.7 MMscf/yr

$$\text{SO}_x - 0.6 \text{ lb/MMcf (AP-42, Fifth Edition, Table 1.4-2)} \\ (0.6 \text{ lb/MMscf})(66.7 \text{ MMscf/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.02 \text{ TPY}$$

$$\text{NO}_x - 0.19 \text{ lb/MMBtu (provided by vendor)} \\ (0.19 \text{ lb/MMBtu})(70,080 \text{ MMBtu/hr})(1 \text{ ton}/2000 \text{ lb}) = 6.66 \text{ TPY}$$

$$\text{VOC} - 5.5 \text{ lb/MMcf (AP-42, Fifth Edition, Table 1.4-2)} \\ (5.5 \text{ lb/MMscf})(66.7 \text{ MMscf/yr})(1 \text{ ton}/2000 \text{ lb}) = 0.19 \text{ TPY}$$

$$\text{CO} - 0.23 \text{ lb/MMBtu (provided by vendor)} \\ (0.23 \text{ lb/MMBtu})(70,080 \text{ MMBtu/hr})(1 \text{ ton}/2000 \text{ lb}) = 8.06 \text{ TPY}$$

Edge Banding Line

See De Minimis Notification letter dated April 30, 2008, for more detail.

Adhesive Usage (Jowat Adhesive) = 0.238 gal/MLF
Solvent Usage (TI-750 High Purity Solvent) = 0.0185 gal/MLF
Production Capacity = 60,400 MLF/yr

$$\text{VOC} - \\ \text{Adhesive} = 0.02075 \text{ lb/gal} \\ (0.238 \text{ gal/MLF})(60,400 \text{ MLF/yr})(0.02075 \text{ lb VOC/gal})(1 \text{ ton}/2,000 \text{ lb}) = 0.15 \\ \text{TPY}$$

$$\text{Solvent} = 6.41 \text{ lb/gal} \\ (0.0185 \text{ gal/MLF})(60,400 \text{ MLF/yr})(6.41 \text{ lb VOC/gal})(1 \text{ ton}/2,000 \text{ lb}) = 3.58 \text{ TPY}$$

V. Existing Air Quality

The Missoula area is currently a nonattainment area for PM₁₀. The Department determined, based on its preliminary demonstration of attainment, that the emission limitations contained in this permit, along with control measures applied to other sources, will bring Missoula into compliance with the PM₁₀ standards. Modeling was previously submitted demonstrating that the emissions will not cause an exceedance of the ambient air quality standards. The Missoula CO nonattainment area, which included Roseburg, was reclassified to attainment in August 2007.

VI. Air Quality Impacts

The Department may not issue a permit to a facility until: (d) the Department has reached a determination that the projected emissions and ambient concentrations will constitute a negligible risk to the public health, safety, and welfare and to the environment.

A health risk analysis to estimate the risk from the burning of HAP associated with natural gas in the RTO was completed as part of this permit application. The risk analysis contained the HAPs from the 1990 Federal Clean Air Act Amendments with an established risk value. The ambient concentrations were determined using SCREENVIEW, an EPA-approved screening model. The indicated inputs used were obtained from the permit application and an emission rate of 1.87E-03 gram per second, which is the sum of all the natural gas hazardous air pollutant emissions from the proposed RTO. The individual 1-hour results for each pollutant were then calculated by multiplying the modeled impact of 4.861E-01 $\mu\text{g}/\text{m}^3$ by the percentage of each individual HAP making up the total of the HAP emissions. The maximum 1-hour concentrations were then converted to an annual average and used in the risk assessment.

RTO: SCREENVIEW Model Run

Complex Terrain Inputs:

Source Type	=	POINT
Emission Rate (G/S)	=	1.87E-03
Stack Height (M)	=	15.24
Stack Diameter (M)	=	1.22
Stack Exit Velocity (M/S)	=	19.75
Stack Gas Exit Temp (K)	=	397.05
Ambient Air Temp (K)	=	293.00
Receptor Height (M)	=	0.0000
Urban/Rural Option	=	RURAL

Simple Terrain Inputs:

Source Type	=	POINT
Emission Rate (G/S)	=	1.87E-03
Stack Height (M)	=	15.24
Stack Diameter (M)	=	1.22
Stack Exit Velocity (M/S)	=	19.75
Stack Gas Exit Temp (K)	=	397.05
Ambient Air Temp (K)	=	293.00
Receptor Height (M)	=	0.0000
Urban/Rural Option	=	RURAL
Building Height (M)	=	20.10
Min Horiz Bldg Dim (M)	=	10.08
Max Horiz Bldg Dim (M)	=	106.10

Stack exit velocity was calculated using a volumetric flow rate of 48,800 ACFM.

Summary of Screen View Model Results

Calculation	Maximum 1 Hour	Distance of	Terrain
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Procedure	Concentration ($\mu\text{g}/\text{m}^3$)	Maximum (M)	Height (M)
Complex + Simple Terrain	4.861E-01	170	0

The SCREEN VIEW model determined that, with the exception of total chromium, a health risk assessment was not necessary because the HAP concentrations in Table 1 below were less than the levels contained in ARM 17.8.770(1)(c)(ii). The results for total chromium are contained in Section VII, Health Risk Assessment, of the permit analysis.

Table 1. Health Risk Analysis HAP Concentrations

Pollutant	Modeled Level ($\mu\text{g}/\text{m}^3$)	Cancer Deminimis Level ($\mu\text{g}/\text{m}^3$)	Non-Cancer Chronic Deminimis Level ($\mu\text{g}/\text{m}^3$)	Non-Cancer Acute Deminimis Level ($\mu\text{g}/\text{m}^3$)
2-Methylnaphthalene	6.18E-07	N/A	N/A	N/A
3-Methylchloranthrene	4.63E-08	N/A	N/A	N/A
7,12-Dimethylbenz(a)anthracene	4.12E-07	N/A	N/A	N/A
Acenaphthene	4.63E-08	N/A	N/A	N/A
Acenaphthylene	4.63E-08	N/A	N/A	N/A
Anthracene	6.18E-08	N/A	N/A	N/A
Benzene	5.41E-05	1.20E-02	7.10E-01	N/A
Benz(a)anthracene	4.63E-08	5.88E-05	N/A	N/A
Benzo(a)pyrene	3.09E-08	5.88E-05	N/A	N/A
Benzo(b)fluoranthene	4.63E-08	5.88E-05	N/A	N/A
Benzo(k)fluoranthene	4.63E-08	5.88E-05	N/A	N/A
Benzo(g,h,i)perylene	3.09E-08	N/A	N/A	N/A
Chrysene	4.63E-08	N/A	N/A	N/A
Dibenzo(a,h)anthracene	3.09E-08	5.88E-05	N/A	N/A
Dichlorobenzene	3.09E-05	9.09E-03	8.00E+00	N/A
Fluoranthene	7.72E-08	N/A	N/A	N/A
Fluorene	7.21E-08	N/A	N/A	N/A
Formaldehyde	1.93E-03	7.69E-03	3.60E-02	3.70E+00
Hexane	4.63E-02	N/A	2.00E+00	N/A
Indeno(1,2,3,c,d)pyrene	4.63E-08	5.88E-05	N/A	N/A
Naphthalene	1.57E-05	N/A	1.40E-01	N/A
Phenanthrene	4.38E-07	N/A	N/A	N/A
Pyrene	1.29E-07	N/A	N/A	N/A
Toluene	8.75E-05	N/A	4.00E+00	N/A
Arsenic	5.15E-06	2.33E-05	5.00E-03	N/A
Beryllium	3.09E-07	4.17E-05	4.80E-05	N/A
Cadmium	2.83E-05	5.56E-05	3.50E-02	N/A
Chromium, total	3.60E-05	8.33E-06	2.00E-05	N/A
Cobalt	2.16E-06	N/A	N/A	N/A
Lead	1.29E-05	N/A	1.50E-02	N/A
Manganese	9.78E-06	N/A	5.00E-04	N/A
Mercury	6.69E-06	N/A	3.00E-03	3.00E-01
Nickel	5.41E-05	3.85E-04	2.40E-03	1.00E-02
Selenium	6.18E-07	N/A	5.00E-03	2.00E-02

VII. Health Risk Assessment

Since the modeled level of total chromium was above the established de minimis levels summarized in Table 1 above, a health risk assessment for total chromium was conducted to determine if the proposed RTO complies with the negligible risk requirements of MCA 75-5-215. Since the proposed RTO only emits minute amounts of HAPs, the Department determined that inhalation risk was the only necessary pathway to consider in the risk assessment. Only those HAPs for which there are established de minimis levels were evaluated. EPA estimates that approximately 17% of total chromium is in the form of chromium (VI) (40 CFR 63, Subpart DDDD, Appendix B, Section 5 (g)). The health risk assessment, shown in Table 2 below, demonstrated that the installation and operation of the RTO is in compliance with the requirement to demonstrate negligible risk to human health and the environment.

Table 2. Negligible Risk Assessment

Pollutant	Modeled Level ($\mu\text{g}/\text{m}^3$)	Cancer URF ⁽²⁾ ($\mu\text{g}/\text{m}^3$) ⁻¹	Cancer Risk ⁽³⁾	CNCREL ⁽⁴⁾ ($\mu\text{g}/\text{m}^3$)	CNCREL Quotient ⁽⁵⁾
Chromium (III) Compounds	2.99185E-05	N/A	N/A	N/A	N/A
Chromium (VI) Compounds	6.12788E-06	1.20E-02	7.353E-08	1.00E-04	6.13E-02
Chromium (VI) trioxide, chromic acid mist	6.12788E-06	N/A	N/A	8.00E-06	7.66E-01
TOTAL RISK			7.35E-08		8.27E-01

- (1) Source of chronic dose-response values is from Table 1: Prioritized Chronic Dose-Response Values for Screening Risk Assessments (6/12/07), from www.epa.gov/ttn/atw/toxsource/table1.pdf.
- (2) Cancer Chronic Inhalation Unit Risk Factor, units $1/\mu\text{g}/\text{m}^3$
- (3) Cancer Risk is unitless and is calculated by multiplying the predicted concentration by the URF.
- (4) Chronic Noncancer Reference Exposure Level
- (5) CNCREL Quotient Value is calculated by dividing the modeled HAP concentration by the CNCREL.

As documented in the above table and in accordance with the negligible risk requirement, no single HAP concentration results in Cancer Risk greater than $1.00\text{E}-06$ and the sum of all HAPs results in a Cancer Risk of less than $1.00\text{E}-05$. Further, the sum of the Chronic Noncancer Reference Exposure Level (CNCREL) hazard quotient is $8.27\text{E}-01$, which is less than 1.0 as required to demonstrate compliance with the negligible risk requirement.

VIII. Taking or Damaging Implication Analysis

As required by 2-10-105, MCA, the Department conducted the following private property taking and damaging assessment.

YES	NO	
X		1. Does the action pertain to land or water management or environmental regulation affecting private real property or water rights?
	X	2. Does the action result in either a permanent or indefinite physical occupation of private property?
	X	3. Does the action deny a fundamental attribute of ownership? (ex.: right to exclude others, disposal of property)
	X	4. Does the action deprive the owner of all economically viable uses of the property?
	X	5. Does the action require a property owner to dedicate a portion of property or to grant an easement? [If no, go to (6)].
		5a. Is there a reasonable, specific connection between the government requirement and legitimate state interests?
		5b. Is the government requirement roughly proportional to the impact of the proposed use of the property?

	X	6. Does the action have a severe impact on the value of the property? (consider economic impact, investment-backed expectations, character of government action)
	X	7. Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public generally?
	X	7a. Is the impact of government action direct, peculiar, and significant?
	X	7b. Has government action resulted in the property becoming practically inaccessible, waterlogged or flooded?
	X	7c. Has government action lowered property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?
	X	Takings or damaging implications? (Taking or damaging implications exist if YES is checked in response to question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to questions 5a or 5b; the shaded areas)

Based on this analysis, the Department determined there are no taking or damaging implications associated with this permit action.

IX. Environmental Assessment

An environmental assessment, required by the Montana Environmental Policy Act, was completed for this project. A copy is attached.

DEPARTMENT OF ENVIRONMENTAL QUALITY
Permitting and Compliance Division
Air Resources Management Bureau
P.O. Box 200901, Helena, Montana 59620
(406) 444-3490

FINAL ENVIRONMENTAL ASSESSMENT (EA)

Issued To: Roseburg Forest Products
Missoula Particleboard
PO Box 4007
Missoula, MT 59806

Air Quality Permit Number: 2303-15

Preliminary Determination Issued: 10/17/08

Department Decision Issued: 11/18/08

Permit Final: 12/04/08

1. *Legal Description of Site:* The Roseburg plant is located approximately 1 mile northwest of the Missoula, Montana city limits on Raser Road, in the NW $\frac{1}{4}$ of SW $\frac{1}{4}$ of Section 8, Township 13 North, Range 19 West, in Missoula County, Montana.
2. *Description of Project:* This EA incorporates the changes included in MAQP #2303-14 and the current permitting action #2303-15, as one project. For the most recent permitting action, the Department received a complete application from Roseburg on September 16, 2008, requesting that the Department modify MAQP #2303-14. In order to comply with the Plywood and Composite Wood Product MACT rule, Roseburg installed a RTO to control emissions of VHAPs from its existing wood-fired green furnish predryer. This RTO was installed on the outlet of the existing wet electrostatic precipitator and is fueled by natural gas. The installation of the RTO was permitted under MAQP #2303-14, which included a provision limiting the particulate matter emitted from the RTO to 0.10 gr/dscf corrected to 12% CO₂ and calculated as if no auxiliary fuel had been used. This limit is a BACT-derived limit intended to be consistent with ARM 17.8.316. However, since the issuance of MAQP #2303-14, Roseburg has discovered that the RTO is not capable of achieving this BACT-derived limit. Therefore, Roseburg proposes to modify the particulate BACT limit for the RTO in this permit action.
3. *Objectives of Project:* Installation of the RTO will result in a reduction of emissions of VHAPs from the wood-fired green furnish predryer.
4. *Alternatives Considered:* In addition to the proposed action, the Department also considered the “no-action” alternative. The “no-action” alternative would deny issuance of the air quality preconstruction permit to the proposed facility. However, the Department does not consider the “no-action” alternative to be appropriate because Roseburg demonstrated compliance with all applicable rules and regulations as required for permit issuance. Therefore, the “no-action” alternative was eliminated from further consideration.
5. *A Listing of Mitigation, Stipulations, and Other Controls:* A list of enforceable conditions, including a BACT analysis, would be included in Permit #2303-15.
6. *Regulatory Effects on Private Property:* The Department considered alternatives to the conditions imposed in this permit as part of the permit development. The Department determined

that the permit conditions are reasonably necessary to ensure compliance with applicable requirements and demonstrate compliance with those requirements and do not unduly restrict private property rights.

7. *The following table summarizes the potential physical and biological effects of the proposed project on the human environment. The “no-action” alternative was discussed previously.*

Potential Physical and Biological Effects							
		Major	Moderate	Minor	None	Unknown	Comments Included
A.	Terrestrial and Aquatic Life and Habitats			X			yes
B.	Water Quality, Quantity, and Distribution			X			yes
C.	Geology and Soil Quality, Stability, and Moisture			X			yes
D.	Vegetation Cover, Quantity, and Quality			X			yes
E.	Aesthetics			X			yes
F.	Air Quality			X			yes
G.	Unique Endangered, Fragile, or Limited Environmental Resource			X			yes
H.	Demands on Environmental Resource of Water, Air, and Energy			X			yes
I.	Historical and Archaeological Sites				X		yes
J.	Cumulative and Secondary Impacts			X			yes

SUMMARY OF COMMENTS ON POTENTIAL PHYSICAL AND BIOLOGICAL EFFECTS: The following comments have been prepared by the Department.

A. Terrestrial and Aquatic Life and Habitats

This permitting action would have a minor effect on terrestrial and aquatic life and habitats, as the proposed project would affect an existing, industrial property that has already been disturbed. Impacts to terrestrial life and habitats may occur as a result of the potentially increased air emissions (SO₂, NO_x, CO, VOC, PM₁₀, and PM). Habitat impacts could result in a change of diversity or abundance of terrestrial or aquatic life. However, this area does not appear to contain any critical or unique wildlife habitat or aquatic life and the project would occur in an already disturbed area.

B. Water Quality, Quantity, and Distribution

Minor, if any, impacts would be expected on water quality, quantity, and distribution from the proposed project because of the relatively small size of the project. While the facility would emit air pollutants, and corresponding deposition of pollutants would occur, as described in Section 7.F. of this EA, the Department determined that, due to dispersion characteristics of pollutants and the atmosphere and conditions that would be placed in Permit #2303-15, any impacts from deposition of pollutants on water quality, quantity, and distribution would be minor.

C. Geology and Soil Quality, Stability, and Moisture

Minor impacts would occur on the geology and soil quality, stability, and moisture from the proposed project because minor construction would be required to complete the project. Any impacts to the geology and soil quality, stability, and moisture from facility construction would be minor because the project would occur at an existing industrial site and on existing equipment.

Further, while deposition of pollutants would occur, as described in Section 7.F of this EA, the Department determined that deposition of pollutants in the areas surrounding the site would be minor due to dispersion characteristics of pollutants and the atmosphere and conditions that would be placed in Permit #2303-15. Overall, any impacts to the geology and soil quality, stability, and moisture would be minor.

D. Vegetation Cover, Quantity, and Quality

This permitting action would have a minor effect on vegetation cover, quantity, and quality. The proposed project would affect an existing, industrial property that has already been disturbed. No additional vegetation on the site would be disturbed for the project. The increase in potential levels of NO_x, CO, VOC, PM₁₀, and PM from historical emission levels might have a minor effect on the surrounding vegetation; however, the air quality permit associated with this project contains limitations to minimize the effect of the emissions on the surrounding environment. Overall, any impacts to vegetation cover, quantity, and quality would be minor.

E. Aesthetics

The proposed modification to the facility would be constructed in the area that has previously been disturbed and already has noise associated with its operation. The construction involved in the project would be limited to the construction of an RTO. Therefore, only minor impacts to aesthetics would be anticipated.

F. Air Quality

There would be air quality impacts resulting from the proposed project. The installation of the RTO would result in a significant decrease in emissions of VOCs and volatile organic hazardous air pollutants from the predryer exhaust. The combustion of natural gas in the RTO, however, would result in some increased emissions. The net emissions increases associated with the project would be as shown in the table below.

	PM	PM₁₀	CO	NO_x	VOC	SO₂
Potential Emissions Increases (TPY)	0.26	0.26	8.06	6.66	0.19	0.02

Deposition of pollutants would occur as a result of the project. However, the Department determined that any air quality impacts from deposition would be minor due to dispersion characteristics of pollutants (stack height, stack temperature, etc.), the atmosphere (wind speed, wind direction, ambient temperature, etc.) and conditions that would be placed in Permit #2303-15.

G. Unique Endangered, Fragile, or Limited Environmental Resources

The current permit action would result in an increase in emissions, which could result in minor impacts to existing unique endangered, fragile, or limited environmental resources in the area. The Department determined that the chance of the project impacting any endangered, fragile, or limited environmental resources in the area would be minor because of the reasons identified in the air quality impact analysis in Section 7.F of this EA. As explained in Section 7.F of this EA, due to the relatively small increase in emissions, dispersion characteristics of pollutants and the atmosphere, and conditions that would be placed in Permit #2303-15, any impacts from deposition of pollutants would be minor.

H. Demands on Environmental Resources of Water, Air, and Energy

As described in Section 7.B of this EA, this permitting action would have little to no effect on the environmental resource of water as there would be no discharges to groundwater or surface water associated with this permitting action.

As described in Section 7.F of this EA, the impact on the air resource in the area of the facility would be minor because the air emissions from the proposed project would be low and the facility would be required to maintain compliance with other limitations affecting the overall emissions from the facility. In addition, the project would not increase current water use at the facility.

There would be a minor impact on energy resources because the project would require the use of natural gas to run the RTO.

Actual levels of pollutant emissions may increase as a result of this project; however, this action would not include an increase in allowable levels. Previous modeling efforts, using allowable levels, showed compliance with National and Montana Ambient Air Quality Standards (NAAQS/MAAQS). Overall, this project would result in a minor effect on the air resource.

I. Historical and Archaeological Sites

The proposed project would take place within a previously disturbed industrial site. According to previous correspondence from the Montana State Historic Preservation Office, there is low likelihood of adverse disturbance to any known archaeological or historic site, given previous industrial disturbance within the area. Therefore, it is unlikely the proposed project would have an effect on any known historic or archaeological site.

J. Cumulative and Secondary Impacts

Overall, the cumulative and secondary impacts from the proposed project would be minor. No additional equipment or facilities would be expected to locate in the area due to the proposed project. Impacts to air, soil, and water quality would be minimized by conditions that would be placed in Permit #2303-15.

8. *The following table summarizes the potential social and economic effects of the proposed project on the human environment.* The "no-action" alternative was discussed previously.

Potential Social and Economic Effects							
		Major	Moderate	Minor	None	Unknown	Comments Included
A.	Social Structures and Mores				X		yes
B.	Cultural Uniqueness and Diversity				X		yes
C.	Local and State Tax Base and Tax Revenue				X		yes
D.	Agricultural or Industrial Production				X		yes
E.	Human Health			X			yes
F.	Access to and Quality of Recreational and Wilderness Activities				X		yes
G.	Quantity and Distribution of Employment				X		yes
H.	Distribution of Population				X		yes
I.	Demands for Government Services			X			yes
J.	Industrial and Commercial Activity				X		yes
K.	Locally Adopted Environmental Plans and Goals				X		yes
L.	Cumulative and Secondary Impacts			X			yes

SUMMARY OF COMMENTS ON POTENTIAL SOCIAL AND ECONOMIC EFFECTS:

The following comments have been prepared by the Department.

A. Social Structures and Mores

The proposed facility would not cause a disruption to any native or traditional lifestyles or communities (social structures or mores) in the area because the project would be constructed at a previously disturbed industrial site. The proposed project would not change the nature of the site.

B. Cultural Uniqueness and Diversity

The proposed project would not cause a change in the cultural uniqueness and diversity of the area because the land is currently used as a particleboard manufacturing plant; therefore, the land use would not be changing. The use of the surrounding area would not change as a result of this project.

C. Local and State Tax Base and Tax Revenue

The proposed project would not result in any impacts to the local and state tax base and tax revenue because the proposed project would not require new permanent employees to be hired.

D. Agricultural or Industrial Production

The proposed project would not result in any impacts to agricultural or industrial production because the proposed project would not displace any agricultural or industrial land. The

project would occur at the existing facility. While air emissions from the facility may increase and corresponding deposition of pollutants would occur, as described in Section 7.F. of this EA, the Department determined that any impacts from deposition would be minor due to dispersion characteristics of pollutants and the atmosphere and conditions that would be placed in Permit #2303-15.

E. Human Health

The installation of the RTO would result in only minor impacts to human health due to an increase in air emissions discharged from the facility. However, the emissions would not change significantly from prior levels. The project would not be expected to cause or contribute to any violations of the NAAQS/MAAQS, which are set to protect the public health. Roseburg conducted a health risk assessment and demonstrated that the project would present a negligible risk to human health. Also, any impacts would be minimized by maintaining compliance with the conditions of Permit #2303-15.

F. Access to and Quality of Recreational and Wilderness Activities

The proposed action would not alter any existing access to or quality of any recreational or wilderness area activities. This project would not have an impact on recreational or wilderness activities because the site is far removed from recreational and wilderness areas or access routes. Furthermore, the facility is contained on private property and would continue to be contained within private property boundaries.

G. Quantity and Distribution of Employment

The proposed project would not result in any impacts to the quantity or distribution of employment at the facility or surrounding community. No employees would be hired at the facility as a result of the project.

H. Distribution of Population

The proposed project would not involve any significant physical or operational change that would affect the location, distribution, density, or growth rate of the human population.

I. Demands of Government Services

There would be a minor impact on demands of government services because of the required permit issuance; however, no additional time (beyond what is currently dedicated) would likely be required by government agencies to assure compliance with applicable rules, standards, and Permit #2303-15.

J. Industrial and Commercial Activity

No impacts would be expected on the local industrial and commercial activity because the proposed project would take place at an existing facility. No additional industrial or commercial activities would be expected to take place in the area due to the project.

K. Locally Adopted Environmental Plans and Goals

The Department is not aware of any locally adopted environmental plans and goals that would be affected by issuing Permit #2303-15. Roseburg would be required to maintain compliance with the applicable ambient air quality standards. The SIP demonstration of

attainment indicated that the emission limitations contained in Permit #2303-15, along with control measures applied to other sources, will bring the Missoula area into compliance with the PM₁₀ standards. The state standards would protect the proposed site and the environment surrounding the site.

L. Cumulative and Secondary Impacts

Overall, the social and economic cumulative and secondary impacts from this project would be minor because the proposed project would take place at the existing facility. New businesses would not be drawn to the area and permanent jobs would not be created or lost due to the proposed project. Because no new employees would be hired for the proposed project, there would be no economic impacts from new employees.

Recommendation: An Environmental Impact Statement (EIS) is not required.

If an EIS is not required, explain why the EA is an appropriate level of analysis: The impacts resulting from this project would not be significant in that the installation of the RTO would be considered a pollution control project and a benefit to the environment. Permit #2303-15 would include conditions and limitations to ensure the facility would operate in compliance with all applicable rules and regulations.

Other groups or agencies contacted or that may have overlapping jurisdiction: Montana Natural Heritage Program - Natural Resource Information System

Individuals or groups contributing to this EA: Department of Environmental Quality - Air Resources Management Bureau

EA prepared by: Moriah Peck, P.E.

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