

**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: **07 2017 - 001**

Project Number: 2017-05-060
Installation ID: 187-0093

Parent Company: Patriot Ready Mix

Parent Company Address: 4950 Flat River Road, Farmington, MO 63640

Installation Name: Patriot Ready Mix

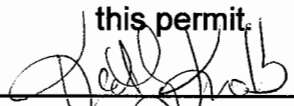
Installation Address: 4920 Flat River Road, Farmington, MO 63640

Location Information: St. Francois County, S15 T36N R5W

Application for Authority to Construct was made for:
Construction of a new concrete plant. This review was conducted in accordance with Section (6), 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
Kathy Kolb
New Source Review Unit


Director or Designee
Department of Natural Resources

JUL 05 2017

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."

1. Annual Emission Limit
 - A. Patriot Ready Mix shall emit less than 15.0 tons of PM₁₀ in any 12-month period from the entire installation (See Table 1 for equipment list).
 - B. Patriot Ready Mix shall demonstrate compliance with Special Condition 1.A using Attachment A or another equivalent form that has been approved by the Air Pollution Control Program, including an electronic form.
2. Undocumented Watering Requirement
Patriot Ready Mix shall apply a water spray on all haul roads and vehicular activity areas whenever conditions exist that would allow visible emissions from these sources to leave the property.
3. Control Device Requirement-Baghouse
 - A. Patriot Ready Mix shall control emissions from the equipment listed below using baghouses as specified in the permit application.
 - 1) Cement Silo (EU-03)
 - 2) Supplement Silo (EU-04)
 - 3) Weigh Hopper (EU-05)
 - 4) Truck Mix Loadout (shroud vented to baghouse) (EU-06)
 - B. The baghouse 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 baghouse 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).
 - D. Patriot Ready Mix shall monitor and record the operating pressure drop across the baghouse at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

SPECIAL CONDITIONS:

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

- E. Patriot Ready Mix shall maintain a copy of the baghouse manufacturer's performance warranty on site.
- F. Patriot Ready Mix shall maintain an operating and maintenance log for the baghouse 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.
- 4. **Record Keeping Requirement**
Patriot Ready Mix shall maintain all records required by this permit for not less than five years and make them available to any Missouri Department of Natural Resources' personnel upon request.
- 5. **Reporting Requirement**
Patriot Ready Mix shall report to the Air Pollution Control Program, Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after any exceedances of the limitations imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2017-05-060
Installation ID Number: 187-0093

Permit Number: 072017-001

Patriot Ready Mix
4920 Flat River Road
Farmington, MO 63640

Complete: June 6, 2017

Parent Company:
Patriot Ready Mix
4950 Flat River Road
Farmington, MO 63640

St. Francois County, S15 T36N R5W

PROJECT DESCRIPTION

Patriot Ready Mix is constructing a concrete batch mix plant which will be powered by electricity (off the grid). There will be no engines. The plant is a Vince Hagan LP with a MHDR of 300 tph. Emissions from the cement silo (EU-03), supplement silo (EU-04), weigh hopper, (EU-05), and truck loading (EU-06) are controlled by a baghouse.

The applicant is using undocumented watering to control emissions from haul roads and vehicular activity areas.

Table 1: Concrete Plant Equipment List

Emission Point	Description	MHDR
EU-01	Aggregate Transfer	300 tph
EU-02	Sand Transfer	300 tph
EU-03	Cement Unloading to Silo	300 tph
EU-04	Supplement Unloading	300 tph
EU-05	Weigh Hopper	300 tph
EU-06	Truck Loading	300 tph
EU-07	Aggregate Storage Pile	0.125 acres
EU-08	Sand Storage Pile	0.125 acres
EU-09	Shipping Haul Road	450feet
EU-10	Receiving Haul Road	550 feet

This installation is located in St. Francois 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.

No permits have been issued to Patriot Ready Mix from the Air Pollution Control Program.

TABLES

The table below summarizes the emissions of this project. The potential emissions of the process equipment exclude emissions from haul roads and wind erosion. There are no existing actual emissions since this is a new installation. The potential emissions of the application represent the emissions of all equipment and activities assuming continuous operation (8760 hours per year). Conditioned potential emissions account for a voluntary annual PM₁₀ emission limit of 15.0 tons per year in order to avoid refined modeling according to 10 CSR 10-6.060 (6)(B)3.

Table 1: Emissions Summary (tons per year)

Air Pollutant	De Minimis Level/SMAL	^a Potential Emissions of Process Equipment	Existing Actual Emissions	^b Potential Emissions of the Application	Conditioned Potential Emissions
PM	25.0	20.15	N/A	328.59	46.79
PM ₁₀	15.0	9.29	N/A	105.33	<15.0
PM _{2.5}	10.0	2.69	N/A	14.53	2.07
SO _x	40.0	N/A	N/A	N/A	N/A
NO _x	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	N/A	N/A
CO	100.0	N/A	N/A	N/A	N/A
GHG (CO ₂ e)	75,000 / 100,000	N/A	N/A	N/A	N/A
GHG (mass)	0.0 / 100.0 / 250.0	N/A	N/A	N/A	N/A
Total HAPs	25.0	N/A	N/A	N/A	N/A

N/A = Not Applicable

^aPotential emissions of process equipment excluding haul roads, wind erosion, and vehicular activity

^bIncludes haul road and storage pile emissions

EMISSIONS CALCULATIONS

Emissions for the project were calculated as described below and using emission factors found in the United States EPA document AP-42 *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition (AP-42).

Emissions from the concrete batch plant:

- Calculated using emission factors from AP-42 Section 11.12 "Concrete Batching," June 2006.

- This section cites Equation (1) in Section 13.2.4 "Aggregate Handling and Storage Piles," November 2006 for calculating the emissions from aggregate and sand transfer.
- The cement and supplement silos are controlled with baghouses, so the controlled emission factors were used.

Emissions from the aggregate weigh hopper:

- Calculated using AP-42 Section 13.2.4, Equation (1).
- These emissions are controlled by a baghouse so a 99% control factor was applied to the calculation.
- Emissions from mix truck loading are controlled by a shroud vented to a baghouse, so the controlled emission factor was used.

Emissions from haul roads and vehicular activity areas:

- Calculated using the predictive equation from AP-42 Section 13.2.2 "Unpaved Roads," November 2006.
- A 50% control efficiency for PM and PM₁₀ and a 41% control efficiency for PM_{2.5} were applied to the emission calculations for the use of undocumented water.

Emissions from storage piles:

- Load-in and load-out of storage piles were calculated using the predictive equation from AP-42 Section 13.2.4.
- Emissions from wind erosion of storage piles were calculated using an equation found in the Air Pollution Control Program's Emissions Inventory Questionnaire Form 2.8 "Storage Pile Worksheet."

OPERATING SCENARIOS

Patriot Ready Mix cannot operate with any other plants that have ambient impact limits based on the Air Pollution Control Program's nomographs. When another plant/portable plant is locating to this site, please refer to that plant's permit's special conditions to see if they contain ambient impact limits.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. The conditioned potential emissions include emissions from sources that will limit their production to ensure compliance with the annual PM₁₀ emission limit of 15.0 tons per year for stationary plants in order to avoid refined modeling according to 10 CSR 10-6.060 (6)(B)3. Potential emissions of PM are above de minimis but below major source levels. There are no modeling requirements for PM.

APPLICABLE REQUIREMENTS

Patriot Ready Mix 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.

GENERAL REQUIREMENTS

- No Operating Permit is required for this installation.
- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110.
- *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

SPECIFIC REQUIREMENTS

- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPS) or National Emission Standards for Hazardous Air Pollutants for Source Categories (MACTS) apply to the proposed equipment.

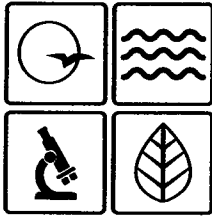
STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), 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 May 17, 2017, received May 22, 2017, designating Patriot Ready Mix as the owner and operator of the installation.



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

JUL 05 2017

Mr. Ben Dinkins
Owner
Patriot Ready Mix
4920 Flat River Road
Farmington, MO 63640

RE: New Source Review Permit - Project Number: 2017-05-060

Dear Mr. Dinkins:

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 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.



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Mr. Ben Dinkins
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If you have any questions, please do not hesitate to contact Kathy Kolb, at the department's 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:kkj

Enclosures

c: Southeast Regional Office
PAMS File: 2017-05-060

Permit Number: **07 2017 - 001**