



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 052010-003

Project Number: 2009-12-037

Parent Company: Royal Canin USA, Inc.

Parent Company Address: 500 Foundation Lakes Rd., St. Charles, MO 63301

Installation Name: Royal Canin USA, Inc.

Installation Number: 161-0025

Installation Address: 1700 Bridge Road School, Rolla, MO 65401

Location Information: Phelps County, S16, T37N, R8W

Application for Authority to Construct was made to add new equipment to an existing pet food manufacturing process to decrease waste of raw products. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

MAY 4 2010

EFFECTIVE DATE

A handwritten signature in black ink, appearing to read "James L. Kavanaugh".

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Royal Canin USA, Inc.
Phelps County, S16, T37N, R8W

1. Control Device Requirement-Baghouse
 - A. Royal Canin USA, Inc. shall control emissions from the following list of equipment using baghouses as specified in the permit application.
 - 1) EP-51: Cleaning Elevator
 - 2) EP-52: Drum Sieve
 - 3) EP-53: Major Bin Loading
 - 4) EP-54: Bulk Bag Intake
 - 5) EP-38: Hand Intake
 - 6) EP-39: Bulk Bag Intake
 - 7) EP-40: Major Bin Loading – Distributer
 - 8) EP-41: Major Bin Loading - Distributer
 - 9) EP-42: Minor Bin Bulk Bag Intake
 - 10) EP-43: Pneumatic Transfer
 - 11) EP-44: Pneumatic Transfer Post Grind
 - 12) EP-45: Minor Bin Bulk Bag Intake
 - 13) EP-46: Pneumatic Transfer
 - 14) EP-47: Pneumatic Transfer to Pre-Mix
 - 15) EP-48: West Micro Bin Receiving Hopper
 - 16) EP-49: East Micro Bin Receiving Hopper
 - 17) EP-50: Pneumatic Filling of 175 Extrusion Line Premix Bins
 - B. The baghouses shall be operated and maintained in accordance with the manufacturer's specifications. The baghouse shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Missouri Department of Natural Resources employees may easily observe them.
 - C. Replacement filters for the baghouses shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

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SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

- D. Royal Canin USA, Inc. shall monitor and record the operating pressure drop across the baghouses at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
- E. Royal Canin USA, Inc. shall maintain an operating and maintenance log for the baghouses which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2009-12-037
Installation ID Number: 161-0025
Permit Number:

Royal Canin USA, Inc.
1700 Bridge Road School
Rolla, MO 65401

Complete: December 28, 2009

Parent Company:
Royal Canin USA, Inc.
500 Foundation Lakes Rd.
St. Charles, MO 63301

Phelps County, S16, T37N, R8W

REVIEW SUMMARY

- Royal Canin USA, Inc. has applied for authority to add new equipment to an existing pet food manufacturing process to decrease waste of raw products.
- Hazardous Air Pollutant (HAP) emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment.
- Baghouses are being used to control the PM₁₀ emissions from the equipment in this permit.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are limited below de minimis levels.
- This installation is located in Phelps County, an attainment area for all criteria pollutants.
- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Emissions testing is not required for the equipment.
- An amendment to Royal Canin USA, Inc.'s Basic Operating Permit needs to be submitted to the Air Pollution Control Program to reflect the new emission points.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Royal Canin USA, Inc. operates an existing pet food manufacturing process in the city of Rolla, Missouri, which is a minor source of PM₁₀ emissions. This installation holds a basic operating permit and receives raw materials such as grain, animal and/or vegetable byproducts, and various fiber sources.

The raw materials are mixed in batches, ground, and screened. Liquid ingredients may be added. The mixture is then sent through extruders, where water, steam and fat are added, and the resultant product exits in the form of pellets. The pellets are dried and cooled, then sent to storage. From storage bins, the final product is conveyed or pneumatically transferred to the packaging area of the plant.

Table 1 list permits that have been issued to Royal Canin USA, Inc. from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
0197-002	A new product dryer and replacement of an existing grinding/mixing unit. Permitting of several pieces of equipment installed between 1989 through 1993, which were not permitted prior to construction.
0397-019	Dual fuel use for two feed drying ovens and triple fuel use for the boiler.
092005-013	Dismantle of original 175 Extrusion Line and addition of new X175 Extrusion Line.

Modifications to this installation also include a boiler replacement in July 2007. Other modifications that did not require a permit were reviewed in Project # 2006-08-056 and are listed in Table 2.

Table 2: Project # 2006-08-056 Summary

Emission Point ID	Emission Point Description	MHDR	Units	Control Device
EP-02A	South Unloading Pit	65	tph	Fabric Filter
EP-02F	Micro Bin Loading	1.5	tph	Fabric Filter
EP-02G Segment 1	Micro Ingredient Hand Add to Post Grind Hand Intake # 1	1.5	tph	Fabric Filter
EP-02G Segment 2	Micro Ingredient Hand Add to Pre Grind Hand Intake # 2	1.5	tph	Fabric Filter
EP-02H	Pneumatic Transfer	1.5	tph	Fabric Filter
EP-25	Elevator # 1	65	tph	Filter
EP-26	Drum Sieve	60	tph	Fabric Filter
EP-27	Elevator # 2 to Major Ingredient Elevator	65	tph	Fabric Filter
EP-28	Major Bin Loading - Distributor # 1	65	tph	Fabric Filter
EP-29	Major Bin Loading - Distributor # 2	65	tph	Fabric Filter
EP-30	Major Bin Loading - Distributor # 3	65	tph	Fabric Filter
EP-31	Micro Ingredient Bulk Bag Addition	1.5	tph	
EP-32	Pneumatic Transfer of Major Ingredients to Pneumatic Transfer to Pre-Mixer	20	tph	Fabric Filter
EP-33	Regrind Transfer from X165	7.5	tph	Fabric Filter
EP-34	Regrind Transfer from X185	12.5	tph	Fabric Filter
EP-35	Regrind Transfer from X175	12.5	tph	Fabric Filter

With the modifications of this and recent projects, the Air Pollution Control Program has included Tables 3 and 4 that summarize the existing and new storage bins. The new storage bins are associated with modifications from this project. Table 4 list the new storage bins in order of planned construction. Per Royal Canin USA, Inc.'s communications, all existing storage bins, as identified in Table 3, will be eliminated once the new bins are operational.

Table 3: Existing Raw Material Storage Summary

BIN #	VOLUME (Cubic Meter)	BIN #	VOLUME (Cubic Meter)	BIN #	VOLUME (Cubic Meter)
1	535.00	22	70.00	34	73.00
2	535.00	23	60.00	36	4.00
3	160.00	24	60.00	38	5.00
8	70.00	25	60.00	39	5.00
10	70.00	26	56.00	40	5.00
15	35.00	27	73.00	41	5.00
16	35.00	28	73.00	42	5.00
17	35.00	29	73.00	43	5.00
18	35.00	30	73.00	44	5.00
19	70.00	31	73.00	45	5.00
20	70.00	32	73.00	62	BB ¹
21	70.00	33	73.00		

Note 1: Bulk Bag Station that receives a maximum of 393 tons of material per year.

Table 4: New Raw Material Storage Summary

BIN #	VOLUME (Cubic Meter)	BIN #	VOLUME (Cubic Meter)	BIN #	VOLUME (Cubic Meter)
71	0.6	108	55.00	503	8.50
72	0.6	109	55.00	504	8.50
73	0.6	110	55.00	505	8.50
74	0.6	111	55.00	506	8.50
75	0.6	112	55.00	507	8.50
82	0.6	113	55.00	508	8.50
83	0.6	114	55.00	601	8.50
84	0.6	115	35.00	602	8.50
85	0.6	116	35.00	603	8.50
86	0.6	117	180.00	604	8.50
76	0.6	118	180.00	605	8.50
77	0.6	119	150.00	606	8.50
78	0.6	201	25.00	607	8.50
79	0.6	202	25.00	608	8.50
80	0.6	203	22.50	301	85.00
81	0.6	204	22.50	302	85.00
87	0.6	205	25.00	303	85.00
88	0.6	206	25.00	304	85.00
89	0.6	207	22.50	305	85.00
90	0.6	208	22.50	306	85.00
91	0.6	401	BB ¹	307	85.00
92	0.6	402	BB ¹	308	85.00
101	45.00	403	BB ¹	309	85.00
102	45.00	404	BB ¹	310	35.00
103	55.00	405	BB ¹	311	45.00
104	55.00	406	BB ¹	312	45.00
105	55.00	501	8.50	313	40.00
106	55.00	502	8.50	314	10.00
107	55.00				

Note 1: The 400 series Bulk Bag Stations receives a maximum of 64 tons of material per year.

PROJECT DESCRIPTION

Royal Canin USA, Inc. has applied for authority to modify its pet food manufacturing process located at 1700 Bridge Road School in the city of Rolla, Missouri. The additional emission points to this installation will decrease waste of their raw products and are listed in Table 5. The Air Pollution Control Program evaluated Bin # 71 to Bin # 110 in Project 2006-08-056 and it was determined that a permit was not needed. These bins were not constructed at the time of determination but will be constructed with the current modifications. The remaining bins, Bin # 111 to Bin # 314, have a less storage capacity and because they are replacing the existing storage bins, their addition to the installation is considered a like-kind replacement and their associated emissions are excluded per 10 CSR 10-6.061(3)(B)3.

Table 5: Installation Modification Summary

Emission Point ID	Description	MHDR (tph)	Bottleneck MHDR (tph)
EP-51	Cleaning Elevator	50	26
EP-52	Drum Sieve	50	26
EP-53	Major Bin Loading	50	26
EP-54	Bulk Bag Intake	15	15
EP-38	Hand Intake	1.5	1.5
EP-39	Bulk Bag Intake	15	15
EP-40	Major Bin Loading - Distributer	50	26
EP-41	Major Bin Loading - Distributer	50	26
EP-42	Minor Bin Bulk Bag Intake	15	15
EP-43	Pneumatic Transfer	15	15
EP-44	Pneumatic Transfer Post Grind	15	15
EP-45	Minor Bin Bulk Bag Intake	15	15
EP-46	Pneumatic Transfer	15	15
EP-47	Pneumatic Transfer to Pre-Mix	15	15
EP-48	West Micro Bin Receiving Hopper	1.5	1.5
EP-49	East Micro Bin Receiving Hopper	1.5	1.5
EP-50	Pneumatic Filling of 175 Extrusion Line Premix Bins	30	26

Because the hourly uncontrolled potential to emit exceeds the Insignificant Emission Exemption Levels of 10 CSR 10-6.061(3)(A)3.A, a permit is required.

This installation has three extrusion lines (Extrusion Line Numbers X165, X175, and X185) and Royal Canin has declared the sum of these lines is the bottleneck of the pet food manufacturing process. Therefore, the maximum hourly design rate (MHDR) of this project is 26 tons per hour and the emission points with a greater MHDR of 26 tons per hour are limited to 26 tons per hour. All of the additional equipment's emissions will be controlled by a baghouse.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, section 9.9.1 “Grain Elevators & Processes,” May 2003. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year) without control devices. Due to direction from EPA Region VII, as of July 1, 2009, the potential emissions of the project must be calculated without considering controls to determine permit applicability. Table 6 provides an emissions summary for this project. A control efficiency of 99.0% was assumed for equipment using baghouses with a 100.0% capture efficiency assumed because this process is enclosed.

Table 6: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2008 EIQ)	Uncontrolled Potential Emissions of the Application	Controlled Potential Emissions of the Application
PM ₁₀	15.0	70.68	7.53	41.49	0.41
SO _x	40.0	0.10	0.01	N/A	N/A
NO _x	40.0	16.38	1.17	N/A	N/A
VOC	40.0	1.65	0.63	N/A	N/A
CO	100.0	13.76	0.98	N/A	N/A
HAPs	10.0/25.0	N/D	N/D	N/A	N/A

N/A = Not Applicable; N/D = Not Determined

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of PM₁₀ are limited to below de minimis levels.

APPLICABLE REQUIREMENTS

Royal Canin USA, Inc. shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110

The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an

Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.

- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with/without special conditions.

Daronn Williams
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated October 19, 2009, received December 18, 2009, designating Royal Canin USA, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated January 5, 2010.