



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: 072020-005 Project Number: 2020-05-032
Installation Number: 097-0094

Parent Company: TAMKO Building Products LLC

Parent Company Address: PO Box 1404, Joplin, MO 64802

Installation Name: TAMKO Building Products LLC

Installation Address: 3001 Newman Road, Joplin, MO 64801

Location Information: Jasper County, S31, T28N, R32W

Application for Authority to Construct was made for:
Increasing the PPA usage to a maximum rate of 1.5% by weight. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

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



Director or Designee
Department of Natural Resources

July 14, 2020

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/>

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

Project Number: 2020-05-032
Installation ID Number: 097-0094
Permit Number: 072020-005

Installation Address:

TAMKO Building Products LLC
3001 Newman Road
Joplin, MO 64801

Parent Company:

TAMKO Building Products LLC
PO Box 1404
Joplin, MO 64802

Jasper County, S31, T28N, R32W

REVIEW SUMMARY

- TAMKO Building Products LLC has applied for authority to increase the polyphosphoric acid (PPA) usage to a maximum rate of 1.5% by weight.
- The application was deemed complete on July 1, 2020.
- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are phosphorus.
- 40 CFR 60, Subpart UU, *Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture* of the NSPS applies to the equipment.
- 40 CFR part 63 Subpart AAAAAAA, *National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing* applies to the installation
- Direct-fired thermal oxidizers are being used to control the emissions from the equipment in this permit. The requirement to operate the oxidizers is contained in Special Condition 3 of permit 062015-009.
- 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. Potential emissions of phosphorus are above the SMAL.
- This installation is located in Jasper County, an attainment/unclassifiable 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.

- Ambient air quality modeling was performed for this review. Potential emissions of phosphorus exceed the SMAL. The US EPA has completed the Risk and Technology Review (RTR) for the source category Asphalt Processing and Roofing; however, TAMKO Building Products, Inc. is not a major source of HAPs and instead is subject to 40 CFR part 63 Subpart AAAAAAA for area sources.
- 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.
- An application to amend the Part 70 Operating Permit application is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended without special conditions.

INSTALLATION DESCRIPTION

TAMKO Building Products, Inc. manufactures roofing products and includes such processes and products as felt mat, glass mat, asphalt coatings, and saturates. The installation is composed of three main operations: refinery, fiberglass mat manufacturing, and felt mill no. 1. Another felt mill (no. 2) was removed from operations. The facility is considered a major source for operating permits and a Part 70 Operating Permit was issued to the facility in 2018 (Permit No. OP2018-091).

The following New Source Review permits have been issued to TAMKO Building Products, Inc. from the Air Pollution Control Program.

Table 1: Construction Permit History

Permit Number	Description
0393-012	Replacing blow still tanks
0594-032	Modifications to the fiberglass mat line
0496-004	25.2 MMBtu/hr natural gas-fired boiler
112000-012	RTO installation
062001-004	Replacing thermal oxidizer
052010-008	Refinery process change
102010-007	Installation of two new 25.2 MMBtu/hr natural gas-fired boilers, which will replace three existing boilers, and the replacement of three tank heater burners
052010-008A	Amending Permit 052010-008 to account for recent stack test
072012-012	Installation of chopper and blower system for the fiberglass mat trim
092013-009	Removing software restriction to increase MHDR from 3.8 tph to 4.8 tph
092014-004	Replacement of an 8.73 MMBtu/hr thermal oxidizer with a 25 MMBtu/hr thermal oxidizer
062015-009	Petroleum additives
052015-004	Increase production rate
062015-009A	Include historic HAPs

PROJECT DESCRIPTION

TAMKO has proposed to increase the percent of the PPA modifier used in the facility's asphalt blowing process. Current phosphorus emissions from the blowstills are based on a stack test performed at the facility in June 2010. During this test, the percent by weight of PPA modifier used was 0.3 % by weight. The facility proposes to increase the percent by weight of PPA modifier used to 1.5 % by weight.

Potential emissions of phosphorus are above the SMAL.

EMISSIONS/CONTROLS EVALUATION

Potential phosphorus emissions of the four blowstills (EP-BS-AB1-A & B and EP-BS-AB2-A & B) are controlled by direct-fired thermal oxidizers (DFTO-101 and DFTO-102) as required by Special Condition 3 in permit 062015-009. The emission rate for phosphorus when using 0.3% by weight PPA during the June 2010 stack test was 0.019 lbs/hr. Since TAMKO is requesting using 1.5% by weight PPA, the emission rate was scaled by five times the 2010 stack test result for calculating the project potential to emit. The 1.5% is in line with guidance from the Asphalt Institute that indicates a typical PPA dosage rate is between 0.25 % and 1.5 % by weight of asphalt.

The following table provides an emissions summary for this project. Existing actual emissions were taken from the installation's 2019 EIQ. Potential emissions of the application represent the potential from using a 1.5% by weight PPA, assuming continuous operation (8760 hours per year).

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Actual Emissions (2019 EIQ)	Potential Emissions of the Project
PM	25.0	N/D	N/A
PM ₁₀	15.0	16.57	N/A
PM _{2.5}	10.0	6.99	N/A
SOx	40.0	38.35	N/A
NOx	40.0	35.07	N/A
VOC	40.0	14.53	N/A
CO	100.0	78.62	N/A
Phosphorus	0.1*	N/D	0.416

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

*SMAL

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. Potential emission of phosphorus are above the SMAL.

APPLICABLE REQUIREMENTS

TAMKO Building Products 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

- *Operating Permits*, 10 CSR 10-6.065
- *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
 - 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.
 - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required every year for Part 70 installations.
- *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

- *40 CFR 60, Subpart UU, "Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture"*
- *40 CFR part 63 Subpart AAAAAAA, National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing*

AMBIENT AIR QUALITY IMPACT ANALYSIS

Emissions of concern from the process are phosphorus emissions. The phosphorus SMAL is 0.1 tons per year. The installation submitted a compliant AAQIA for phosphorus. The AAQIA found that phosphorus was below the 8-hour RAL and compliant with the AAQIA.

The stack characteristics entered into the modeled for the four different scenarios are listed in Table 3. AAQIA results are provided in Table 4. EPA's AERSCREEN model was chosen. The modeling analysis was completed using both the design and stack test basis for both DFTO-101 and DFTO-102. One DFTO serves as a backup unit so the results from the two were not combined since only one unit can be operated at a time for emission control.

Table 3: AERSCREEN Input Parameters

Equipment Description	Source of Input Parameters	Stack Height (m)	Stack Inside Diameter (m)	Stack Gas Exit Velocity (m/s)	Stack Gas Exit Temperature (K)	Dispersion Coefficient
DFTO-101	Design Basis	15.24	1.07	9.74	524.3	Rural
DFTO-101	Stack Test Results	15.24	1.07	5.76	524.3	Rural
DFTO-102	Design Basis	12.19	1.82	3.00	1144.3	Rural
DFTO-102	Stack Test Results	12.19	1.82	1.98	978.2	Rural

Table 4: Phosphorus AAQIA Results

Equipment Description	Source of Input Parameters	8-Hour Impact ($\mu\text{g}/\text{m}^3$)	8-Hour RAL ($\mu\text{g}/\text{m}^3$)
DFTO-101	Design Basis	0.42	1.33
DFTO-101	Stack Test Results	0.53	1.33
DFTO-102	Design Basis	0.71	1.33
DFTO-102	Stack Test Results	0.94	1.33

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 without special conditions.

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated May 13, 2020, received May 18, 2020, designating TAMKO Building Products LLC as the owner and operator of the installation.
- Mark Buncher, Ph.D, P.E. (2020). PPA modification and performance testing. Retrieved from <http://asphaltmagazine.com/ppa-modification-and-performance-testing/>

APPENDIX A

Abbreviations and Acronyms

% percent	Mgal 1,000 gallons
°F degrees Fahrenheit	MW megawatt
acfm actual cubic feet per minute	MHDR maximum hourly design rate
BACT Best Available Control Technology	MMBtu Million British thermal units
BMPs Best Management Practices	MMCF million cubic feet
Btu British thermal unit	MSDS Material Safety Data Sheet
CAM Compliance Assurance Monitoring	NAAQS National Ambient Air Quality Standards
CAS Chemical Abstracts Service	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CEMS Continuous Emission Monitor System	NO_xnitrogen oxides
CFR Code of Federal Regulations	NSPS New Source Performance Standards
CO carbon monoxide	NSR New Source Review
CO₂ carbon dioxide	PMparticulate matter
CO₂e carbon dioxide equivalent	PM_{2.5}particulate matter less than 2.5 microns in aerodynamic diameter
COMS Continuous Opacity Monitoring System	PM₁₀particulate matter less than 10 microns in aerodynamic diameter
CSR Code of State Regulations	ppmparts per million
dscf dry standard cubic feet	PSD Prevention of Significant Deterioration
EIQ Emission Inventory Questionnaire	PTEpotential to emit
EP Emission Point	RACT Reasonable Available Control Technology
EPA Environmental Protection Agency	RAL Risk Assessment Level
EU Emission Unit	SCC Source Classification Code
fps feet per second	scfm standard cubic feet per minute
ft feet	SDS Safety Data Sheet
GACT Generally Available Control Technology	SIC Standard Industrial Classification
GHG Greenhouse Gas	SIP State Implementation Plan
gpm gallons per minute	SMAL Screening Model Action Levels
gr grains	SO_xsulfur oxides
GWP Global Warming Potential	SO₂sulfur dioxide
HAP Hazardous Air Pollutant	SSM Startup, Shutdown & Malfunction
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	
m/s meters per second	



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

July 14, 2020

Daniel K. Hollingshead
General Manager
TAMKO Building Products LLC
3001 Newman Road
Joplin, MO 64801

RE: New Source Review Permit - Project Number: 2020-05-032

Dear Daniel Hollingshead:

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. 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.



Daniel Hollingshead
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If you have any questions regarding this permit, please do not hesitate to contact Chad Stephenson, 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:sca

Enclosures

c: Southwest Regional Office
PAMS File: 2020-05-032

Permit Number:072020-005