

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)

PERMITTEE

Mars Petcare US, Inc.
 Attn: Brian Stephens
 6565 East County Road 1000N
 Mattoon, Illinois 61938

Application No.: 04090047

I.D. No.: 029803AAD

Applicant's Designation:

Date Received: September 15, 2004

Subject: Dry Pet Food Plant

Date Issued: October 5, 2010

Expiration Date: October 5, 2015

Location: 6565 East County Road 1000N, Mattoon, Coles County

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	1	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	Filter Receiver
Nugget Powder Batching & Transfer	E47 & E48	2	Filter Receiver
Boiler Systems		2	Fuel Combustion
50 mmBtu/Hr	E-17		Emission Unit
16.4 mmBtu/Hr	E-18		
Pre-Heater			
1.2 mmBtu/Hr		5	Fuel Burners
Process Systems			
Dryer Fines Collection	E46, E53	2	Filter Receiver
Kibble Conveyance	E22, E24, E26, E28,	5	Cyclone
Dryer Heating Exhaust	E31	4	Process Source
Dryer Cooler Exhaust	E25, E27, E30, E33	2	Baghouse
	E29, E32		
Product Storage & Cooling System			
Pellet Cooling System #2	E43	1	Cyclone
Pellet Cooling System #3	E44	1	Cyclone
Pellet Cooling System #4	E45	1	Cyclone
Pellet Cooling System #5	E54	1	Cyclone

<u>SOURCE</u>	<u>Emission Point Identifier Label</u>	<u>Number of Sources</u>	<u>Pollution Control Equipment Type</u>
Packing Systems			
Rework Conveyance South	E36	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., 100 tons/year for Particulate Matter less than 10 microns (PM₁₀)). 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.
- 2a. Pursuant to 35 Ill. Adm. Code 212.123(a), no person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to 35 Ill. Adm. Code 212.122.
 - b. Pursuant to 35 Ill. Adm. Code 212.123(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 305 m (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.
 - c. Pursuant to 35 Ill. Adm. Code 212.301, no person shall cause or allow the emission of fugitive particulate matter from any process, including any material handling or storage activity, that is visible by an observer looking generally toward the zenith at a point beyond the property line of the source.
 - d. Pursuant to 35 Ill. Adm. Code 212.321(a), 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 specified in 35 Ill. Adm. Code 212.321(c).

- e. Housekeeping Practices. Pursuant to 35 Ill. Adm. Code 212.461(b), all grain-handling and grain-drying operations, regardless of size, must implement and use the following housekeeping practices:
 - i. Air pollution control devices shall be checked daily and cleaned as necessary to insure proper operation.
 - ii. Cleaning and Maintenance.
 - A. Floors shall be kept swept and cleaned from boot pit to cupola floor. Roof or bin decks and other exposed flat surfaces shall be kept clean of grain and dust that would tend to rot or become airborne.
 - B. Cleaning shall be handled in such a manner as not to permit dust to escape to the atmosphere.
 - C. The yard and surrounding open area, including but not limited to ditches and curbs, shall be cleaned to prevent the accumulation of rotting grain.
 - iii. Dump Pit.
 - A. Aspiration equipment shall be maintained and operated.
 - B. Dust control devices shall be maintained and operated.
 - iv. Head House. The head house shall be maintained in such a fashion that visible quantities of dust or dirt are not allowed to escape to the atmosphere.
 - v. Property. The yard and driveway of any source shall be asphalted, oiled or equivalently treated to control dust.
 - vi. Housekeeping Check List. Housekeeping check lists to be developed by the Illinois EPA shall be completed by the manager and maintained on the premises for inspection by Illinois EPA personnel.
3. Pursuant to 35 Ill. Adm. Code 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to excess 2,000 ppm.
4. Pursuant to 35 Ill. Adm. Code 215.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission source, except as provided in 35 Ill. Adm. Code 215.302, 215.303, 215.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code 215 Subpart K shall apply only to photochemically reactive material.

5. Pursuant to 35 Ill. Adm. Code 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 2.9 MW (10 mmBtu/hr) to exceed 200 ppm, corrected to 50 percent excess air.
6. 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.
7. This permit is issued based on the source not being subject to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Sources: Prepared Feeds Manufacturing, 40 CFR 63 Subpart DDDDDDD because the source does not use a material containing chromium or a material containing manganese in the production of prepared feeds.
- 8a. Pursuant to 35 Ill. Adm. Code 212.314, 35 Ill. Adm. Code 212.301 shall not apply and spraying pursuant to 35 Ill. Adm. Code 212.304 through 212.310 and 35 Ill. Adm. Code 212.312 shall not be required when the wind speed is greater than 40.2 km/hr (25 mph). Determination of wind speed for the purposes of this rule shall be by a one-hour average or hourly recorded value at the nearest official station of the U.S. Weather Bureau or by wind speed instruments operated on the site. In cases where the duration of operations subject to this rule is less than one hour, wind speed may be averaged over the duration of the operations on the basis of on-site wind speed instrument measurements.
- b. Pursuant to 35 Ill. Adm. Code 212.461(c), any grain-handling operation for which construction or modification commenced prior to June 30, 1975, having a grain through-put of not more than 2 million bushels per year and located inside a major population area and any grain-handling operation or grain-drying operation for which construction or modification commenced prior to June 30, 1975, located outside of a major population area which is required to apply for a permit pursuant to 35 Ill. Adm. Code 212.462 and 212.463, respectively, shall receive such permit notwithstanding the control requirements of those respective rules provided said operation can demonstrate that the following conditions exist upon application for, or renewal of, an operating permit:
 - i. The requirements of 35 Ill. Adm. Code 212.461(b) are being met; and
 - ii. No certified investigation is on file with the Illinois EPA indicating that there is an alleged violation prior to issuance of the permit.
9. Pursuant to 35 Ill. Adm. Code 215.303, the provisions of 35 Ill. Adm. Code 215.301 and 215.302 shall not apply to fuel combustion emission sources.
- 10a. In the event that the operation of this source 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.

- b. The cyclones, filters, and baghouse shall be in operation at all times when the associated emission unit(s) is in operation and emitting air contaminants.
 - c. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the cyclones, filters, and baghouse such that the cyclones, filters, and baghouse are kept in proper working condition and not cause a violation of the Environmental Protection Act or regulations promulgated therein.
 - d. Rail cars and trucks will be fully inside the building and exterior doors closed when discharging their load.
 - e. The boilers and pre-heaters shall only be operated with natural gas as the fuel. The use of any other fuel in the boilers and pre-heaters requires that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.
- 11a. Operation and emissions of the dry pet food production operations shall not exceed the following limits:
- i. Annual dry pet food production: 50,000 tons/mo, 400,000 tons/year,
 - ii. Particulate matter emissions from the dry pet food production operations:

<u>Process</u>	<u>Throughput</u>		<u>Emission Factor (Lb/Ton)</u>	<u>Control Efficiency (%)</u>	<u>PM Emissions</u>	
	<u>(T/Mo)</u>	<u>(T/Yr)</u>			<u>(T/Mo)</u>	<u>(T/Yr)</u>
Receiving						
Truck	24,000	192,000	0.035	99	0.004	0.034
Rail	24,000	192,000	0.032	99	0.004	0.031
Handling						
Controlled	245,987	1,967,879	0.061	99	0.059	0.474
Milling						
Controlled	90,500	724,000	0.067	99	0.030	0.243
Process Systems						
Baghouse/Filter	39,165	313,320	0.36	99	0.037	0.296
Controlled						
Cyclone Controlled	115,830	926,640	0.36	90	2.052	16.416
Uncontrolled	32,500	260,000	0.36	0	3.69	29.520
					Total:	47.014

- iii. PM₁₀ emissions from the dry pet food production operations:

<u>Process</u>	<u>Throughput</u>		<u>Emission Factor</u> (Lb/Ton)	<u>Control Efficiency</u> (%)	<u>PM₁₀ Emissions</u>	
	(T/Mo)	(T/Yr)			(T/Mo)	(T/Yr)
Receiving						
Truck		192,000	0.078	99	0.004	0.034
Rail		192,000	0.078	99	0.004	0.031
Handling						
Controlled		1,967,879	0.034	99	0.033	0.264
Milling						
Controlled		724,000	0.034	99	0.015	0.121
Process Systems						
Baghouse/Filter						
Controlled		313,320	0.18	99	0.0185	0.148
Cyclone Controlled		926,640	0.18	90	1.026	8.208
Uncontrolled		260,000	0.18	0	1.845	14.760
					Total:	23.566

These limits are based on the maximum plant operations, standard emission factors (Factor Information Retrieval (FIRE), version 6.25, September 2004) and stack tests data.

- b. Operation and emissions of the boilers (combined) shall not exceed the following limits:
- i. Natural gas used in the boilers: 200 mmscf/mo, 800 mmscf/yr.
 - ii. Emissions from the combustion of natural gas:

<u>Pollutant</u>	<u>Emission Factor</u>	<u>Emissions</u>	
	(Lb/mmscf)	(Tons/Mo)	(Tons/Yr)
Carbon Monoxide (CO)	84	8.4	33.60
Nitrogen Oxides (NO _x)	100	10.0	40.00
Particulate Matter (PM)	7.6	0.8	3.04
Particulate Matter (PM ₁₀)	7.6	0.8	3.04
Sulfur Dioxide (SO ₂)	0.6	0.24	0.24
Volatile Organic Material (VOM)	5.5	0.6	2.20

These limits are based on the maximum plant operations and standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998).

- c. Emissions and operation of the five 1.2 mmBtu/hour natural gas-fired air heat burners shall not exceed the following limits:
- i. Natural Gas Usage: 5.15 mmscf/month, 51.53 mmscf/year.
 - ii. Emissions from the combustion of natural gas:

<u>Pollutant</u>	<u>Emission Factor</u>	<u>Emissions</u>	
	(lbs/mmscf)	(Tons/Mo)	(Tons/Yr)

<u>Pollutant</u>	<u>Emission Factor</u>	<u>Emissions</u>	
	<u>(lbs/mmscf)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Carbon Monoxide (CO)	84.0	1.03	10.31
Nitrogen Oxides (NO _x)	400.0	0.23	2.32
Particulate Matter (PM)	7.6	0.02	0.20
Particulate Matter (PM ₁₀)	7.6	0.02	0.20
Sulfur Dioxide (SO ₂)	0.6	0.01	0.02
Volatile Organic Material (VOM)	5.5	0.02	0.14

These limits are based on the maximum natural gas usage and standard emission factors (Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, July 1998) for PM, SO₂, and VOM. CO based on applicant submitted information from previous stack test. NO_x from manufacturers supplied information.

- d. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
12. This permit is issued based on the Potential to Emit (PTE) for Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act from the source being less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program (CAAPP) Permit.
- 13a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:
- i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.
 - ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or

ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.

- b. Testing required by Condition 14 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.
- 14. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
- 15. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
- 16a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
 - i. Records addressing use of good operating practices for the cyclones, filters, and baghouse:
 - A. Records for periodic inspection of the cyclones, filters, and baghouse with date, individual performing the inspection, and nature of inspection; and
 - B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
 - ii. Amount of grains and meals received (tons/month and tons/year);
 - iii. Amount of pet food processed (tons/month and tons/year);
 - iv. Amount of natural gas burned in boilers and pre-heaters (mmscf/month and mmscf/year); and
 - v. Monthly and annual emissions of CO, NO_x, PM, PM₁₀, SO₂ and VOM from the source with supporting calculations (tons/month and tons/year).
- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer storage device) 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 or USEPA request for records during the course of a source inspection.

17. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.
- 18a. If there is an exceedance of or a deviation from 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 or deviation. 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 deviation and efforts to reduce emissions and future occurrences.
- b. Two (2) copies of required reports and notifications 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

It should be noted that this permit has been revised to include the operation of the equipment described in construction permit 10070009.

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

Edwin C. Bakowski, P.E.
Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

ECB:MJD:jws

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/year of PM₁₀) 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 Unit</u>	E M I S S I O N S (Tons/Year)					<u>VOM</u>
	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>PM₁₀</u>	<u>SO₂</u>	
Receiving						
Truck			0.034	0.034		
Rail			0.034	0.031		
Handling (Controlled)			0.474	0.264		
Milling (Controlled)			0.243	0.121		
Process Systems						
Baghouse/Filter						
Controlled			0.296	0.148		
Cyclone Controlled			16.416	8.208		
Uncontrolled			29.520	14.760		
Boilers	33.60	40.00	3.04	3.04	0.24	2.20
Pre-Heaters	<u>10.31</u>	<u>2.32</u>	<u>0.20</u>	<u>0.20</u>	<u>0.02</u>	<u>0.14</u>
Totals	43.91	42.64	50.257	26.806	0.26	2.34

MJD:jws