

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

Masterfoods USA, a Division of Mars, Inc.
Attn: Wayne Hodson
6565 East County Road 1000N
Mattoon, Illinois 61938

Application No.: 04090047

I.D. No.: 029803AAD

Applicant's Designation:

Date Received: September 19, 2004

Subject: Dry Pet Food Plant

Date Issued:

Expiration Date:

Location: 6565 East County Road 1000N, Mattoon

This permit is hereby granted to the above-designated Permittee to OPERATE emission unit(s) and/or air pollution control equipment consisting of

<u>SOURCE</u>	<u>Emission Point Identifier Label</u>	<u>Number of Sources</u>	<u>Pollution Control Equipment Type</u>
Dry Raw Material Receiving			
Dump Hoppers	E1, E2	2	Baghouse
Leg Dust Collection	E3, E4 & E5	3	Baghouse
Whole Grain Grinding	E6, E7, E8	3	Baghouse
Mixed Meal Transfer	E9	3	Baghouse
Minor Ingredient Receiving	E10, E11, E12, E13	4	Baghouse
Mixed Meal Sizing & Transfer	E14-B1, E14-B2, E14-B	3	Filter Receiver
	E15 & E16	2	Filter Receiver
Rework Systems 1, 2, 3, & 4	E49 - E52	4	Cyclone, 2 Filters
Nugget Powder Batching & Transfer	E47 & E48	2	Filter Receiver
Boiler Systems 50 mmBtu/Hr Each	E-17, E-18	2	Process Source
Process Systems			
Dryer Fines Collection	E19, E21, E46, E53	4	Filter Receiver
Kibble Conveyance	E22, E24, E26, E28, E31	5	Cyclone
Dryer Heating Exhaust	E23, E25, E27, E30, E33	5	Process Source
Dryer Cooler Exhaust	E29, E32	2	Baghouse
Product Storage & Cooling System			
Bunker Dust Collection	E34, E35	2	Baghouse
Post Coat Conditioning #3	E43	1	Baghouse
Post Coat Conditioning #2	E44	1	Cyclone
Post Coat Conditioning #1	E45	1	Cyclone
Packing Systems			
Rework Conveyance North	E35	4	Filter Receiver
Rework Conveyance North	E37	4	Filter Receiver
Packing Paper Collection	E40	1	Cyclone
Sanitation Systems			
Central Vacuum Systems	E41, E42	2	Filter Receiver

pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., particulate matter of less than 10 microns (PM-10) to less than 100 tons per year). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
2. This permit is issued based upon the grain storage capacity being less than 1,000,000 bushel, so that the grain handling operations are not subject to the federal New Source Performance Standards (NSPS), 40 CFR 60 Subpart DD.
- 3a. Pursuant to 35 Ill. Adm. Code Section 212.123, no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere.
- b. The emission of smoke or other particulate matter from any such emission unit may have an opacity greater than 30 percent but not greater than 60 percent for a period or periods aggregating 8 minutes in any 60 minute period provided that such opaque emissions permitted during any 60 minute period shall occur from only one such emission unit located within a 1000 ft radius from the center point of any other such emission unit owned or operated by such person, and provided further that such opaque emissions permitted from each such emission unit shall be limited to 3 times in any 24 hour period.
4. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including any material handling or storage activity beyond the property line of the emission source, pursuant to 35 Ill. Adm. Code 212.301.
5. Pursuant to 35 IAC 212.321, no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates determined by using the equation:

$$E = 2.54 (P)^{0.534}$$

Where:

P = Process weight rate in ton/hr

E = Allowable emission rate in lbs/hr

6. Pursuant to 35 IAC 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to exceed 2,000 ppm.
7. Pursuant to 35 Ill. Adm. Code Section 215.301, no person shall cause or allow the discharge of more than 8 lb/hour of organic material into the atmosphere from any emission unit, except as provided in Sections 215.302, 215.303, 215.304 and the following exception: If no odor nuisance exists the limitation shall apply only to photochemically reactive material.
8. Pursuant to 35 IAC 215.303, the provisions of 35 IAC 215.301 and 215.302 shall not apply to fuel combustion emission sources.
9. Pursuant to 35 Ill. Adm. Code Section 216.121, no person shall cause or allow the emission of carbon monoxide (CO) into the atmosphere from any fuel combustion emission source with actual heat input greater than 10 mmBtu/hr to exceed 200 ppm, corrected to 50 percent excess air.
10. The cyclones and baghouse shall be in operation at all times when the associated emission unit(s) is in operation and emitting air contaminants.
11. In the event that the operation of this emission unit results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.
12. Rail cars and trucks will be fully inside the building and exterior doors closed when discharging their load.
13. At the above location:
 - a. Distillate fuel oil (Grades No. 1 and 2) with a sulfur content greater than the larger of the following two values:
 - i. 0.28 weight percent, or
 - ii. The wt. percent given by the formula: Maximum wt. percent sulfur = $(0.000015) \times (\text{Gross heating value of oil, Btu/lb})$.
 - b. Not use organic liquid byproducts or waste materials in the process emission sources without written approval from the Illinois EPA. The use of any other fuel shall require a revised permit.
 - c. The Illinois EPA shall be allowed to sample all fuels stored at the above location.
14. Operation and emissions of the dry pet food production operations shall not exceed the following limits:

a. Annual dry pet food production: 50,000 tons/mo, 400,000 tons/year,

i. Particulate matter emission:

<u>Process</u>	<u>Throughput</u>		<u>Emission</u>	<u>Control</u>	<u>PM Emissions</u>	
	<u>(T/Mo)</u>	<u>(T/Yr)</u>	<u>(Lb/Ton)</u>	<u>(%)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
Receiving						
Truck	24,000	192,000	0.035	99	0.004	0.03
Rail	24,000	192,000	0.032	99	0.004	0.03
Handling						
Controlled	245,987	1,967,879	0.061	99	0.075	0.60
Milling						
Controlled	90,500	724,000	0.067	99		
Process						
Controlled	39,165	313,320	0.36	99	0.071	0.56
Controlled	115,830	926,640	0.36	90	2.085	16.68
Uncontrolled	32,500	260,000	0.36	0	5.850	<u>46.80</u>
					Total:	<u>64.95</u>

ii. Particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀):

<u>Process</u>	<u>Throughput</u>		<u>Emission</u>	<u>Control</u>	<u>PM₁₀ Emissions</u>	
	<u>(T/Mo)</u>	<u>(T/Yr)</u>	<u>(Lb/Ton)</u>	<u>(%)</u>	<u>(T/Mo)</u>	<u>(T/Yr)</u>
Receiving						
Truck		192,000	0.078	99	0.004	0.03
Rail		192,000	0.078	99	0.004	0.03
Handling						
Controlled		1,967,879	0.034	99	0.042	0.34
Milling						
Controlled		724,000	0.034	99	0.15	0.12
Process						
Controlled		313,320	0.18	99	0.04	0.28
Controlled		926,640	0.18	90	0.52	8.34
Uncontrolled		260,000	0.18	0	1.46	<u>23.40</u>
					Total:	<u>32.54</u>

- b. Annual natural gas used in the fuel combustion equipment: 200 mmscf/mo, 800 mmscf/yr.

<u>Pollutant</u>	Emission	Emissions	
	Factor (Lb/mmscf)	(Tons/Mo)	(Tons/Yr)
Nitrogen Oxides (NO _x)	100	10.0	40.0
Carbon Monoxide (CO)	84	8.4	33.6
Particulate Matter (PM)	7.6	0.8	3.0
Volatile Organic Material (VOM)	5.5	0.6	2.2
Sulfur Dioxide (SO ₂)	0.6	0.24	0.24

- c. Annual Fuel Oil #2 usage in the fuel combustion equipment: 100,000 gallons/month and 100,000 gallons/year;

<u>Pollutant</u>	Emission	Emissions	
	Factor (Lb/10 ³ Gal)	(Tons/Mo)	(Tons/Yr)
Nitrogen Oxides (NO _x)	20	1.0	1.0
Carbon Monoxide (CO)	5.0	0.25	0.25
Particulate Matter (PM)	2.0	0.10	0.10
Volatile Organic Material (VOM)	0.3	0.01	0.01
Sulfur Dioxide (SO ₂)	142.0	7.1	7.1

- d. These limits are based on the maximum plant operations, standard emission factors and stack tests data. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.

15. The Permittee shall maintain monthly records of the following items:

- a. Amount of grains and meals received (tons/month and tons/year);
- b. Amount of pet food processed (tons/month and tons/year);
- c. Amount of natural gas burned in scf (mmscf/month and mmscf/year);
- d. Amount of oil burned (gallons/month and gallons/year);
- e. Records of inspection of the air pollution control equipment; and
- f. Records of emissions of CO, NO_x, PM, PM₁₀, SO₂ and VOM with supporting calculations (tons/month and tons/year).

16. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.

17. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
18. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
2009 Mall Street
Collinsville, Illinois 62234

If you have any questions on this, please call Mike Dragovich at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

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cc: Illinois EPA, FOS Region 3
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the Dry Pet Food plant operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from these plants. The resulting maximum emissions are below the levels, e.g., 100 tons per year of particulate matter of less than 10 microns at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

<u>Emission Units</u>	<u>NO</u> <u>(Tons/Yr)</u>	<u>E M I S S I O N S</u> <u>PM</u> <u>(Tons/Yr)</u>	<u>SO₂</u> <u>(Tons/Yr)</u>	<u>VOM</u> <u>(Tons/Yr)</u>	<u>CO</u> <u>(Tons/Yr)</u>
Receiving Sources	0	0.06	0	0	0
Handling Sources	0	0.60	0	0	0
Milling Sources	0	0.56	0	0	0
Process Sources	0	64.04	0	0	0
Combustion Sources					
Natural Gas	40.0	3.04	0.24	2.20	33.60
Oil Fired	<u>1.0</u>	<u>0.10</u>	<u>7.10</u>	<u>0.25</u>	<u>4.91</u>
Totals:	41.00	68.04	7.34	2.21	33.60

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PROJECT SUMMARY

I. INTRODUCTION

An application has been submitted by Masterfoods USA, a Division of Mars, Inc. for a new Federally Enforceable State Operating Permit (FESOP) for its Dry Pet Food plant located at 6565 East County Road 1000N in Mattoon. The limits of this FESOP prevent the Dry Pet Food plant from being a major source of emissions so that an operating permit does not have to be obtained under the Clean Air Act Permit Program. These limits are accompanied by recordkeeping and reporting requirements to ensure the plant is operated as non-major source. These conditions are enforceable by both the State of Illinois and USEPA.

II. SOURCE DESCRIPTION

The dry pet food plant produces dry pet food for domestic house pets.

This plant consists of a receiving, handling, milling, processing and combustion. Dry materials (i.e. grain, mixed meal, mixed other ingredients) are brought into the plant to be processed and mixed to the final dry pet food.

III. EMISSIONS

The air contaminants of concern for this dry pet food plant are mainly generated from the processing (i.e. grinding, conveying, conditioning, drying, etc) in the form of particulate matter of less than 10 microns. Additional emissions are generated from the combustion of fuel in the dryer and the boilers are nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO₂), and volatile organic material (VOM).

NO_x is formed thermally by the combination of oxygen and nitrogen in the air at the temperature at which fuel is burned. CO and VOM are formed from the incomplete combustion of fuel.

The proposed permit limits the potential annual emissions of this contaminant to less than 100 tons per year. This would exempt this plant from the requirements of the Clean Air Act Permit Program.

IV. APPLICABLE EMISSION STANDARDS

All emission sources in Illinois must comply with the Illinois Pollution Control Board emission standards. The Board's emission standards represent the basic requirements of sources in Illinois. The Board has standards for pollutant emissions for processing facilities like this dry pet food plant. This site readily complies with all applicable Board standards.

V. PROPOSED PERMIT

The conditions of the existing permit contain limitations and requirements to ensure this plant will be operated as a non-major source. The permit sets limitations on the amount of annual dry pet food production and fuel usage. These limits are consistent with the historical operation and capacity of the plant.

The permit conditions also establish appropriate compliance procedures, including inspection practices, recordkeeping requirements, and reporting requirements. The Permittee must carry out these procedures on an on-going basis to demonstrate that the dry pet food plant is operating within the limitations set by the permit and is properly controlling emissions.

VI. REQUEST FOR COMMENTS

It is the Illinois EPA's preliminary determination that the dry pet food plant meets all applicable state and federal air pollution control requirements, subject to the conditions in the existing permit. The Illinois EPA is therefore proposing to renew the FESOP permit for this operation.

Comments are requested on this proposed action by the Illinois EPA and the proposed conditions of the draft permit. If substantial public concern is shown in this matter, the Illinois EPA will consider holding a public hearing in accordance with 35 Ill. Adm. Code Part 166.

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