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: 062014-007  Project Number: 2014-02-040
Installation Number: 079-6002

Parent Company: Hoffman and Reed, Inc.
Parent Company Address: 805 Harris Avenue, Trenton, MO 64683
Installation Name: Hoffman and Reed, Inc.
Installation Address: 805 Harris Avenue, Trenton, MO 64683
Location Information: Grundy County, S21, T61N, R24W

Application for Authority to Construct was made for:
A seed treatment process. 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.

JUN 19 2014

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.”

Hoffman and Reed, Inc.
Grundy County, S21, T61N, R24W

1. Seed Throughput Limitation
   A. Hoffman and Reed, Inc. shall limit the amount of seed treated with fungicides, herbicides, pesticides, and inoculants to less than 2,000 tons in any consecutive 12-month period.

   B. Hoffman and Reed, Inc. shall limit the combined throughput of treated and untreated seeds to less than 50,000 tons in any consecutive 12-month period.

   C. Attachment A, Attachment B, or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 1.A and 1.B.

2. Use of Alternative Seed Treatment
   A. When using an alternative seed treatment for the installation that is different than the material listed in the Application for Authority to Construct, Hoffman and Reed, Inc. shall calculate the potential emissions of all individual HAP in the alternative material using Attachment C, or other equivalent forms, approved by the Air Pollution Control Program, based on the seed throughput limitation of Special Condition 1.A.

   B. In cases where the potential individual HAP emissions for the alternative seed treatment is above the SMAL for any chemical listed in Appendix B, Hoffman and Reed, Inc. shall submit an application for Authority to Construct to the Air Pollution Control Program.

3. Operational Requirement
   Hoffman and Reed, Inc. shall keep the fungicides, pesticides, inoculants, liquid fertilizers, and herbicides in sealed containers whenever the materials are not in use. Hoffman and Reed, Inc. shall provide and maintain suitable, easily read, permanent markings on all of the above containers.
SPECIAL CONDITIONS:

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

4. Record Keeping and Reporting Requirements
   A. Hoffman and Reed, 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. Hoffman and Reed, Inc. shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten 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: 2014-02-040
Installation ID Number: 079-6002
Permit Number:

Hoffman and Reed, Inc. Complete: February 25, 2014
805 Harris Avenue
Trenton, MO 64683

Parent Company:
Hoffman and Reed, Inc.
805 Harris Avenue
Trenton, MO 64683

Grundy County, S21, T61N, R24W

REVIEW SUMMARY

• Hoffman and Reed, Inc. has applied for authority to construct a new seed treatment facility located at 805 Harris Avenue in Trenton, Missouri.

• HAP emissions are not expected from the proposed equipment.

• None of the New Source Performance Standards (NSPS) apply to the installation.

• None of the NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.

• No air pollution control equipment is being used in association with the new equipment.

• 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 their respective de minimis levels.

• This installation is located in Grundy 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.

• Ambient air quality modeling was not performed since the potential emissions of the installation are below de minimis levels.

• Emissions testing is not required for the equipment.
• A Basic Operating Permit Application is required for this installation.

• Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

This installation consists of a grain elevator, feed mill, bulk fertilizer facility, and seed treatment unit in Trenton, Missouri. The grain elevator, feed mill, and bulk fertilizer facilities were constructed in the 1950’s and 60’s, and are exempt from construction permitting rules according to 10 CSR 10-6.060(5)(E)3. The seed treatment unit was installed in 2006 but no construction permit application had been submitted. This application was a result of an inspection. This facility treats bulk soybean seed and bulk wheat seed with fungicides and insecticides per customer request. The seed is transported with conveyors and is stored in bins. The conveyors will be powered by an electric motor. Seed will be unloaded either treated or untreated depending on customer request. The fungicides being used in the seed treater are Rancona Pinnacle, Allegiance-FL, Evergol Energy, and Gaucho 600 Flowable. The maximum hourly design rate (MHDR) of this facility will be 24 tons per hour (tph), bottlenecked by the seed treater.

No construction permits have been issued to Hoffman and Reed, Inc. from the Air Pollution Control Program.

EMISSIONS/CONTROLS EVALUATION

The emission factors used in this analysis were obtained from the EPA document AP-42, Compilation of Air Pollutant Emission Factors, Fifth Edition, Section 9.9.1 Grain Elevators & Processes, May 2003. The emission potentials for the seed processes were calculated using emission factors for feed and grain terminal elevators. A MHDR of 50,000 tpy of seed throughput was used per special condition 1.B. 50,000 tpy was chosen as an overestimate of seed throughput for ease of record keeping and in order to eliminate directly tracking PM_{10} emissions. Haul road emissions were calculated using the method recommended in AP-42 Section 13.2.2 Unpaved Roads, November 2006. According to Hoffman and Reed, Inc., hopper trucks will primarily be used for receiving seed materials and straight trucks will primarily be used for shipping the seed product. Thus, each haul road PTE was calculated under the assumption that all vehicular activity is 50% hopper trucks and 50% straight trucks being used in shipping and receiving. No controls are used in association with this project.

Due to the nature of seed coating treatments, which may change from year to year in order to identify and decrease the effect of the prevalent fungi and insects, fixed values for the specific gravity, application rate, and VOC content of the treatment were used to calculate the potential VOC emissions of the project. The fixed values are based off of submitted MSDS and scaled up for a conservative overestimation. The potential to emit VOC was calculated using a seed throughput of 2,000 tpy per special condition 1.A, a specific gravity equal to 1.5, an application rate of 10 fluid ounces per 100 pounds of
seed treated, and VOC content equal to 100%. Using this method, the potential to emit VOC is equal to 19.56 tons per year. This method demonstrates that actual VOC emissions will not exceed the de minimis level. The potential HAP emissions were calculated using the seed coating treatment that has the highest content percent by weight, with the specified fixed values. The highest HAP content for this project comes from Chemtura’s Rancona Pinnacle fungicide, with an ethylene glycol content of 22.5%. Using this method, the potential to emit the HAP is equal to 4.40 tons per year. For an alternative seed coating treatment that does not exceed any of the fixed values used in this calculation, the facility’s potential to emit will remain below the de minimis level of 40.0 tons of VOC per year, and 10.0 tons of individual HAP and 25.0 tons of total HAPs per year.

The following table provides an emissions summary for this project. Existing potential emissions were not calculated for this project. Existing actual emissions were not available from the Missouri Emissions Inventory System (MOEIS). The actual VOC emissions were provided by Hoffman and Reed, Inc. for the throughput in 2013. Potential emissions of the installation represent the potential of the entire installation, assuming continuous operation (8760 hours per year).

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>25.0</td>
<td>N/D</td>
<td>N/D</td>
<td>12.06</td>
</tr>
<tr>
<td>PM_{10}</td>
<td>15.0</td>
<td>N/D</td>
<td>N/D</td>
<td>4.10</td>
</tr>
<tr>
<td>PM_{2.5}</td>
<td>10.0</td>
<td>N/D</td>
<td>N/D</td>
<td>0.69</td>
</tr>
<tr>
<td>SOx</td>
<td>40.0</td>
<td>N/D</td>
<td>N/D</td>
<td>N/A</td>
</tr>
<tr>
<td>NOx</td>
<td>40.0</td>
<td>N/D</td>
<td>N/D</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>N/D</td>
<td>0.26</td>
<td>19.56</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>N/D</td>
<td>N/D</td>
<td>N/A</td>
</tr>
<tr>
<td>HAPs</td>
<td>10.0/25.0</td>
<td>N/D</td>
<td>N/D</td>
<td>4.40</td>
</tr>
</tbody>
</table>

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

*Actual Emissions were provided by Hoffman and Reed, Inc.*

**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 their respective de minimis levels.

**APPLICABLE REQUIREMENTS**

Hoffman and Reed, 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
- 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

- Restriction of Emission of Particulate Matter From Industrial Processes, 10 CSR 10-6.400 applies to the conveyors, bulk seed filling, weigh hopper, and seed treater emission units, however, these are in compliance with the rule.

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.

Bryce Mihalevich
New Source Review Unit

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated February 13, 14, received February 18, 2014, designating Hoffman and Reed, Inc. as the owner and operator of the installation.
Attachment A – VOC Annual Emissions Tracking Sheet

Hoffman and Reed, Inc.
Grundy County, S21, T61N, R24W
Project Number: 2014-02-040
Installation ID Number: 079-6002
Permit Number: ________

This sheet covers the period from ______ to ______.

<table>
<thead>
<tr>
<th>Month</th>
<th>(a) Seeds Throughput (tons)</th>
<th>(b) Seed Throughput on this Month Last Year (tons)</th>
<th>(c) 12-Month Rolling Total of Seed Throughput (tons)</th>
<th>(d) Combined Seed Throughput (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Example:</strong> MM/YYYY</td>
<td>Treated</td>
<td>125.0</td>
<td>200.0</td>
<td>800.0</td>
</tr>
<tr>
<td></td>
<td>Untreated</td>
<td>2,000.0</td>
<td>1,500.0</td>
<td>36,000.0</td>
</tr>
<tr>
<td><strong>Example:</strong> MM/YYYY</td>
<td>Treated</td>
<td>160.0</td>
<td>120.0</td>
<td>840.0</td>
</tr>
<tr>
<td></td>
<td>Untreated</td>
<td>1,500.0</td>
<td>1,250.0</td>
<td>36,250.0</td>
</tr>
</tbody>
</table>

a) Record the date
b) Record the amount of seed treated and untreated on date.
c) Record the amount of seed that was treated and untreated on this month last year.
d) Calculate using the following equation for treated and untreated seed: 
   \[(d)_{\text{new}} = (d)_{\text{last month}} + (b) - (c)\]
e) Calculate the sum of seed treated and untreated using the following equation:
   \[(e) = (d)_{\text{treated}} + (d)_{\text{untreated}}\]

A rolling 12-month total \((d)_{\text{treated}}\) less than 2,000 tons and a combined seed throughput \((e)\) less than 50,000 tons indicates compliance with Special Condition 2.A.
This sheet covers the period from ________ to ________. (Copy as needed)

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Product</th>
<th>HAPs</th>
<th>Content % by Weight</th>
<th>HAP Emissions Factor (tpy)</th>
<th>HAP Potential Emissions (tpy)</th>
<th>HAP SMAL (tpy)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Example:</strong></td>
<td>Chemtura</td>
<td>Rancona Pinnacle</td>
<td>Ethylene Glycol</td>
<td>22.5</td>
<td>0.1956</td>
<td>4.40</td>
</tr>
<tr>
<td><strong>Example:</strong></td>
<td>Bayer</td>
<td>Allegiance FL</td>
<td>N/A</td>
<td>N/A</td>
<td>0.1956</td>
<td>N/A</td>
</tr>
</tbody>
</table>

- **a)** Record the Manufacturer
- **b)** Record the Product name
- **c)** Record all HAPs in the product. Refer to Appendix B for a list of HAPs.
- **d)** Record the content % by weight of the HAP
- **e)** Composite emission factor based on fixed values for seed treatment units. The factor was calculated using the equation: 
  \[
  \frac{2000 \text{ ton}}{\text{yr}} \times \frac{10 \text{ oz}}{100 \text{ lb}} \times \frac{378.541 \text{ cm}^3}{\text{gal}} \times \frac{1.5 \text{ g}}{\text{cm}^3} \times \frac{453.59 \text{ g}}{\text{ib}} = 0.1956 \text{tpy}
  \]
- **f)** Calculate using the following: \( f = (d) \times (e) \)
- **g)** Compare if \( f < (g) \)

If the potential HAP emission is greater than the SMAL, contact the Air Pollution Control Program.
APPENDIX A

Abbreviations and Acronyms

% ............ percent
ºF .......... 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
<table>
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<tr>
<th>Chemical</th>
<th>CAS #</th>
<th>SMALL</th>
<th>Group</th>
<th>VOC</th>
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<tr>
<td>BERYLLIUM COMPOUNDS</td>
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<td>BERYLLIUM SALTS</td>
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<th>PM</th>
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<td>10</td>
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Appendix B: Table of Hazardous Air Pollutants and Screening Model Action Levels (May 3, 2012 Revision 10)
## Appendix B: Table of Hazardous Air Pollutants and Screening Model Action Levels (May 3, 2012 Revision 10)

<table>
<thead>
<tr>
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<th>CAS #</th>
<th>SMAL (ton/yr)</th>
<th>Group ID</th>
<th>VOC PM</th>
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<th>SMAL (ton/yr)</th>
<th>Group ID</th>
<th>VOC PM</th>
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<td>[<strong>PERCHLOROBUTANE</strong>]</td>
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<td>[<strong>PENTACHLOROPHENOL</strong>]</td>
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<td>129-53-8</td>
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**Notes:**
- 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.
Mr. Phillip Hoffman  
Secretary  
Hoffman and Reed, Inc.  
P.O. Box 67  
Trenton, MO 64683  


Dear Mr. Hoffman:  

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 operating 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.  

If you have any questions regarding this permit, please do not hesitate to contact Bryce Mihalevich, 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:bmk  

Enclosures  

c: Northeast Regional Office  
PAMS File: 2014-02-040  

Permit Number:  

Celebrating 40 years of taking care of Missouri’s natural resources. To learn more about the Missouri Department of Natural Resources visit dnr.mo.gov.