STATE OF 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: 052015-004  Project Number: 2015-01-050
Installation Number: 097-0094

Parent Company: TAMKO Building Products, Inc.
Parent Company Address: P.O. Box 1404, Joplin, MO 64802
Installation Name: TAMKO Building Products, Inc.
Installation Address: 3001 Newman Road, Joplin, MO 64801
Location Information: Jasper County, S31, T28N, R32W

Application for Authority to Construct was made for:

The removal of a software restriction that will increase the maximum design rate for the honeycomb dryer. 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 11 2015
EFFECTIVE DATE

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 Department’s Air Pollution Control Program of the anticipated date of startup of these air contaminant sources. 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 startup of these air contaminant sources.

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 sources(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.
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.”

TAMKO Building Products, Inc.
Jasper County, S31, T28N, R32W

1. Superseding Condition
   The special conditions of this permit supersede all of the special conditions in previously issued construction permit no. 092013-009.

2. HAP Emission Limitations
   A. TAMKO Building Products, Inc. shall emit less than 2.0 tons of formaldehyde in any consecutive 12-month period from the honeycomb dryer (EU0060).

   B. Attachment A, or equivalent forms, such as electronic forms, shall be used to demonstrate compliance with Special Condition 2.A. The equivalent forms shall contain the same information and calculation method as in Attachment A.

3. Control Device Operational Requirements – Regenerative Thermal Oxidizer (RTO) with Screen
   A. TAMKO Building Products, Inc. is permitted to operate the honeycomb dryer both with and without using the RTO to control emissions. When the RTO is being used, it shall be operated and maintained in accordance with the manufacturer's specifications. The screen is considered part of the RTO and shall also be operated and maintained in accordance with the manufacturer's specifications. A copy of the manufacturer's specifications shall be kept onsite.

   B. The minimum operating temperature (°F) of the RTO shall be established from the most recent stack test as required in Special Condition 5.A. The temperature shall be continuously monitored and recorded during operations. The monitoring equipment shall be located such that the Department of Natural Resources employees may easily observe them.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

The acceptable minimum temperature is re-established when a new set of performance test is conducted and the results accepted by the Air Pollution Control Program.

C. TAMKO Building Products, Inc. shall maintain an operating and maintenance log for the RTO, which shall include the following:
   1) Incidents of malfunction, with impacts on emissions, duration of event, probable cause, and corrective actions;
   2) Maintenance activities, with inspection schedules, repair actions, replacements, and etc.; and
   3) The dates and times that the RTO is being used to control emissions from the honeycomb dryer and the dates and times that the RTO is not being used.

4. Production Rate Tracking Requirements
   A. TAMKO Building Products, Inc. shall track its daily 24-hour average production rate (in tons per hour) using Attachment B or equivalent forms. The equivalent forms shall contain the same information and calculation method as Attachment B.

   B. Once the facility reaches, for the first time, an actual daily production rate of greater than 5.05 tph based on a 24-hour averaging period, TAMKO Building Products, Inc. shall notify the Compliance/Enforcement Section of the Air Pollution Control Program and perform stack tests in accordance with Special Condition 5.

   C. After reaching 5.05 tph of daily production for the first time based on a 24-hour averaging period, TAMKO Building Products, Inc. may discontinue tracking of the daily production rate as specified in Special Condition 4.A.

5. Performance Testing Requirements
   A. TAMKO Building Products, Inc. shall perform stack testing to determine the formaldehyde emission factor (in pounds of pollutant per ton of fiberglass processed) from the honeycomb dryer with and without the use of the regenerative thermal oxidizer (RTO). These emission factors shall be used to track the formaldehyde emissions as required in Special Condition 2.B. to show compliance with the formaldehyde emission limit in Special Condition 2.A.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

B. The first stack test shall be performed within 90 days after the daily production rate exceeds 5.05 tph for the first time, as indicated by the records required in Special Condition 4.A. Subsequent stack tests shall be performed once every five (5) years or upon replacement of a permanent binder with a higher formaldehyde content, whichever comes first. New tests shall be performed between 90 days before and 90 days after five (5) years from the date of the most recent test, or within 90 days after replacement of a permanent binder with a higher formaldehyde content.

C. A completed Proposed Test Plan Form (enclosed) must be submitted to the Air Pollution Control Program at least 30 days prior to the proposed test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The Proposed Test Plan may serve the purpose of notification and must be approved by the Director prior to conducting the required emission testing.

D. Any required performance tests shall be conducted during periods of representative conditions and shall be conducted at 90-100% of the maximum hourly design rate of 6.0 tph (i.e. 5.4 tph to 6.0 tph), not including periods of start-up, shutdown, or malfunction. If the tests are not performed within ten percent (10%) of the maximum process rate, then 110% of the tested rate will become the new maximum process rate.

E. Two copies of a written report of the performance test results shall be submitted to the Director within 30 days of completion of any required testing. The report must include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required U.S. EPA Method for at least one sample run.

F. The test report required in Special Condition 5.E. is to fully account for all operational and emission parameters addressed both in the permit conditions as well as in any other applicable state or federal rules or regulations. The test report shall establish the minimum operating temperature (°F) for the RTO and the formaldehyde emission factor both with and without the use of the RTO.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

G. Before reaching the daily production rate greater than 5.05 tph based on a 24-hour averaging period, the emission factors determined from the February, 2014 stack tests shall be used in Attachment A to maintain compliance with Special Condition 2.A. After reaching, for the first time, a daily production rate greater than 5.05 tph based on a 24-hour averaging period, the most recent emission factors from the stack tests required in Special Condition 5 shall then be used in Attachment A to maintain compliance with Special Condition 2.A.

6. Installation-Wide Potential-to-Emit Determination
TAMKO Building Products, Inc. shall submit installation-wide potential-to-emit (PTE) calculations for all pollutants to the Operating Permit Unit as supplement to its current Part 70 Operating Permit application (Project 2013-07-067) within 30 days after the first test required in Special Condition 5.B.

7. Record Keeping and Reporting Requirement
A. TAMKO Building Products, Inc. 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 MSDS for all materials used.

B. TAMKO Building Products, Inc. shall report to the Air Pollution Control Program’s Compliance/Enforcement Section no later than ten days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.
REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW
Project Number: 2015-01-050
Installation ID Number: 097-0094
Permit Number:

TAMKO Building Products, Inc. Complete: January 29, 2015
3001 Newman Road
Joplin, MO 64801

Parent Company:
TAMKO Building Products, Inc.
P.O. Box 1404
Joplin, MO 64802

Jasper County, S31, T28N, R32W

REVIEW SUMMARY

• TAMKO Building Products, Inc. has applied for authority to remove a software restriction that will increase the maximum design rate of the honeycomb dryer (EP9-2) from 4.8 tph to 6.0 tph.

• HAP emissions are expected from the proposed equipment. The HAP of concern from this process is formaldehyde.

• None of the New Source Performance Standards (NSPS) apply to the honeycomb dryer. However, there are NSPS that apply to other equipment at the installation. A summary of these NSPS can be found in the installation’s operating permit.

• None of the currently promulgated MACT regulations apply to the honeycomb dryer. However, some of the MACT does apply to other equipment at the installation. A summary of these MACT can be found in the installation’s operating permit.

• None of the NESHAPs apply to this installation.

• A regenerative thermal oxidizer (RTO), originally permitted in Permit No. 112000-012, will be used to control emissions from the honeycomb dryer part of the time.

• This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, Construction Permits Required. Conditioned potential emissions of all pollutants are below de minimis levels.

• This installation is located in Jasper 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.
• Ambient air quality modeling was not performed since potential emissions of the application are either below de minimis levels or conditioned below the SMAL.

• Emissions testing is required for the equipment as a condition in this permit.

• The facility is required to submit an installation-wide PTE calculation to the Operating Permit Unit as supplement to its current Part 70 Operating Permit application (Project 2013-07-067) within 30 days after the first stack test required in Special Condition 4.B.

• Approval of this permit is recommended with 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 2009 (Permit No. OP2009-002).

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

**Table 1: Permit History**

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0393-012</td>
<td>Replacing blow still tanks</td>
</tr>
<tr>
<td>0594-032</td>
<td>Modifications to the fiberglass mat line</td>
</tr>
<tr>
<td>0496-004</td>
<td>25.2 MMBtu/hr natural gas-fired boiler</td>
</tr>
<tr>
<td>112000-012</td>
<td>RTO installation</td>
</tr>
<tr>
<td>062001-004</td>
<td>Replacing thermal oxidizer</td>
</tr>
<tr>
<td>052010-008</td>
<td>Refinery process change</td>
</tr>
<tr>
<td>102010-007</td>
<td>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</td>
</tr>
<tr>
<td>052010-008A</td>
<td>Amending Permit 052010-008 to account for recent stack test</td>
</tr>
<tr>
<td>072012-012</td>
<td>Installation of chopper and blower system for the fiberglass mat trim</td>
</tr>
<tr>
<td>092013-009</td>
<td>Removing software restriction to increase MHDR from 3.8 tph to 4.8 tph</td>
</tr>
<tr>
<td>092014-004</td>
<td>Replacement of an 8.73 MMBtu/hr thermal oxidizer with a 25 MMBtu/hr thermal oxidizer</td>
</tr>
</tbody>
</table>

In Permit No. 112000-012, the facility was labeled a major source under construction permits. However, in Permit No. 102010-007, the status of the facility was changed to being a minor source, but no installation-wide PTE calculations were performed. In Permit 092013-009, the facility was required to submit an installation-wide PTE calculation to the operating permit unit as part of its Part 70 operating permit application (Project 2013-07-067) to confirm its status of being a minor source. Although the facility did submit the PTE calculations as specified in Permit 092013-009, the PTE calculations submitted will no longer be current with the change in the dryer’s maximum hourly design rate. Therefore, the facility is now required, as stated in Special Condition 5, to submit a new PTE calculation to the operating permit unit as supplement to the Part 70 Permit application.
Conditioned potential emissions of all pollutants in this project are less than their respective de minimis levels. As such, the type of permit that should be issued to the facility for this project is not affected by the installation’s status as either a minor or a major source.

PROJECT DESCRIPTION

TAMKO Building Products, Inc. uses a honeycomb dryer (EU0060) fired by natural gas to cure fiberglass mats. In 2013, the facility applied for and received a permit to remove a software restriction that increased the MHDR of the dryer from 3.8 tph to 4.8 tph of fiberglass processed. However, the facility underestimated the new MHDR, so the facility requested to increase the MHDR of the dryer to the new rate, which is 6.0 tph. An RTO, originally permitted in Permit No. 112000-012, will be used only part of the time to control the VOC and formaldehyde emissions from the honeycomb dryer.

According to the company, the increase in the MHDR of the honeycomb will not affect upstream equipment. The amount of chemicals used in equipment such as the saturator and the delta former does not need to be increased to accommodate the additional fiberglass mats. The project would, however, increase emissions from the extra cutting and trimming performed downstream. Product hauling would also be affected. Additional natural gas would also be needed for the extra production.

In the previous permit issued to the installation (No. 092013-009), it was stated that there is a pre-filter being used upstream of the RTO to limit the amount of particulate matter entering the RTO and that there is a differential pressure gauge used to measure the pressure drop across the pre-filter to show when the filters must be changed. However, the facility indicated that this description is not accurate. The pre-filter is really a screen that prevents large pieces of fiberglass mats from entering the RTO and it does not have a differential pressure gauge to measure the pressure drop. The screen is considered part of the RTO and shall be operated and maintained according to the manufacturer’s specifications.

EMISSIONS/CONTROLS EVALUATION

Pollutants of concern from this project are formaldehyde from the drying of the fiberglass mats, particulates from the trimming of the mats, particulates from haul roads, and products of natural gas combustion. Emissions of formaldehyde, which is also a VOC, from the honeycomb dryer (EU0060) were calculated using data from a stack test performed in February, 2014. The facility uses an RTO to control formaldehyde emissions from the dryer most of the time, but the facility also operates a small number of hours each year without using the RTO. Therefore, the uncontrolled emission factor was used to calculate the formaldehyde emissions. The uncontrolled emissions are calculated to be 54.14 tons per year, which is greater than the Screening Model Action Level (SMAL) of 2.0 tons per year. In order to avoid modeling requirements, the facility has elected to take a 2.0 tons per year formaldehyde limit on the honeycomb dryer. Attachment A shall be used to maintain compliance with this limit.
The 2014 stack test for formaldehyde was based on an average production rate of 4.59 tph. However, for the emission factors to be valid at the higher production rate of 6.0 tph, the test has to be performed 90-100% of this rate. Because the facility is subject to a limit of 2.0 tpy of formaldehyde and is required to track its formaldehyde emissions to ensure compliance with this limit, it was not essential to be extremely accurate in the calculation of the formaldehyde PTE and it was decided that the emission factor from this test could be used to estimate the formaldehyde emissions from this project.

The facility plans to gradually increase its production from 4.8 tph to 6.0 tph. Once the daily hourly production hits 5.05 tph, which is 10% higher than 4.59 tph from the 2014 stack test, the facility will be required to perform stack tests within 90 days to determine new formaldehyde emission rates. The new performance tests shall be conducted at 10% of the maximum hourly design rate of 6.0 tph, or the facility will be required to operate the honeycomb dryer within 10% of the tested rate. Thereafter, the facility shall perform a stack test every 5 years or when the facility changes to using a binder that has a higher formaldehyde content than its current binder. (See Special Conditions 2 and 4). Before the daily hourly average production rate hits 5.05 tph, the facility can use results from the 2014 stack test to track formaldehyde emissions for compliance with the 2.0 tpy limit. Once the daily hourly average production rate reaches 5.05 tph for the first time, results from the new stack tests based on 6.0 tph shall be used to track formaldehyde emissions for compliance.

PM$_{2.5}$, PM$_{10}$ and PM emissions from mat trimming are controlled by a dust collector and emissions were calculated using the manufacturer’s emissions guarantee of 0.002 gr/dscf. The dust collector is required by Permit 072012-012. Based on the design of the system, it is believed that 100 percent of the emissions from the trim choppers would be captured and controlled by the baghouse. The choppers are fully enclosed and a blower is used to send the fiberglass scraps to a cyclone separator. The finer particles would be blown out through the top of the cyclone to the baghouse while the larger pieces would fall to the bottom and be sent to a baler.

All of the hauling occur on paved roads and therefore, PM$_{2.5}$, PM$_{10}$, and PM emissions from the haul roads were calculated using emission factors calculated from the equations in Environmental Protection Agency (EPA) document AP-42, *Compilation of air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition, Chapter 13.2.1, *Paved Roads*, (1/2011).

The facility will need additional natural gas to process 6 tph of fiberglass. Emissions from natural gas were calculated using emission factors from AP-42, Chapter 1.4, *Natural Gas Combustion*, (7/1998).

Normally, to calculate emissions increase from a project, the actual emissions from a previous two year period would be subtracted from the potential emissions. However, the conditioned potential emissions of the project are already below the regulatory *de minimis* levels. Therefore, subtracting the actual emissions is not necessary since it would not change the type of permit issued for this project.
The following table provides an emissions summary for this project. Existing potential emissions were not determined. Existing actual emissions were taken from the installation’s 2013 EIQ, as the 2014 EIQ has not been submitted yet by the company. Potential emissions of the application assume continuous operations (8760 hours per year).

Table 2: Emissions Summary (tons per year)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>PM</td>
<td>25.0</td>
<td>N/D</td>
<td>N/D</td>
<td>N/A</td>
<td>1.50</td>
</tr>
<tr>
<td>PM_{10}</td>
<td>15.0</td>
<td>N/D</td>
<td>19.00</td>
<td>N/A</td>
<td>0.82</td>
</tr>
<tr>
<td>PM_{2.5}</td>
<td>10.0</td>
<td>N/D</td>
<td>18.79</td>
<td>N/A</td>
<td>0.70</td>
</tr>
<tr>
<td>SOx</td>
<td>40.0</td>
<td>N/D</td>
<td>41.56</td>
<td>N/A</td>
<td>0.41</td>
</tr>
<tr>
<td>NOx</td>
<td>40.0</td>
<td>N/D</td>
<td>33.53</td>
<td>N/A</td>
<td>6.87</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>N/D</td>
<td>14.25</td>
<td>54.14</td>
<td>2.38</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>N/D</td>
<td>74.14</td>
<td>N/A</td>
<td>5.77</td>
</tr>
<tr>
<td>HAPs</td>
<td>10.0/25.0</td>
<td>N/D</td>
<td>1.39</td>
<td>54.14</td>
<td>2.01</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>1.2.0</td>
<td>N/D</td>
<td>N/D</td>
<td>54.14</td>
<td>&lt;2.0</td>
</tr>
</tbody>
</table>

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

Note 1: Screening Model Action level (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. Conditioned potential emissions of all pollutants are below de minimis levels.

APPLICABLE REQUIREMENTS

TAMKO Building Products, 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.

GENERAL REQUIREMENTS

- Submission of Emission Data, Emission Fees and Process Information, 10 CSR 10-6.110
- 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, I recommend this permit be granted with special conditions.

________________________________   _________________________________
Chia-Wei Young             Date
New Source Review Unit

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated January 27, 2015, received January 29, 2015, designating TAMKO Building Products, Inc. as the owner and operator of the installation.


- Stack Test Report, Metco Environmental, February, 2014.
Attachment A - Formaldehyde Compliance Worksheet

TAMKO Building Products, Inc.
Jasper County, S31, T28N, R32W
Project Number: 2015-01-050
Installation ID Number: 097-0094
Permit Number: ________

This sheet covers the period from _______ to _______.

(month, year)                  (month, year)

<table>
<thead>
<tr>
<th>Month</th>
<th>¹Fiberglass Mat Processed with Controls (tons)</th>
<th>²Fiberglass Mat Processed Without Controls (tons)</th>
<th>³Controlled Emission Factor (lb/ton)</th>
<th>⁴Uncontrolled Emission Factor (lb/ton)</th>
<th>⁴Controlled Emissions (tpy)</th>
<th>⁴Uncontrolled Emissions (tpy)</th>
<th>⁵Total Monthly Emissions (tpy)</th>
<th>⁶Total 12-Month Emissions (tpy)</th>
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</table>

Note 1: This is the amount of fiberglass mat (tons) processed when the RTO is being used to control formaldehyde emissions.
Note 2: This is the amount of fiberglass mat (tons) processed when no control device is being used.
Note 3: Controlled and Uncontrolled Emission Factors (lb/ton) should be taken from the most recent stack test result approved by the Air Pollution Control Program.
Note 4: The monthly Controlled and Uncontrolled Emissions (tpy) calculated using [Controlled or Uncontrolled Emission Factor (lb/ton)] x [Fiberglass Mat Processed With or Without Controls (tons)] ÷ 2,000 lb/ton
Note 5: Total Monthly Emissions (tpy) is the sum of the Controlled and Uncontrolled Emissions (tpy).
Note 6: Total 12-Month Emissions (tpy) calculated by adding the Total Monthly Emissions (tpy) of the previous 12 months. A total of less than 2.0 tons per 12-month period is necessary for compliance.
### Attachment B – Production Rate Tracking Sheet

TAMKO Building Products, Inc.
Jasper County, S31, T28N, R32W
Project Number: 2015-01-050
Installation ID Number: 097-0094
Permit Number: ________

This sheet covers the period from ________ to ________.

(month, year)  (month, year)

<table>
<thead>
<tr>
<th>Date</th>
<th>Daily Operating Hours</th>
<th>Daily Production (tons)</th>
<th>Production Rate (tph)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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Note 1: Production rate (tph) calculated from the daily production divided by the daily operating hours. Once the production rate reaches **5.05** tph, the facility shall perform stack tests to determine the formaldehyde emission rate within 90 days and no more tracking for the hourly production rate is required.
APPENDIX A

Abbreviations and Acronyms

% ............ percent
°F ............ degrees Fahrenheit
acfm ....... actual cubic feet per minute
BACT ..... Best Available Control Technology
BMPs .... Best Management Practices
Btu.......... British thermal unit
CAM ...... Compliance Assurance Monitoring
CAS ......... Chemical Abstracts Service
CEMS ..... Continuous Emission Monitor System
CFR ........ Code of Federal Regulations
CO .......... carbon monoxide
CO₂ .......... carbon dioxide
CO₂e........ carbon dioxide equivalent
COMS ..... Continuous Opacity Monitoring System
CSR........... Code of State Regulations
dscf ........ dry standard cubic feet
EIQ .......... Emission Inventory Questionnaire
EP .......... Emission Point
EPA ......... Environmental Protection Agency
EU ......... Emission Unit
fps .......... feet per second
ft ............ feet
GACT ..... Generally Available Control Technology
GHG ...... Greenhouse Gas
gpm ........ gallons per minute
gr .......... grains
GWP ..... Global Warming Potential
HAP ........ Hazardous Air Pollutant
hr .......... hour
hp ............ horsepower
lb .......... pound
lbs/hr ...... pounds per hour
MACT ..... Maximum Achievable Control Technology
µg/m³ ...... micrograms per cubic meter
m/s .......... meters per second
Mgal ....... 1,000 gallons
MW ......... megawatt
MHDR ...... maximum hourly design rate
MMBtu ..... Million British thermal units
MMCF ...... million cubic feet
MSDS ...... Material Safety Data Sheet
NAAQS ... National Ambient Air Quality Standards
NESHAPs .... National Emissions Standards for Hazardous Air Pollutants
NOₓ .......... nitrogen oxides
NSPS ...... New Source Performance Standards
NSR ......... New Source Review
PM ........... particulate matter
PM₂.₅ ...... particulate matter less than 2.5 microns in aerodynamic diameter
PM₁₀ ...... particulate matter less than 10 microns in aerodynamic diameter
ppm ........ parts per million
PSD ....... Prevention of Significant Deterioration
PTE .......... potential to emit
RACT ...... Reasonable Available Control Technology
RAL ...... Risk Assessment Level
SCC ......... Source Classification Code
scfm .... standard cubic feet per minute
SIC .......... Standard Industrial Classification
SIP .......... State Implementation Plan
SMAL .... Screening Model Action Levels
SOₓ .......... sulfur oxides
SO₂ ......... sulfur dioxide
tph .......... tons per hour
tpy .......... tons per year
VMT .......... vehicle miles traveled
VOC ....... Volatile Organic Compound
Mr. Dan Hollingshead  
General Manager  
TAMKO Building Products, Inc.  
3001 Newman Road  
Joplin, MO 64801  

RE: New Source Review Permit - Project Number: 2015-01-050  

Dear Mr. 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. Also, note the special conditions, if any, 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.  

If you have any questions regarding this permit, please do not hesitate to contact Chia-Wei Young, at the Department of Natural Resources’ Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102, or by telephone 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:cyl  

Enclosures  
c: Southwest Regional Office  
PAMS File: 2015-01-050  

Permit Number: