Lane Regional Air Protection Agency
Simple Air Contaminant Discharge Permit

REVIEW REPORT

Rexius Organics Processing Facility **Permit No. 207092**
92574 North Coburg Road
Eugene, Oregon 97408
http://www.rexius.com/

Source Information:

SIC	2499 – Wood Products, Not Elsewhere Classified
NAICS	321999 All Other Misc. Wood Product Mfg.

Source Categories (LRAPA Title 37, Table 1)	B.75 Source which would emit 10 tons/yr or more of any single criteria pollutant
Public Notice Category	II

Compliance and Emissions Monitoring Requirements:

Unassigned emissions	No
Emission credits	No
Special Conditions	No
Compliance schedule	No

Source test [date(s)]	See Permit
COMS	No
CEMS	No
Ambient monitoring	No

Reporting Requirements:

Annual report (due date)	March 15
NSPS Report (due date)	No
Monthly report (due dates)	No

Excess emissions report	No
Other reports	No

Air Programs:

NSPS (list subparts)	No
NESHAP (list subparts)	No
CAM	No
Regional Haze (RH)	No
Synthetic Minor (SM)	No
Part 68 Risk Management	No
Title V	No
ACDP (SIP)	No
New Source Review (NSR)	No
Prevention of Significant Deterioration (PSD)	No
Acid Rain	No
Clean Air Mercury Rule (CAMR)	No
TACT	No

1. General Background Information

Rexius Forest By-Products, Inc. owns the Rexius Organics Processing Facility ("Rexius" and/or "the facility") which produces miscellaneous wood products (landscaping and garden materials, industrial fuel, etc.) at its 92574 North Coburg Road, Coburg, Oregon, facility (address is still "Eugene"). The regulated emission units include but are not limited to various storage/market piles, a bagging process, diesel-fired screens, diesel-fired conveyor, diesel-fired fan, and diesel-fired horizontally-fed grinders. A propane-fired specialty products (wood) dryer is also included. Air contaminant emissions from this operation include all criteria pollutants (PM, PM_{10}, $PM_{2.5}$, NO_X, CO, SO_2, and VOC). The Coburg facility does not employ biofiltration control that existed at the Eugene location.

2. The Standard Industrial Classification (SIC) code was changed with this renewal to match the SIC listed on the facility's renewal application. It does not constitute a determination that the facility is a new stationary source under the definition in LRAPA's Title 12 Definitions, but rather is a refinement in the description. The SIC was changed from 1799 – Special Trade Contractors to 2499 – Wood Products, Not Elsewhere Classified.

3. Reason for Permit Action

The primary reason for the permit action is to issue a renewed permit. The prior permit (source number 207075) was terminated in September 2013 when all materials were moved to the new site. The Coburg facility processes the same materials and operations that were employed at the Bailey Hill location. As part of the previous new permit issuance the Title 37, Table 1 permitted activity has been changed from "source of concern" (B.74) to "source with emissions greater than 10 tons/yr for any criteria pollutant" (B.75). Emission estimates for NOx and PM are both greater than 10 tons/year. Because actual emissions are greater than 10 tons/year, the facility is invoiced each year for the Simple "High" ACDP Fees.

4. Emission Unit Description

The facility has the following emission units and/or activities regulated by the permit.

Emission Unit (EU) Identification	EU Name	Pollution Control Description (PCD)
Grinders	Two (2) Peterson Pacific Grinders, diesel-fired: • Grinder #1: 860 Hp, Date Mfg = 1997 • Grinder #2: 765 Hp, Date Mfg = 2005	Water spray system
Screens	Four (4) Shaker Screens, diesel-fired: • Screen #1: 76 Hp, Date Mfg = 2005 • Screen #2: 76 Hp, Date Mfg = 2002 • Screen #3: 76 Hp, Date Mfg = 1996 • Screen #4: 108 Hp, Date Mfg = 2013	NA
Dryer	One (1) Specialty Wood Products Dryer, propane-fired, 2000 BDT/year dried	NA
Bagger	One (1) Bagger	Baghouse # 1
Piles	Storage and Market Piles	NA
Conveyor	One (1) Stacking Conveyor, diesel-fired: • Conveyor: 38 Hp, Date Mfg = 2014	NA
Fan	One (1) Fan Engine, diesel-fired: • Fan: 70 Hp, Date Mfg = 1980, Date Installed = 2015	NA

5. Complaints and Enforcement Actions

There have been no enforcement actions performed against this facility. The Bailey Hill facility historically received numerous odor complaints, but LRAPA has not received any complaints for this facility at the current location.

6. Plant Site Emission Limits (PSELs)

The PSELs were revised with the issuance of the previous permit 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:

Source	NO_X	CO	SO_X	$PM_{2.5}$	PM_{10}	PM	VOC
Forest Organics Processing Facility	39	99	39	9	14	24	39

a. The proposed PSELs for all pollutants are equal to the Generic PSEL in accordance with LRAPA 37-0064(3)(b) and the netting basis is zero in accordance with 42-0040(2).
b. A PSEL for GHGs is not included in this permit since emissions of this pollutant are less than the respective de minimis emission rate.
c. The PSEL is a federally enforceable limit on the potential to emit.
d. The facility is required to submit fuel usage and hours of operation to assure compliance with the PSELs.

7. Performance Standards and Emissions Limits

Particulate emissions from the facility are limited to exceed 0.10 grain per standard dry cubic foot (dscf). Emissions from the non-fugitive sources at the facility are limited to 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)

8. Hazardous Air Pollutants/Toxic Air Contaminants

Under the Cleaner Air Oregon program, only existing sources that have been notified by LRAPA and new sources are required to perform risk assessments. This source has not been notified by LRAPA and is therefore, not yet required to perform a risk assessment or report annual emissions of toxic air contaminants.

LRAPA required reporting of approximately 600 toxic air contaminants in 2016 and regulates approximately 260 toxic air contaminants that have Risk Based Concentrations established in rule. All 187 hazardous air pollutants are on the list of approximately 600 toxic air contaminants. The hazardous air pollutants and toxic air contaminants listed below were reported by the source in 2016 and verified by LRAPA. After the source is notified by LRAPA, they must update their inventory and perform a risk assessment to see if they must reduce risk from their toxic air contaminant emissions. Until then, sources will be required to report toxic air contaminant emissions triennially.

This source is not a major source of hazardous air pollutants. The HAP emissions detail is

provided at the end of this report. Provided below is a summary of the HAP and toxic air contaminant emissions. These HAPs/toxics are emitted from the diesel combustion sources at the facility.

Hazardous Air Pollutant/Toxic Air Contaminants	2016 Actual Emissions (pounds/year)
Dibenz[a,h]anthracene	0.0014
Benzo[a]pyrene	0.0008
Benzene	2.8128
Benzo[b]fluoranthene	0.0029
Fluoranthene	0.0172
Naphthalene	0.4039
Formaldehyde	1.3080
Benz[a]anthracene	0.0031
Acrolein	0.1068
Chrysene	0.0041
Indeno[1,2,3-cd]pyrene	0.0014
Acetaldehyde	0.7852
1,3-Butadiene	0.0368
Benzo[k]fluoranthene	0.0007
Benzo[g,h,i]perylene	0.0018
Xylenes	0.7494
Propylene	9.3868
Toluene	1.0856
Total	16.7 pounds/year

9. New Source Performance Standards (NSPS) Applicability

The facility has several reciprocating internal combustion engines (RICEs) used to power the grinders, screen, conveyor and fan. The facility indicates that these periodically move about the facility over the course of a calendar year. As such, they are considered nonroad engines as defined under 40 CFR 1068.30 and not regulated by the New Source Performance Standards for Compression Ignition Reciprocating Internal Combustion Engines (CI RICE NSPS).

Portable sources that remain stationary for a ‘season’ or 12-consecutive months are considered a stationary source and not a nonroad engine, thereby subject to RICE regulations. The permit requires the facility to apply for and obtain a revised permit if any of the engines remain stationary for a “season” or 12-consecutive months, and to certify the non-stationary status in the annual report, and to certify annually whether or not their statuses continue to be non-stationary.

10. National Emission Standards for Hazardous Air Pollutants (NESHAPs) Applicability

There are no sources at the facility subject to any NESHAP.

11. Greenhouse Gas Reporting Program Applicability

The potential emissions from the facility are estimated (at 339 metric tons/year) to be well below the 2,500 metric ton/year reporting threshold in terms of carbon dioxide equivalents.

12. Typically Achievable Control Technology (TACT)

LRAPA Title 32-008 requires a new emission unit at a facility to meet TACT if the emissions unit is not subject to the emissions standards under LRAPA Title 32, Title 33, Title 39, or Title 46 for the pollutants emitted, and the facility is required to have a permit. The engines on the grinders and screens typically do not have add-on controls for NOx and, therefore, meet TACT. While a formal TACT determination has not been evaluated, LRAPA determined that the use of water sprays to control fugitive particulates meet TACT on the storage piles and grinding and screening emission units.

13. Monitoring, Reporting and Continuous Compliance

The facility is required to maintain records of maintenance activities on the water spray system on the horizontally-fed grinders, and hours, fuel type and quantity used in the grinders, conveyor, fan, and screens each month (gallons) as well as the propane used in the dryer (pounds or gallons).

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 and fuel quantity used in the grinders, screens, conveyor, fan and dryer required to be monitored by the facility.

14. Production Limits

The permit contains no production limits. The potential to emit for all pollutants are less than the PSELs.

15. Categorically Insignificant Activities

The facility has several diesel-fired engines that could be classified as Categorically Insignificant Activities (CIAs) in accordance with the definition in LRAPA's title 12 since they are rated at less than 0.4 MMBtu/hr (157 Hp). However, collectively, the expected actual emissions from the engines exceed the de minimis level for NOx. The facility may identify a subgroup of such equipment as categorically insignificant with the remainder not categorically insignificant. The draft permit does not designate any engine as being categorically insignificant.

16. Public Notice

The draft permit was on public notice from November 25, 2019 to December 26, 2019. No written comments were submitted during the 30-day comment period.

Max/cmw
12/27/19

Emission Details:

Storage Pile Particulate

Pollutant	Throughput (BDT/yr)	Emission Factor (lb/ton)	Annual Emissions (tons/yr)
PM	25,000	0.1	1.3
PM10	25,000	0.047	0.6
PM2.5	25,000	0.015	0.2

PM and PM10 emission factors from Kinsgford Title V Permit for Storage Pile (engineering estimate based upon EPA's AP42 for aggregate material storage)
PM2.5 fraction (0.15) from DEQ AQEF-08

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		
		12305	tons/yr	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

Grinder Combustion Emissions:				
Assume :	600	hr/yr each		
		Emission	Emissions	Annual
	Total	Factor	Rate	Emissions
Pollutant	Hp	lb/hp-hr	lb/hr	ton/yr
NOx	1625	0.024	39.00	11.70
CO	1625	5.50E-03	8.94	2.68
SOx	1625	0.004045	6.57	1.97
PM/PM10/PM2.5	1625	0.0007	1.14	0.34
VOC	1625	7.05E-04	1.15	0.34
Emission Factors from AP-42 Table 3.4-1 for Large Diesel Engines (>600 Hp)				
Grinder #1 is a Peterson Pacific 7400, rated at 860 Hp				
Grinder #2 is a Peterson Pacific 4710, rated at 765 Hp				
Assume all PM = PM2.5				
Screen, Conveyor and Fan Engine Combustion Emissions:				
Assume :	1200	hr/yr each		
		Emission	Emissions	Annual
	Total	Factor	Rate	Emissions
Pollutant	Hp	lb/hp-hr	lb/hr	ton/yr
NOx	444	0.031	13.76	4.13
CO	444	6.96E-03	3.09	0.93
SOx	444	5.91E-04	0.26	0.08
PM/PM10/PM2.5	444	7.21E-04	0.32	0.10
VOC	444	2.51E-03	1.12	0.33
Emission Factors from AP-42 Table 3.3-1 for Diesel Engines rated < 600 Hp				
Screen #1 is a CEC, rated at 76 Hp				
Screen #2 is a CEC, rated at 76 Hp				
Screen #3 is a CEC, rated at 76 Hp				
Screen #4 is a Terra Select, rated at 108 Hp				
Conveyor it's a Telestack, rated at 38 Hp				
Fan Engine is a Deutz, rated at 70 Hp				
Assume all PM = PM2.5				

Drying Emissions:			
Assume :	2000	BDT/yr	
	Emission Factor	Annual Emissions	
Pollutant	lb/ODT	ton/yr	
NOx	0.31	0.31	
CO	0.12	0.12	
SOx	--	--	
PM/PM10/PM2.5	0.54	0.54	
VOC	2.00	2.00	

Emission factors are from AP-42 Table 10.6.2-1, 2 and 3 for a dryer, green wood, natural gas-fired, uncontrolled
These represent the best available factors for the specialty products dryer at Rexius.
Assume all PM = PM2.5

Baghouse Emissions:

Baghouse #1 collects:	1.56	BDT/year
Tons to baghouse:	1.56	BDT/year
Tons to atomosphere:	0.0015616	ton/yr

Baghouse estimated to be 99.9% efficient
Bagger building baghouse installed in 2013
Assume all PM = PM2.5

Facility totals:	**PTE**	**PSEL**	
	ton/yr	ton/yr	
NOx	16.1	39	
CO	3.7	99	
SOx	2.1	39	
PM2.5	0.6	9	
PM10	1.6	14	
PM	2.2	24	
VOC	5.1	39	
GHG	339	NA	metric tons CO2e

PTE is the potential to emit
PSEL is the Plant Site Emission Limit

HAPs/Toxics			
		2016 Actual Fuel Usage:	Projected Maximum
Two Grinders >600 Hp		17930	25000
Three Screens < 600 Hp		6776	9500
	Pollutant	2016 Actual Emissions (pounds/year)	
	Dibenz[a,h]anthracene	0.001411432	
	Benzo[a]pyrene	0.000817584	
	Benzene	2.812760632	
	Benzo[b]fluoranthene	0.002859758	
	Fluoranthene	0.017211433	
	Naphthalene	0.403865167	
	Formaldehyde	1.308039623	
	Benz[a]anthracene	0.003132523	
	Acrolein	0.106761508	
	Chrysene	0.004145651	
	Indeno[1,2,3-cd]pyrene	0.001384999	
	Acetaldehyde	0.785214892	
	1,3-Butadiene	0.036826882	
	Benzo[k]fluoranthene	0.000689304	
	Benzo[g,h,i]perylene	0.001846274	
	Xylenes	0.74943935	
	Propylene	9.38684912	
	Toluene	1.085550246	
	TOTAL	16.7	pounds/year
	Emissions are based on the emision factors in AP-42		