Lane Regional Air Protection Agency
Air Contaminant Discharge Permit

REVIEW REPORT

Grain Millers, Inc. **Permit No. 203136**

1. General Background Information

Grain Millers, Inc. operates a cereal processing facility in Eugene, Oregon. The facility uses two (2) cyclones, 21 filters, and four (4) silo baghouses to control emissions from the operation. Other emissions are from two (2) natural gas-fired boilers. With this renewal the permit authorizes the operation of a new boiler that will not exceed 6.7 MMBTU/hr to replace a malfunctioning 4.8 MMBTU/hr boiler. The operating schedule for the facility is 8,400 hours per year (24 hours per day, 7 days per week, and 50 weeks per year).

2. Reasons for Permit Action

The facility operates a process listed in Table A, Part II, of LRAPA Title 34 and is,therefore, required to obtain a permit. The facility's ACDP expires on February 28, 2009. The primary reason for the permit issuance is to renew the expired permit.

3. Enforcement History

The facility was issued a Notice of Non-Compliance (NON) on September 9, 1998 (NON 1495) for conducting an asbestos abatement project without complying with LRAPA 43-015 through 9A.

4. Performance Test Results

There is no record of any performance testing completed at the facility.

5. Plant Site Emission Limits

Plant Site Emission Limits (PSELs)

In accordance with LRAPA 42-0040, the PSELs in the permit will be set at the Generic PSEL level.

As part of the renewal, the facility elected to obtain a Simple "High" ACDP and forego any future use of baseline emission rate. The Baseline Emission Rate is therefore set to zero (0) tons/year for all criteria pollutants. All short term PSELs were eliminated as per LRAPA 42-0042. The facility is required to perform monthly recordkeeping and PSEL calculations to determine compliance with the PM and PM10 PSELs. The facility is required to record fuel combusted in the boilers and report information about PSELs and fuel combustion in an annual report. Because emissions associated with the maximum design rate for the boilers is well below the Generic PSEL level, the facility is only required to track and report fuel combustion – PSEL calculations for the boilers is not necessary.

Annual PSEL
(tons)

Source	PM	PM_{10}	SO_2	NO_X	CO	VOC
Totals	24	14	39	39	99	39

The attachment to this Review Report contains the calculations and further explanation of the emissions estimates.

Baseline Emission Rates (BERs) and Significant Emission Rate (SER) Comparison
Baseline emission rates from the table below represent estimated actual emissions from 1978 as established in the previous permit. The BER (tons per year) were established in the previous permit for the facility and are as follows:

Pollutant	Baseline Emissions (tons/yr)	Proposed PSEL (tons/yr)	Increase from Baseline	SER (tons/yr)
PM	0	24	24	25
PM_{10}	0	14	14	15
CO	0	99	99	100
NO_x	0	39	39	40
VOC	0	39	39	40
SO_2	0	39	39	40

6. Other Emission Limitations

The permit includes general visible emissions limitations for the facility. The permit also includes general mass emission limitations for the facility.

7. Hazardous Air Pollutants (HAPs)

The projected HAP emissions from the facility are expected to be minimal.

8. Typically Achievable Control Technology (TACT)

LRAPA Title 32-008 requires an existing emission unit at a facility to meet TACT if the emissions unit has emissions of criteria pollutants greater than ten (10) tons per year of any gaseous pollutant or five (5) tons per year of particulate, 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 facility emits greater than five (5) tons per year of PM and is, therefore, required to meet TACT. The type of controls used by the facility are considered TACT by LRAPA.

9. New Source Review (NSR) and Prevention of Significant Deterioration (PSD)

Because the proposed PSELs for all regulated pollutants are below the Significant Emission Rates (SERs) in LRAPA Title 38, the facility is not subject to LRAPA's New Source Review (NSR) requirements for PM_{10} nor the Prevention of Significant Deterioration (PSD) requirements for SO_X, NO_X, CO, and VOC.

10. New Source Performance Standards (NSPS)

There are no emission units at the facility that are subject to any New Source Performance Standards.

11. Continuous Compliance

A record of the following data is required to be maintained for a period of two (2) years at the plant site and to be available for inspection by authorized representatives of LRAPA: [LRAPA 34-070(5)]

	Parameter	Minimum Recording Frequency
a.	Monthly throughput for each grain-handling and receiving unit listed in permit Condition 2.	Monthly
b.	Emissions calculations as specified in permit Condition 4.	Monthly
c.	Monitor pressure readings of each filter and baghouse* and record in a log.	Weekly
d.	Record in a log maintenance of baghouses.	As Performed
e.	Boiler fuel throughput	Annualy

* excludes bin-type baghouses

12. Reporting

a. An annual summary to document compliance with the Plant Site Emission Limits is required to be submitted. The summary will contain the PM/PM_{10} emission data as required per permit Condition 4 and the recordkeeping information in Condition 11.

b. The annual summary is due thirty (30) days after the end of each calendar year. [LRAPA 34-070(5)]

c. The facility is required to notify LRAPA immediately if the PSEL monitoring calculations show that an exceedance has occurred.

d. The annual summary will also report any information as required per General Condition G15.

13. Public Notice

The draft permit was on public notice from February 18, 2009 to March 19, 2009. No written comments were submitted during the 30-day comment period.

MAX/cmw
3/24/09

Boiler (Manufacturer Unknown at this time) -Natural Gas

Pollutant	Max Design capac (cubic ft/hr)	emission factor (lbs/10^6 ft^3)	Conversion Factor (tons/lb)	Annual Emissions (tons)	Hourly Emissions (pounds)
PM	7,800	7.6	0.0005	0.3	0.1
SO2	7,800	0.6	0.0005	0.0	0.0
NOx	7,800	100	0.0005	3.4	0.8
CO	7,800	84	0.0005	2.9	0.7
VOC	7,800	5.5	0.0005	0.2	0.0

Boiler operates 8760 hours per year.
Boiler operates at a maximum rate of 7.8 MM Btu/hr.
Boiler operates at a maximum rate of 7,800 cubic feet per hour (1 cubic foot of natural gas = 1000 BTU).
Gaseous emission factors are obtained from AP-42 table 1.4-2 (3/98).
Annual Emissions (tons) = maximum gas usage x emission factor x 1 ton/2000 pounds x 8760 hours per year x 1/10^6.
Hourly Emissions (pounds) = Max gas usage x emission factor x 1/10^6.

Boiler (Hurst) -Natural Gas

Pollutant	Max Design capac (cubic ft/hr)	emission factor (lbs/10^6 ft^3)	Conversion Factor (tons/lb)	Annual Emissions (tons)	Hourly Emissions (pounds)
PM	4,200	7.6	0.0005	0.1	0.0
SO2	4,200	0.6	0.0005	0.0	0.0
NOx	4,200	100	0.0005	1.8	0.4
CO	4,200	84	0.0005	1.5	0.4
VOC	4,200	5.5	0.0005	0.1	0.0

Grain Process Emissions

Grain Handling

Equipment	throughput (tons)	control efficiency	fraction PM-10	PM emissions (tons/year)	PM-10 emissions (tons/year)	PM/PM10 emissions (pounds/month)
Kiln Dryer Cyclone^ (EU No. 1)	0.69	94	1	0.0	0.0	
Roof Filter #2 (EU No. 2)	704	99.99	1	0.1	0.1	
Roof Filter #1 (EU No. 1)	484	99.99	1	0.0	0.0	
#1 Filter (EU No.5)	78	99.99	1	0.0	0.0	
#2 Filter (EU No. 6)	870	99.99	1	0.1	0.1	
Hammermill Filter (EU No. 8)	9600	99.99	1	1.0	1.0	
Flakline Filter (EU No. 7)	832	99.99	1	0.1	0.1	
Mixplant Filter #1 and #2 (EUs 9&10)	1,500	99.99	1	0.1	0.1	
Flour Silos (#1-4) Baghouses (EU No. 11)	500	99.99	1	0.0	0.0	
Flakeline filter #2 (EU No. 15)	1020	99.99	1	0.1	0.1	
G-Mill Filter (EU No. 16)	11,000	99.99	1	1.1	1.1	
MPF General Aspriration Filter (EU No. 17)	550	99.99	1	0.1	0.1	
Filtered Storage Bin (EU No. 18)	11,000	99.99	1	1.1	1.1	
Relocated Specialty Cleaning Filter (EU No. 19)	1,911	99.99	1	0.2	0.2	
Whole Oat Flour Filter (EU No. 20)	8,400	99.99	1	0.8	0.8	
Specialty Flour Mill Filter (EU No. 21)	16,800	99.99	1	1.7	1.7	
Prater Mill Filter (EU No. 22)	8,400	99.99	1	0.8	0.8	
MPF Sifter Filter (EU No. 23)	11,000	99.99	1	1.1	1.1	
Groats Cooler/Filter (EU No. 24)	36,000	99.99	1	3.6	3.6	
Total	120649.69			**1.5**	**1.5**	**299.64**

^ This is a wet cyclone.
The Pellet Cooler (previously emission point #2 now exhausts into the inlet of Filter #2 (Emission point #6)
The Kiln Dryer Cyclone has a rated efficiency of approximatley 94%.
There is no actual raw material throughput to the cyclone.
The cyclone handles air that is used to cool raw material throuhgput.
The air is exhausted through the cyclones and it is estimated that only 0.5% of the raw material throughput is entrained in air exhaust to the cyclone.
The factors are based on engineering judgement, LRAPA observing no visible emissions at any time from the cyclones,
cooling air condenses in cyclones to cause wet scrubber effect,
and the amount of material captured by cyclones and sewered, and known weights of retrained raw material throughput.
Because an estimated 99.5% of the throughput exits the cyclones as product, only 0.05% enters the air stream and is required to be controlled.
This is based on engineering judgement, prior LRAPA compliance inspection experience and facility experience.
Therefore the emissions from the Pellet Cooler Cyclone = 0.05 x 112 tons throughput/year = 6.9 tons x (1 - 0.94)
And, the emissions from the Kiln Dryer Cyclone = 0.05 x 138 tons throughput/year = 5.6 tons x (1-0.94).
Mixplant Filter #1 and #2 exhaust to ambient for the warm months of the year (approx. 6 months/year).
The throughput for the Mixplant Filters is estimated to be 10% of the total material handled at the mixplant facilty (i.e. 10% of 15,000 tons).
Monthly = annual emissions x 2000 pounds / 12 months per year x 1.2 to allow for month to month fluctuations in throughput

Grain Receiving

Total Grain Received (tons/year)	PM Emission Factor (lbs PM/ ton grain)	PM10 Emission Factor (lbs PM10/ ton grain)	PM Annual Emissions (tons)	PM10 Annual Emissions (tons)	PM Monthly Emissions (pounds)	PM10 Monthly Emissions (pounds)
70,000	0.032	0.0078	**1.1**	**0.3**	**186.7**	**45.5**

Total grain received is the projected amount of product the facility expects to handle on a yearly basis throughout the permit term.
Emission factors are from AP-42 Table 9.9.1-1(5/98) for Grain receiving for a railcar.
Annual Emissions = total grain rec'd x emission factor / 2000 lbs
Monthly = annual emissions x 2000 pounds / 12 months per year x 1.2 to allow for month to month fluctuations in throughput

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TOTAL ACTUAL EMISSIONS FROM GRAIN RECEIVING AND HANDLING =	**PM ANNUAL**	**PM10 ANNUAL**	**PM MONTHLY**	**PM10 MONTHLY**
	2.6	**1.8**	**486.3**	**45.5**