Lane Regional Air Protection Agency
Air Contaminant Discharge Permit

REVIEW REPORT

Rexius Forest By-Products, Inc. **Permit No. 207075**

1. General Background Information

Rexius Forest By-Products, Inc. (Rexius) produces miscellaneous wood products (landscaping and garden materials, industrial fuel, etc.) at its 1300 Bailey Hill Road, Eugene, Oregon, facility. The regulated emission units are various storage/market piles, screens, materials handling equipment, a biofilter, and two (2) diesel-fired horizontally-fed grinders. Air contaminant emissions from this operation include all criteria pollutants (PM, PM_{10}, NO_X, CO, SO_2, and VOC). A gas-fired wood shavings dryer that was permitted under the previous ACDP was destroyed in a fire at the facility and not replaced. The gas-fired wood shavings dryer has been removed as a permitted source from the permit.

2. Reason for Permit Action

The primary reason for the permit action is to renew the expired permit. In prior renewal actions on this permit, emissions were considered minimal but the facility was issued a regular permit because of the number of odor complaints LRAPA receives relative to this facility. This renewal incorporates generic Plant Site Emission Limits (PSELs) that supplant the source-specific PSELs and removes the hourly PSELs in accordance with regulations adopted in 2008. Monitoring and recordkeeping are expanded in this renewal to include additional information collected on a frequency that will allow the facility and LRAPA to verify compliance with the PSELs.

3. Complaints and Enforcement Actions

During the previous permit term the following enforcement-related actions occurred:

Notice of Civil Penalty (NCP) No. 07-2902 was issued to the facility on September 12, 2007 for failure to take reasonable precautions to prevent particulate matter from becoming airborne while operating wood chipping/hogging equipment on August 14, 2007. Stipulated Final Order (SFO) No. 07-2902 was signed on October 29, 2007 which included a reduction in the civil penalty from $1,600 to $800. The facility paid the $800 civil penalty and the file was closed.

NCP Assessment No. 06-2891 was issued to the facility on November 28, 2006 for failure to promptly and fully extinguish burning as a result of a compost pile fire that occurred on October 16, 2006. The NCP imposed a $1,000 civil penalty; however LRAPA agreed to change the violation from moderate to minor which changed the civil penalty amount to $500. The facility paid $500 for NCP 06-2891 on June 12, 2007 and the violation was resolved.

Notice of Non-compliance (NON) No. 06-2888 was issued to the facility on October 17, 2006 for failure to take reasonable precautions to prevent particulate matter from becoming airborne from activity related to a front end loader moving freshly ground wood. The facility was instructed to use water spray or otherwise take reasonable precautions to prevent particulate matter from becoming airborne and the file was closed on November 20, 2006.

4. Plant Site Emission Limits (PSELs)

The PSELs were revised with this renewal by setting them at the Generic PSEL level and removing the hourly PSELs in accordance with new rules adopted in 2008.

The **annual emission limits** are as follows:

		tons/yr
PM	=	24
PM_{10}	=	14
NO_X	=	39
CO	=	99
SO_2	=	39
VOC	=	39

The baseline (or netting basis) is unknown for this facility, although it is known that it operated in the baseline years (1977, 1978). However the facility has chosen to obtain a Simple ACDP and forego any credits for actual emissions in the baseline years by not obtaining a Standard ACDP. The baseline is therefore zero (0) tons per year for all pollutants.

5. Performance Standards and Emissions Limits

Particulate emissions from the facility shall not exceed 0.1 grain per standard dry cubic foot (dscf). Emissions from the facility shall not exceed 20% opacity for a period or periods aggregating more than three (3) minutes in any one (1) hour. The PM emissions from the facility are not expected to exceed the limits allowed under LRAPA's process weight rule. (LRAPA 32-045)

6. Monitoring, Reporting and Continuous Compliance

The facility is required to maintain records of the amount of natural gas consumed each month (MM BTU), maintenance activities on the water spray system on the horizontally-fed grinders, hours, fuel type and quantity used in the grinders each month (gallons), monthly records of the type and amount of material through each pile (tons), and monthly records of the hours of mixer operation (hrs).

The facility is required to submit an annual report by March 15th each year. The report is to include the records of calendar year hours, fuel type and quantity used in the grinders required to be monitored by the facility.

7. Production Limits

The permit contains no production limits.

8. Public Notice

The draft permit was on public notice from September 28, 2009 to November 2, 2009. No written comments were submitted during the 35-day comment period.

Max/cmw
12/15/09

Rexius Emission Estimates

Paved Roads-PM10

E=(K)(Sl/2)^^0.65(W/3)^^1.5

K=	7.3	g/VMT for PM10	
Sl=	76	g/M^^2	Low end of range for unpaved sawmill roads per AP-42=4.8%, Corresponds roughly to AP-42 asphalt batching paved range
W=	17.5	tons	=average of empty and loaded truck weight
E=	1094.1009	g PM10/VMT	

Total VMT	1480	Miles travelled by truck each year according to renewal application			
Total PM10	1619269.4	g/yr	3566.673	lb/yr	1.8 tons/year

Pile Emissions: PM10 and VOC

Use similar activities at sand and gravel operations:

PM10*2.1 = TSP

Screening	0.015	lb PM10/ton	AP-42 Table 11.19.2-2
Crushing	0.00059	lb PM10/ton	AP-42 Table 11.19.2-2 (representative for Peterson Grinder?)
Load in/out	0.0014	lb PM10/ton	AP-42 Table 11.19.2-2

Load in/out

Total of	13775	tons/year into and out of piles
PM10	38.57	lb/yr
TSP	80.997	lb/yr

Screening (assume all piled material screened)

PM10	206.625	lb/yr
TSP	433.9125	

Grinding (assume maximum of 20,000 tons ground per year)

PM10	11.8	lb/yr
TSP	24.78	lb/yr

Mixing: Use stated acfm: 11225, average temp: 225 F, and Regulatory limit of 0.1 grains per dscf

assume operation of 8 hr/d,7d/wk,52 wk/yr 2912 hr/yr

Exhaust Flow	11225	acfm	8601.953 scfm
Average Temp	225	deg F	
TSP Conc.	0.1	grains/dscf	

TSP	21470.476	lb/yr	10.73524	ton/yr
PM10	10224.036	lb/yr	5.112018	ton/yr

Storage Pile VOC:

Emission factors from NCASI Technical Bulletin 723, Page 14:

Hogged Fuel	0.27	lb C/dry ton
Bark	0.63	lb C/dry ton
Sawdust	1.66	lb C/dry ton
Chips/garden compost	0.72	lb C/dry ton

				VOC as C	
Garden Compost	8000	tons/yr	50% Moisture	2880	
Chips	80	tons/yr	45% Moisture	31.68	
Hogged Fuel	2125	tons/yr	50% Moisture	286.875	
	500	tons/yr	40% Moisture	81	
Sawdust	100	tons/yr	45% Moisture	91.3	
Bark	1500	tons/yr	45% Moisture	519.75	
		Total	lb/yr	3890.605	1.9 ton/yr

A rough conversion for VOC as C to Actual VOC is 1.22*(VOC as C): Actual VOC: 2.4 ton/yr

Peterson and Portable Grinder Combustion Emissions:

Assume : 1750 hr/yr each 36 gal diesel/hr each

Pollutant	Total Max Rate mmBTU/hr	Emission Factor lb/mmBTU	Hourly Emissions lb/hr	Annual Emissions ton/yr
NOx	10	4.41	44.10	38.59
CO	10	0.95	9.50	8.31
SOx	10	0.29	2.90	2.54
PM10	10	0.31	3.10	2.71
VOC	10	0.36	3.60	3.15

Density of diesel ~ 7.3 lb/gal
Heating value of diesel ~ 19,300 BTU/lb
Emission Factors from AP-42 Table 3.3-1
Fuel rate is max design for Peterson 2400 Grinder with Cat C18 Engine and an "older" 800Hp engine

Facility totals:

	ton/yr
NOx	38.59
CO	8.31
SOx	2.54
PM10	9.74
TSP	13.72
VOC	5.52