

MISSOURI
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: **08 2016 - 004**

Project Number: 2016-04-036
Installation Number: 183-0029

Parent Company: Reckitt Benckiser, Inc.

Parent Company Address: Morris Corp. Center, 399 Interspace Parkway,
Parsippany, NJ 07064.

Installation Name: RB Manufacturing LLC

Installation Address: 30 Arrowhead Industrial Boulevard, St. Peters, MO 63376

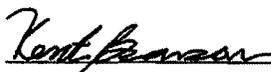
Location Information: St. Charles County, S23, T47, R3

Application for Authority to Construct was made for:

The construction and operation of production equipment that will be used to create Finish Tabs. 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.



Prepared by
Branson, Kent
New Source Review Unit



Director or Designee
Department of Natural Resources

AUG 15 2016

Effective Date

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 Enforcement and Compliance Section of 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 Enforcement and Compliance Section of the Department's 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's 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 the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's 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 using the contact information below.

Contact Information:
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
<http://dnr.mo.gov/regions/>

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."

RB Manufacturing LLC
St. Charles County, S23, T47, R3

1. Control Device Requirement-Baghouse & Dust Collector
 - A. RB Manufacturing LLC shall control emissions from the listed equipment using baghouses or dust collectors as specified in the permit application.

Table1: Control Devices

Unit/s	Description
EP-53A,B,C	Minor Powder Baghouses
EP-54A,B	Filter Receivers From Railcars
EP-55A,B	Silos
EP-56A,B	Filter Receivers From Silos
EP-58	Red Pill: Supersacks Fugitive
EP-59	Red Pill: Supersacks To Filter Receiver
EP-60	Red Pill: Filter Receiver To Mixer
EP-61	Red Pill: Mixer To Storage Hoppers
EP-62	Red Pill: Gravity Dump To Presses
EP-63	Red Pill: Dust Collection Reclaim
EP-64	Red Pill: Back Dumping Station
EP-65	Tablet Presses

- B. The baghouses and dust collectors 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 Department of Natural Resources' employees may easily observe them.
 - C. Replacement filters for the baghouses and dust collectors shall be kept available 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).
 - D. RB Manufacturing LLC shall monitor and record the operating pressure drop across the baghouses and dust collectors at least once every 24 hours. The operating pressure drop shall be maintained within the design

SPECIAL CONDITIONS:

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

conditions specified by the manufacturer's performance warranty.

- E. RB Manufacturing LLC shall maintain a copy of the baghouse and dust collector manufacturer's performance warranty on site.
 - F. RB Manufacturing LLC shall maintain an operating and maintenance log for the baghouses and dust collectors 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.
2. Fragrance Solutions
- A. RB Manufacturing LLC shall seek approval from the Air Pollution Control Program before use of a fragrance solution in the following cases:
 - 1) If the VOC content of the fragrance solution is greater than 30% by weight.
 - 2) If there are individual HAP emissions for the fragrance solution. A list of the applicable HAPs can be found in Appendix B.
3. Record Keeping and Reporting Requirements
- A. RB Manufacturing LLC shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include SDS for all materials used.
 - B. RB Manufacturing LLC shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

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

Project Number: 2016-04-036
Installation ID Number: 183-0029
Permit Number:

Installation Address:

RB Manufacturing LLC
30 Arrowhead Industrial Boulevard

St. Peters, MO 63376

St. Charles County, S23, T47, R3

Parent Company:

Reckitt Benckiser, Inc.
Morris Corp. Center, 399 Interspace
Parkway

Parsippany, NJ 07064

REVIEW SUMMARY

- RB Manufacturing LLC has applied for authority to construct and operate the production equipment used to create Finish Tabs.
- The application was deemed complete on Month Day, Year2016.
- HAP emissions are not expected from the proposed equipment.
- None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- Baghouses and dust collectors are to be used to control the particulate 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 all pollutant are below de minimis levels.
- This installation is located in St. Charles County, a nonattainment area for the 8-hour ozone standard and the PM-2.5 standard and an attainment area for all other criteria pollutants. This installation is not located in the Jefferson County lead nonattainment area.
- 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 for all attainment pollutants and fugitive emissions are not counted toward major source applicability. The installation's major source level is 100 tons per year for all nonattainment pollutants.
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.

- Emissions testing is not required for the equipment as a part of this permit. Testing may be required as part of other state, federal or applicable rules.
- A Basic Operating Permit application is required for this installation within 30 days of commencement of operations.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Reckitt Benckiser produces and packages household cleaning products in St. Peters, Missouri. This installation is an existing minor source of all criteria particulates (PM, PM₁₀, & PM₂₅) and a de minimis source for all other criteria air pollutants. A basic operating permit (Project Number 2011-01-051) was issued March 18, 2011 and the facility currently has an operating permit renewal application under review by the department (Project Number 20015-12-011).

The following New Source Review permits have been issued to RB Manufacturing LLC from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
0896-006	300 HP Replacement Boiler
042002-015	Air Freshener Line
092002-021	Detergent Manufacturing
092002-021A	Process Changes
072011-015	New Product and Packaging
012012-010	Treatment System

PROJECT DESCRIPTION

RB Manufacturing, LLC is closing its production operations located at 815 North College Street in Brandon, Mississippi 39042 and relocating the Finish Powerball Tab's production line to its existing facility in St. Peters, Missouri 63376. Some of the existing warehouse space and minor production lines are being replaced with the new equipment and the bulk of the equipment for the Mississippi facility is being relocated to the Missouri. The transferred equipment is a standalone installation and will not effect any of the other operations previously permitted at the facility.

The final product is made up of soda ash, bicarbonate, PEG 400, hydrogen peroxide, glycerol, and various powder additives and various fragrances. None of the chemicals used contain any Hazardous Air Pollutants. The final product is created via three separate processes that stores each component in one of 16 storage silos. No emissions are expected from these silos because the products stored inside are primarily solids with a small amount of liquid binder.

The limiting units in this process are the three 3rd floor mixers (EP-57). Each mixer produces five batches per hour at 1650 pounds per batch, this equates to a combined MHDR of 12.375 tons per hour. The final product is composed of 7.1% red pill material by weight with the remaining material coming from the 3rd floor mixers. All the other units MHDR values were calculated using this information and the initial MHDRs supplied in the permit application.

Each unit with a baghouse or dust collector is connecting to the control device directly so the capture efficiencies are set to be 100%.

The first process involves the unloading of soda ash & bicarbonate from a railcar to a filter receiver via a vacuum blower (EP-54 A,B). The receiver is vented directly to a baghouse. The receiver then transfers the material to a 360,000 pound capacity silo via vacuum blower (EP-55 A,B). The silos contents are vented directly to a baghouse. The material is then vented from the silo to a second receiver via vacuum blower (EP-56 A,B). The receiver is vented directly to a baghouse. The solid material is then transferred to the 3rd floor mixer via vacuum blower.

The second process involves adding three additional materials to the 3rd floor mixers. Assorted fragrances arrive in sealed 55 gallon drums. A pipe is attached to these drums and the liquid inside is pumped into the 3rd floor mixer (EP-52). There are two 15,000 gallon storage tanks that contain either PEG 400 or Glycerol. The liquid content of these tanks is pumped directly into the 3rd floor mixers (EP-50 & EP-51). The final components added are powder additives. These additives arrive in sealed supersacks via forklift. The sacks are then attached to a receiver which collects all the particulate and pumps it to the 3rd floor mixers via vacuum blower (EP-53 A,B,C). Each receiver is vented directly to a baghouse.

The MHDR for each solid component added to the 3rd floor mixers was calculated using the MHDRs in the permit application. Each component made up a percentage of the total weight that could be added to the mixer. The percentages were then multiplied by the MHDR of the mixer. The density of the fragrance (7.61 lbs/gallon), PEG 400 (1.126 gram/cm³), and Glycerol (1.261 g/cm³) were used to determine the percentage of the total weight that the materials will make up. The calculated MHDRs for the soda ash and bicarbonate transfer processes are all 7.422 tons per hour, the minor powders transfer MHDR is 4.885 tons per hour, and the liquid fragrance transfer MHDR is 1.040 gallons per hour.

After proper mixing the contents of the 3rd floor mixer are manually dumped into enclosed totes and then transferred via forklift to one of the 16 storage silos (EP-57). The dump from the 3rd floor mixers is the limiting factor in this process with an MHDR of 12.375 tons per hour. All the other operations for the new installation are limited by the mixers.

The final process involves creating the red pill material that will be combined with the product from the 3rd floor mixers to create the complete Finish Powerball Tab. The red pill material arrives via forklift in supersacks. A pipe is attached to these supersacks as

well as a dust collector and the material is vacuum blown into a receiver connected to a dust collector. The materials in the supersacks are then vacuum blown into a second mixer which is directly attached to a baghouse. After mixing the material is transferred via bucket elevator to one of three storage hoppers. The bucket elevator is enclosed and the emissions are directly piped to a dust collector. The storage hoppers emissions are directly piped to a separate baghouse.

Once in the storage hoppers the red pill material that is off-spec is dumped into a dust reclaim device that is vented directly to a baghouse. The material is then vacuum blown into a receiver that is directly connect to another baghouse. The receiver then dumps the material to a grinder to reduce the particle size of the material. That material is then transferred via vacuum blower to a back dumping station that is directly vented to a baghouse. The material is then piped and transferred via vacuum back into the original receiver that is attached to the supersacks that hold the red pill material. The MHDR for the reclaim process is 0.034 tons per hour.

All the material in the storage hoppers that is on-spec is transferred via gravity dump to the tablet presses. The MHDR for the dump was calculated assuming that the red pill makes up 7.1% of the finished products weight. If the 3rd floor mixers are the limiting factor and can only produce 12.375 tons per hour then the red pill gravity dump will produce 0.946 tons per hour at the most. This MHDR applies directly to the whole red pill production process. The MHDR for the supersack transfer is 0.946 tons per hour and the remaining non-reclaim units will include the reclaim and supersacks MHDR. The first filter receiver, mixer, and bucket elevator in the red pill production process have MHDRs of 0.980 tons per hour.

The material stored in the silos are dumped via gravity to the presses where it is combined with the red pill material to create the final product. Each press is connected via piping to a series of two baghouses. While the press design can accommodate 20.930 tons of finished product, the 3rd floor mixers limit the presses to producing 13.321 tons of product per hour. Once the tablets have been created in the presses then they are packaged for shipping and transferred out of the facility.

The facility will use existing paved haul roads and rail lines to transfer raw materials and final product. No change in potential emissions from the paved haul roads are expected from this project.

Table 3: Unit List

Unit Number	Description	Maximum Hourly Design Rate
EP-50	PEG 400- 15K Gal AST	N/D
EP-51	Glycerol - 15K Gal AST	N/D
EP-52	Fragrance Drums	1.04 Gallons VOC
EP-53 A,B,C	Minor Powder Baghouses	4.89 Tons
EP-54 A,B	Filter Receivers From Railcars	7.423 Tons
EP-55 A,B	Silos	7.423 Tons
EP-56 A,B	Filter Receivers From Silos	7.423 Tons
EP-57	3 rd Floor Mixers (x3) Manual Dump	12.375 Tons
EP-58	Red Pill: Supersacks Fugitive	0.946 Tons
EP-59	Red Pill: Supersacks To Filter Receiver	0.980 Tons
EP-60	Red Pill: Filter Receiver To Mixer	0.980 Tons
EP-61	Red Pill: Mixer To Storage Hoppers	0.980 Tons
EP-62	Red Pill: Gravity Dump To Presses	0.946 Tons
EP-63	Red Pill: Dust Collection Reclaim	0.034 Tons
EP-64	Red Pill: Back Dumping Station	0.034 Tons
EP-65	13 Tablet Presses	13.321 Tons

N/D = Not Determined

a. The maximum hourly design rate was not calculated for EP-50 and EP-51 because both units emissions were not included when calculating the potential to emit.

EMISSIONS/CONTROLS EVALUATION

The emission factors used for the majority of the transfer points were obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Sodium Carbonate, Section 8.12, July 1993. The uncontrolled factor for Sodium Carbonate transfer was used because the material that makes up the primary mass in each transfer process is a form of Sodium Carbonate.

The emission factors used for the 3rd floor mixer dump was obtained from the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Lime Manufacturing, Section 11.17, July 1998. Lime is primarily composed of Calcium Carbonate. Calcium Carbonate is less soluble than Sodium Carbonate so its emission factors were used as a conservative estimation. The factors used are for an atmospheric hydrator which is reasonably similar to the solid and liquid mixing process. The solid material in the process is mixed with binder and liquid fragrance which will behave reasonably similar to the wet scrubber implemented in the emission factors.

The California Air Resources Board (CARB) developed a table as part of the California Emissions Inventory Development And Reporting System (CEIDARS). The CEIDARS table was used to calculate the PM₁₀ and PM_{2.5} fractions of the transfer points. The mass fraction for Mineral Products, Loading and Unloading Bulk Material, was used for most of the sites transfer points. The mass fraction for Consumer Products was used as

for the 3rd floor mixer and the presses as a more conservative estimation. The product contains binder which will greatly reduce the amount larger particulates emitted. The consumer products fractions has the PM₁₀ and PM_{2.5} make up a large percentage of the total particulate emission.

The emission calculations for the fragrance drums assumed a worst case scenario were all the VOCs are released into the atmosphere. Using the data provided in the permit application this equates to 30% of the fragrance liquids total weight.

The emissions from the 15,000 gallon storage tanks were omitted from the calculations because the Glycerol and PEG400 liquids stored in them contain no HAPs and will emit a negligible amount of VOCs (<0.1% by weight).

The 16 storage silos are not expected to have any emissions because they encapsulate only particulate, a small amount of Glycerol and PEG400 binder, and fragrance solution that's emissions have previously been accounted for.

Due to a lack of a better factor the uncontrolled factor for Sodium Carbonate transfer was used to account for emissions from the tablet presses.

Nearly all of the transfer operations are controlled by at least one of many identical baghouses. The control efficiencies given to these baghouses was 99.5% for all particulates. Typically, particulate matter that has a diameter less than 10 microns is given a 99.5% control efficiency and particulate matter that has a diameter less than 2.5 microns is given a 99.0% efficiency. This will not work for the transfer emission factors because of how close the PM₁₀ and PM_{2.5} emission factors are. If used the PM_{2.5} factor would be larger than the PM₁₀ factor for most of the emission units. This case is a physical impossibility so a 99.5% emission factor was used in both cases.

The length of the existing haul road was found using google maps. Vehicles on the paved haul road will travel anywhere between 190 and 640 feet per trip. The estimated potential emissions from the existing paved road, based on the expected MHDR (13.321 tons per hour), are 0.83 tons per year of PM₁₀ and 0.20 tons per year of PM_{2.5}. They were not included in the sites overall potential.

The following table provides an emissions summary for this project. Existing potential emissions were taken from permit 012014-010. Existing actual emissions were taken from the installation's 2015 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions ^a	Existing Actual Emissions (2015 EIQ)	Controlled Potential Emissions of the Project	New Installation Potential Emissions ^b
PM	25.0	39.18	N/A	9.59	48.77
PM ₁₀	15.0	39.18	1.61	6.78	45.96
PM _{2.5}	10.0	39.18	1.61	5.83	45.01
SO _x	40.0	0.02	N/A	N/A	0.02
NO _x	40.0	9.12	N/A	N/A	9.12
VOC	40.0	13.30	7.38	10.43	23.73
CO	100.0	4.51	N/A	N/A	4.51
GHG (CO ₂ e)	75,000 / 100,000	9,830.56	N/A	N/A	9,830.56
GHG (mass)	0.0 / 100.0 / 250.0	9,303.47	N/A	N/A	9,303.47
HAPs	10.0/25.0	N/A	N/A	N/A	N/A

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

a. The existing potential emissions do not include the paved haul road.

b. The new installation potential was calculated assuming the continuous operation of all the control devices included in this permit.

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 all pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

RB Manufacturing LLC 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*
 - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *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 10-6.165*

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*, it is recommended that this permit be granted with special conditions.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 01, 2016, received April 19, 2016, designating Reckitt Benckiser, Inc. as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

%	percent	m/s	meters per second
°F	degrees Fahrenheit	Mgal	1,000 gallons
acfm	actual cubic feet per minute	MW	megawatt
BACT	Best Available Control Technology	MHDR	maximum hourly design rate
BMPs	Best Management Practices	MMBtu	Million British thermal units
Btu	British thermal unit	MMCF	million cubic feet
CAM	Compliance Assurance Monitoring	MSDS	Material Safety Data Sheet
CAS	Chemical Abstracts Service	NAAQS ...	National Ambient Air Quality Standards
CEMS	Continuous Emission Monitor System	NESHAPs	National Emissions Standards for Hazardous Air Pollutants
CFR	Code of Federal Regulations	NO_x	nitrogen oxides
CO	carbon monoxide	NSPS	New Source Performance Standards
CO₂	carbon dioxide	NSR	New Source Review
CO_{2e}	carbon dioxide equivalent	PM	particulate matter
COMS	Continuous Opacity Monitoring System	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
CSR	Code of State Regulations	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
dscf	dry standard cubic feet	ppm	parts per million
EQ	Emission Inventory Questionnaire	PSD	Prevention of Significant Deterioration
EP	Emission Point	PTE	potential to emit
EPA	Environmental Protection Agency	RACT	Reasonable Available Control Technology
EU	Emission Unit	RAL	Risk Assessment Level
fps	feet per second	SCC	Source Classification Code
ft	feet	scfm	standard cubic feet per minute
GACT	Generally Available Control Technology	SDS	Safety Data Sheet
GHG	Greenhouse Gas	SIC	Standard Industrial Classification
gpm	gallons per minute	SIP	State Implementation Plan
gr	grains	SMAL	Screening Model Action Levels
GWP	Global Warming Potential	SO_x	sulfur oxides
HAP	Hazardous Air Pollutant	SO₂	sulfur dioxide
hr	hour	tph	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		

Appendix B: Table of Hazardous Air Pollutants and Screening Model Action Levels

Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM
ACETALDEHYDE	75-07-0	9		Y	N	CARBARYL	63-25-2	10	V	Y	Y	DICHLOROPROPANE, [1,2-]	78-87-5	1		Y	N
ACETAMIDE	60-35-5	1		Y	N	CARBON DISULFIDE	75-15-0	1		Y	N	DICHLOROPROPENE, [1,3-]	542-75-6	1		Y	N
ACETONITRILE	75-05-8	4		Y	N	CARBON TETRACHLORIDE	56-23-5	1		Y	N	DICHLORVOS	62-73-7	0.2		Y	N
ACETOPHENONE	98-86-2	1		Y	N	CARBONYL SULFIDE	463-58-1	5		Y	N	DIETHANOLAMINE	111-42-2	5		Y	N
ACETYLAMINOFLUORINE, [2-]	53-96-3	0.005	V	Y	Y	CATECHOL	120-80-9	5		Y	N	DIETHYL SULFATE	64-67-5	1		Y	N
ACROLEIN	107-02-8	0.04		Y	N	CHLORAMBEN	133-90-4	1		Y	Y	DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	5	P	Y	N
ACRYLAMIDE	79-06-1	0.02		Y	N	CHLORDANE	57-74-9	0.01		Y	Y	DIMETHOXYBENZIDINE, [3,3-]	119-90-4	0.1	V	Y	Y
ACRYLIC ACID	79-10-7	0.6	Y	N	CHLORINE	7782-50-5	0.1	N	N	N	DIMETHYL BENZIDINE, [3,3-]	119-93-7	0.008	V	Y	Y	
ACRYLONITRILE	107-13-1	0.3	Y	N	CHLOROACETIC ACID	79-11-8	0.1	Y	N	N	DIMETHYL CARBAMOYL CHLORIDE	79-44-7	0.02		Y	N	
ALLYL CHLORIDE	107-05-1	1		Y	N	CHLOROACETOPHENONE, [2-]	532-27-4	0.06		Y	N	DIMETHYL FORMAMIDE	68-12-2	1		Y	N
AMINOBIIPHENYL, [4-]	92-67-1	1	V	Y	N	CHLORO BENZENE	108-90-7	10		Y	N	DIMETHYL HYDRAZINE, [1,1-]	57-14-7	0.008		Y	N
ANILINE	62-53-3	1		Y	N	CHLORO BENZILATE	510-15-6	0.4	V	Y	Y	DIMETHYL PHTHALATE	131-11-3	10		Y	N
ANISIDINE, [ORTHO-]	90-04-0	1		Y	N	CHLOROFORM	67-66-3	0.9		Y	N	DIMETHYL SULFATE	77-78-1	0.1		Y	N
ANTHRACENE	120-12-7	0.01	V	Y	N	CHLOROMETHYL METHYL ETHER	107-30-2	0.1		Y	N	DIMETHYLAMINOAZOBENZENE, [4-]	60-11-7	1		Y	N
ANTIMONY COMPOUNDS		5	H	N	Y	CHLOROPRENE	126-99-8	1		Y	N	DIMETHYLANILINE, [N-N]	121-69-7	1		Y	N
ANTIMONY PENTAFLUORIDE	7783-70-2	0.1	H	N	Y	CHROMIUM (VI) COMPOUNDS		0.002	L	N	Y	DINITRO-O-CRESOL, [4,6-] (Note 6)	534-52-1	0.1	E	Y	Y
ANTIMONY POTASSIUM TARTRATE	28300-74-5	1	H	N	Y	CHROMIUM COMPOUNDS		5	L	N	Y	DINITROPHENOL, [2,4-]	51-28-5	1		Y	N
ANTIMONY TRIOXIDE	1309-64-4	1	H	N	Y	CHRYSENE	218-01-9	0.01	V	Y	N	DINITROTOLUENE, [2,4-]	121-14-2	0.02		Y	N
ANTIMONY TRISULFIDE	1345-04-6	0.1	H	N	Y	COBALT COMPOUNDS		0.1	M	N	Y	DIOXANE, [1,4-]	123-91-1	6		Y	N
ARSENIC COMPOUNDS		0.005	I	N	Y	COKE OVEN EMISSIONS	8007-45-2	0.03	N	Y	N	DIPHENYLHYDRAZINE, [1,2-]	122-66-7	0.09	V	Y	Y
ASBESTOS	1332-21-4	0	A	N	Y	CRESOL, [META-]	108-39-4	1	B	Y	N	DIPHENYLMETHANE DIISOCYANATE, [4,4-]	101-68-8	0.1	V	Y	N
BENZ(A)ANTHRACENE	56-55-3	0.01	V	Y	N	CRESOL, [ORTHO-]	95-48-7	1	B	Y	N	EPICHLOROHYDRIN	106-89-8	2		Y	N
BENZENE	71-43-2	2		Y	N	CRESOL, [PARA-]	106-44-5	1	B	Y	N	ETHOXYETHANOL, [2-]	110-80-5	10	P	Y	N
BENZIDINE	92-87-5	0.0003	V	Y	N	CRESOLS (MIXED ISOMERS)	1319-77-3	1	B	Y	N	ETHOXYETHYL ACETATE, [2-]	111-15-9	5	P	Y	N
BENZO(A)PYRENE	50-32-8	0.01	V	Y	N	CUMENE	98-82-8	10		Y	N	ETHYL ACRYLATE	140-88-5	1		Y	N
BENZO(B)FLUORANTHENE	205-99-2	0.01	V	Y	N	CYANIDE COMPOUNDS		0.1	O	Y	N	ETHYL BENZENE	100-41-4	10		Y	N
BENZO(K)FLUORANTHENE	207-08-9	0.01	V	Y	N	DDE	72-55-9	0.01	V	Y	Y	ETHYL CHLORIDE	75-00-3	10		Y	N
BENZOTRICHLORIDE	98-07-7	0.006		Y	N	DI[2-ETHYLHEXYL] PHTHALATE, (DEHP)	117-81-7	5		Y	N	ETHYLENE GLYCOL	107-21-1	10		Y	N
BENZYL CHLORIDE	100-44-7	0.1		Y	N	DIAMINOTOLUENE, [2,4-]	95-80-7	0.02		Y	N	ETHYLENE GLYCOL MONOBUTYL ETHER (Delisted)	111-76-2				
BERYLLIUM COMPOUNDS		0.008	J	N	Y	DIAZOMETHANE	334-88-3	1		Y	N	ETHYLENE GLYCOL MONOHEXYL ETHER	112-25-4	5	P	Y	N
BERYLLIUM SALTS		2E-05	J	N	Y	DIBENZ(A,H)ANTHRACENE	53-70-3	0.01	V	Y	N	ETHYLENE IMINE [AZIRIDINE]	151-56-4	0.003		Y	N
BIPHENYL, [1,1-]	92-52-4	10	V	Y	N	DIOXINS/FURANS		6E-07	D,V	Y	N	ETHYLENE OXIDE	75-21-8	0.1		Y	N
BIS(CHLOROETHYL)ETHER	111-44-4	0.06		Y	N	DIBENZOFURAN	132-64-9	5	V	Y	N	ETHYLENE THIOUREA	96-45-7	0.6		Y	Y
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0003		Y	N	DIBROMO-3-CHLOROPROPANE, [1,2-]	96-12-8	0.01		Y	N	FORMALDEHYDE	50-00-0	2		Y	N
BROMOFORM	75-25-2	10		Y	N	DIBROMOETHANE, [1,2-]	106-93-4	0.1		Y	N	GLYCOL ETHER (ETHYLENE GLYCOL ETHERS)		5	P	Y	N
BROMOMETHANE	74-83-9	10		Y	N	DIBUTYL PHTHALATE	84-74-2	10		Y	Y	GLYCOL ETHER (DIETHYLENE GLYCOL ETHERS)		5	P	Y	N
BUTADIENE, [1,3-]	106-99-0	0.07		Y	N	DICHLOROBENZENE, [1,4-]	106-46-7	3		Y	N	HEPTACHLOR	76-44-8	0.02		Y	N
BUTOXYETHANOL ACETATE, [2-]	112-07-2	5	P	Y	N	DICHLOROBENZIDENE, [3,3-]	91-94-1	0.2	V	Y	Y	HEXACHLOROBENZENE	118-74-1	0.01		Y	N
BUTYLENE OXIDE, [1,2-]	106-88-7	1		Y	N	DICHLOROETHANE, [1,1-]	75-34-3	1		Y	N	HEXACHLOROBUTADIENE	87-68-3	0.9		Y	N
CADMIUM COMPOUNDS		0.01	K	N	Y	DICHLOROETHANE, [1,2-]	107-06-2	0.8		Y	N	HEXACHLOROCYCLOHEXANE, [ALPHA-]	319-84-6	0.01	F	Y	N
CALCIUM CYANAMIDE	156-62-7	10		Y	Y	DICHLOROETHYLENE, [1,1-]	75-35-4	0.4		Y	N	HEXACHLOROCYCLOHEXANE, [BETA-]	319-85-7	0.01	F	Y	N
CAPROLACTAM (Delisted)	105-60-2					DICHLOROMETHANE	75-09-2	10		N	N	HEXACHLOROCYCLOHEXANE, [DELTA-]	319-86-8	0.01	F	Y	N
CAPTAN	133-06-2	10		Y	Y	DICHLOROPHENOXYACETIC ACID, [2,4-]	94-75-7	10	C	Y	Y	HEXACHLOROCYCLOHEXANE, [TECHNICAL]	608-73-1	0.01	F	Y	N

Appendix B: Table of Hazardous Air Pollutants and Screening Model Action Levels

Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM
HEXACHLOROCYCLOPENTADIENE	77-47-4	0.1		Y	N	NITROSODIMETHYLAMINE, [N-]	62-75-9	0.001		Y	N	TRIMETHYLPENTANE, [2,2,4-]	540-84-1	5		Y	N
HEXACHLOROETHANE	67-72-1	5		Y	N	NITROSOMORPHOLINE, [N-]	59-89-2	1		Y	N	URETHANE [ETHYL CARBAMATE]	51-79-6	0.8		Y	N
HEXAMETHYLENE,-1,6-DIISOCYANATE	822-06-0	0.02		Y	N	NITROSO-N-METHYLUREA, [N-]	684-93-5	0.0002		Y	N	VINYL ACETATE	108-05-4	1		Y	N
HEXAMETHYLPHOSPHORAMIDE	680-31-9	0.01		Y	N	OCTACHLORONAPHTHALENE	2234-13-1	0.01	V	Y	N	VINYL BROMIDE	593-60-2	0.6		Y	N
HEXANE, [N-]	110-54-3	10		Y	N	PARATHION	56-38-2	0.1		Y	Y	VINYL CHLORIDE	75-01-4	0.2		Y	N
HYDRAZINE	302-01-2	0.004	N	N	N	PCB [POLYCHLORINATED BIPHENYLS]	1336-36-3	0.009	X	Y	Y	XYLENE, [META-]	108-38-3	10	G	Y	N
HYDROGEN CHLORIDE	7647-01-0	10	N	N	N	PENTACHLORONITROBENZENE	82-68-8	0.3		Y	N	XYLENE, [ORTHO-]	95-47-6	10	G	Y	N
HYDROGEN FLUORIDE	7664-39-3	0.1	N	N	N	PENTACHLOROPHENOL	87-86-5	0.7		Y	N	XYLENE, [PARA-]	106-42-3	10	G	Y	N
HYDROQUINONE	123-31-9	1		Y	N	PHENOL	108-95-2	0.1		Y	N	XYLENES (MIXED ISOMERS)	1330-20-7	10	G	Y	N
INDENO(1,2,3CD)PYRENE	193-39-5	0.01	V	Y	N	PHENYLENEDIAMINE, [PARA-]	106-50-3	10		Y	N						
ISOPHORONE	78-59-1	10		Y	N	PHOSGENE	75-44-5	0.1		Y	N						
LEAD COMPOUNDS		0.01	Q	N	Y	PHOSPHINE	7803-51-2	5		N	N						
LINDANE [GAMMA-HEXACHLOROCYCLOHEXANE]	58-89-9	0.01	F	Y	N	PHOSPHOROUS (YELLOW OR WHITE)	7723-14-0	0.1		N	N	Legend					
MALEIC ANHYDRIDE	108-31-6	1		Y	N	PTHALIC ANHYDRIDE	85-44-9	5		Y	N	Group ID	Aggregate Group Name				
MANGANESE COMPOUNDS		0.8	R	N	Y	POLYCYLIC ORGANIC MATTER		0.01	V	Y	N	A	Asbestos				
MERCURY COMPOUNDS		0.01	S	N	N	PROPANE SULTONE, [1,3-]	1120-71-4	0.03		Y	Y	B	Cresols/Cresylic Acid (isomers and mixtures)				
METHANOL	67-56-1	10		Y	N	PROPIOLACTONE, [BETA-]	57-57-8	0.1		Y	N	C	2,4 - D, Salts and Esters				
METHOXYCHLOR	72-43-5	10	V	Y	Y	PROPIONALDEHYDE	123-38-6	5		Y	N	D	Dibenzofurans, Dibenzodioxins				
METHOXYETHANOL, [2-]	109-86-4	10	P	Y	N	PROPOXUR [BAYGON]	114-26-1	10		Y	Y	E	4, 6 Dinitro-o-cresol, and Salts				
METHYL CHLORIDE	74-87-3	10		Y	N	PROPYLENE OXIDE	75-56-9	5		Y	N	F	Lindane (all isomers)				
METHYL ETHYL KETONE (Delisted)	78-93-3					PROPYLENIMINE, [1,2-]	75-55-8	0.003		Y	N	G	Xylenes (all isomers and mixtures)				
METHYL HYDRAZINE	60-34-4	0.06		Y	N	QUINOLINE	91-22-5	0.006		Y	N	H	Antimony Compounds				
METHYL IODIDE	74-88-4	1		Y	N	QUINONE	106-51-4	5		Y	N	I	Arsenic Compounds				
METHYL ISOBUTYL KETONE	108-10-1	10		Y	N	RADIONUCLIDES		Note 1	Y	N	Y	J	Beryllium Compounds				
METHYL ISOCYANATE	624-83-9	0.1		Y	N	SELENIUM COMPOUNDS		0.1	W	N	Y	K	Cadmium Compounds				
METHYL METHACRYLATE	80-62-6	10		Y	N	STYRENE	100-42-5	1		Y	N	L	Chromium Compounds				
METHYL TERT-BUTYL ETHER	1634-04-4	10		Y	N	STYRENE OXIDE	96-09-3	1		Y	N	M	Cobalt Compounds				
METHYLCYCLOPENTADIENYL MANGANESE	12108-13-3	0.1	R	N	Y	TETRACHLORODIBENZO-P-DIOXIN,[2,3,7,8]	1746-01-6	6E-07	D,V	Y	Y	N	Coke Oven Emissions				
METHYLENE BIS(2-CHLOROANILINE), [4,4-]	101-14-4	0.2	V	Y	Y	TETRACHLOROETHANE, [1,1,2,2-]	79-34-5	0.3		Y	N	O	Cyanide Compounds				
METHYLENEDIANILINE, [4,4-]	101-77-9	1	V	Y	N	TETRACHLOROETHYLENE	127-18-4	10		N	N	P	Glycol Ethers				
METHYLNAPHTHALENE, [2-]	91-57-6	0.01	V	Y	N	TITANIUM TETRACHLORIDE	7550-45-0	0.1		N	N	Q	Lead Compounds (except elemental Lead)				
MINERAL FIBERS		0	T	N	Y	TOLUENE	108-88-3	10		Y	N	R	Manganese Compounds				
NAPHTHALENE	91-20-3	10	V	Y	N	TOLUENE DIISOCYANATE, [2,4-]	584-84-9	0.1		Y	N	S	Mercury Compounds				
NAPHTHYLAMINE, [ALPHA-]	134-32-7	0.01	V	Y	N	TOLUIDINE, [ORTHO-]	95-53-4	4		Y	N	T	Fine Mineral Fibers				
NAPHTHYLAMINE, [BETA-]	91-59-8	0.01	V	Y	N	TOXAPHENE	8001-35-2	0.01		Y	N	U	Nickel Compounds				
NICKEL CARBONYL	13463-39-3	0.1	U	N	Y	TRICHLOROBENZENE, [1,2,4-]	120-82-1	10		Y	N	V	Polycyclic Organic Matter				
NICKEL COMPOUNDS		1	U	N	Y	TRICHLOROETHANE, [1,1,1-]	71-55-6	10		N	N	W	Selenium Compounds				
NICKEL REFINERY DUST		0.08	U	N	Y	TRICHLOROETHANE, [1,1,2-]	79-00-5	1		Y	N	X	Polychlorinated Biphenyls (Aroclors)				
NICKEL SUBSULFIDE	12035-72-2	0.04	U	N	Y	TRICHLOROETHYLENE	79-01-6	10		Y	N	Y	Radionuclides				
NITROBENZENE	98-95-3	1		Y	N	TRICHLOROPHENOL, [2,4,5-]	95-95-4	1		Y	N						
NITROBIPHENYL, [4-]	92-93-3	1	V	Y	N	TRICHLOROPHENOL, [2,4,6-]	88-06-2	6		Y	N						
NITROPHENOL, [4-]	100-02-7	5		Y	N	TRIFLURALIN	1582-09-8	9		Y	Y						
NITROPROPANE, [2-]	79-46-9	1		Y	N												
Notes																	
												Note 1	The SMAL for radionuclides is defined as the effective dose equivalent to 0.3 millirems per year for 7 years exposure associated with a cancer risk of 1 in 1 million				

Ms. Lynn Wilson
EHS Manager
RB Manufacturing LLC
30 Arrowhead Industrial Boulevard
St. Peters, MO 63376

RE: New Source Review Permit - Project Number: 2016-04-036

Dear Ms. Wilson:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty 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 administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.

Ms. Lynn Wilson
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If you have any questions regarding this permit, please do not hesitate to contact Branson, Kent, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:hjj

Enclosures

c: St. Louis Regional Office
PAMS File: 2016-04-036

Permit Number: