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:    052020-013 Project Number: 2020-03-040
Installation Number: 095-0075

Parent Company: Peterson Manufacturing Company

Parent Company Address: 4200 East 135th St., Grandview, MO 64030

Installation Name: Peterson Manufacturing Company

Installation Address: 4200 East 135th St., Grandview, MO 64030

Location Information: Jackson County, S23, T47N, R33W

Application for Authority to Construct was made for:
Replacing an Ace Burn Off Oven (EP11) with a Dinamec Fluid Clean Fluidized Bed Type E-15.10.10/FRL under emission unit number EP17. 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.

________________________________________________________________________

Kendall B. Hele
Director or Designee
Department of Natural Resources

May 28, 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/
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 to 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 (3)(E). “Conditions required by permitting authority.”

Peterson Manufacturing Company
Jackson County, S23, T47N, R33W

1. Operational Requirements of the Fluidized Bed (EP17)
   A. Peterson Manufacturing Company shall only remove non-chlorinated, nonhazardous coatings from metal parts with the fluidized bed.
   B. Peterson Manufacturing Company shall burn exclusively natural gas in the fluidized bed (EP17).

2. Control Device Requirement - Cyclone
   A. Peterson Manufacturing Company shall control emissions from the fluidized bed (EP17) using a cyclone as specified in the permit application.
   B. The cyclone shall be operated and maintained in accordance with the manufacturer's specifications.
   C. Peterson Manufacturing Company shall inspect the solids discharge valve of the cyclone at least once each week.
   D. Peterson Manufacturing Company shall record the results of each weekly solids discharge valve inspection.
   E. Peterson Manufacturing Company shall maintain a copy of the cyclone manufacturer’s performance warranty on site.
   F. Peterson Manufacturing Company shall maintain an operating and maintenance log for the cyclone 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.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

3. Requirements for Operators of the Fluidized Bed (EP17)
   A. All fluidized bed operators shall attend a training program equivalent to that developed by the American Society of Mechanical Engineers (ASME), by the fluidized bed manufacturer, or by an individual with more than one (1) year experience in the operation of the fluidized bed. The training shall include basic combustion theory, operating procedures, monitoring of combustion control parameters, and all emergency procedures to be followed if the fluidized bed should malfunction or exceed operating parameters.

   B. The fluidized bed operator shall have the essential steps necessary for satisfactory operation of the fluidized bed readily available to them in an easy to read and follow manual.

4. Restriction of Odors
   If a continued situation of verified nuisance odors exists in violation of 10 CSR 10-6.165, the Director may require through written notice that Peterson Manufacturing Company submit within ten days a corrective action plan adequate to timely and significantly mitigate the odors. Peterson Manufacturing Company shall implement any such plan immediately upon its approval by the Director. Failure to either submit or implement such a plan shall be in violation of this permit.

5. Record Keeping and Reporting Requirements
   Peterson Manufacturing Company 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.
REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW
Project Number: 2020-03-040
Installation ID Number: 095-0075
Permit Number: 052020-013

Installation Address: Peterson Manufacturing Company
4200 East 135th St.
Grandview, MO 64030

Parent Company: Peterson Manufacturing Company
4200 East 135th St.
Grandview, MO 64030

Jackson County, S23, T47N, R33W

REVIEW SUMMARY

• Peterson Manufacturing Company has applied for authority to replace an Ace Burn Off Oven (EP11) with a Dinamec Fluid Clean Fluidized Bed Type E-15.10.10/FRL under emission unit number EP17.

• The application was deemed complete on March 31, 2020.

• HAP emissions are not expected from the proposed equipment.

• None of the New Source Performance Standards (NSPS) apply to the installation.
  
  o 40 CFR 60 Subpart E, “Standards of Performance for Incinerators” does not apply to this unit because the equipment does not burn solid wastes as defined in this subpart.

  o 40 CFR 60 Subpart CCCC, “Standards of Performance for Commercial and Industrial Solid Waste Incineration Units” does not apply to this unit. This unit is exempt because the fluidized bed is not considered a commercial or industrial waste incinerator in this subpart.

  o 40 CFR 60 Subpart EEEE, “Standards of Performance for Other Solid Waste Incineration Units for Which Construction is Commenced after December 9, 2004, or for Which Modification or Reconstruction is Commenced on or after June 16, 2006” does not apply to this unit because the fluidized bed it is not considered an "other solid waste incineration unit" as defined in this subpart.

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

• A cyclone and flame curtain built into the fluidized bed are being used to control the PM, PM\textsubscript{10}, PM\textsubscript{2.5}, and VOC emissions from the equipment in this permit.
This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below de minimis levels.

This installation is located in Jackson County, an attainment/unclassifiable area for all criteria pollutants. Part of Jackson County is a non-attainment area for Sulfur Dioxide but this installation is not located in that area.

This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2 because NSPS Subpart E, the incinerator category, does not apply. 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 below de minimis levels.

Emissions testing is not required for the equipment as a part of this permit. Testing may be required as part of other state, federal or applicable rules.

An amendment is required to update the installation’s current Intermediate Operation Permit, OP2018-045, within 90 days of commencement of operations.

Approval of this permit is recommended with special conditions.

**INSTALLATION DESCRIPTION**

Mission Plastics North, Maxi-Seal Harness Systems, Inc., and Vector Tool & Engineering are subsidiaries of Peterson Manufacturing of Grandview, Missouri. The four companies are considered one installation for permitting purposes. Mission Plastics North employs injection molding to manufacture plastic parts. Maxi-Seal Harness Systems, Inc. fabricates wire and harness connections. Vector Tool & Engineering designs and produces custom tools and injection molds. Peterson Manufacturing constructs vehicle safety lighting systems and accessories from the products of its subsidiaries. The installation is a synthetic minor source of VOC, HAP, Toluene (108-88-3) and Methanol (67-56-1). The installation also has an Intermediate Operation Permit. The current operating permit number is OP2018-045.

The following NSR permits have been issued to Peterson Manufacturing Company from the Air Pollution Control Program.

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0695-029</td>
<td>Installation of a heat cleaning oven (EP11)</td>
</tr>
<tr>
<td>0695-029A</td>
<td>Replaced the special conditions page of 0695-029</td>
</tr>
</tbody>
</table>

**PROJECT DESCRIPTION**
Peterson Manufacturing is removing an Ace Burn Off Oven (EP11) and replacing it with a Dinamec Fluid Clean Fluidized Bed Type E-15.10.10/FRL (EP17). The fluidized bed will be used to clean metal wire hooks and hangers that are used on the powder coat line.

The process description for the fluidized bed is described in the manufacturer’s environmental data sheet as: "The metal parts to be cleaned are submerged into the fluidized sand where the organic compounds are gasified and travel to the surface of the quartz sand for the destruction of the VOC’s in the flame curtain. The combustion gases are drawn by an exhaust fan through the flame curtain and into a cyclone separator for removal of particulate matter from the exhaust air stream."

The flame curtain and cyclone are being used to control the VOC and particulate matter emissions.

The MHDR for the fluidized bed is 0.792 MMBtu/hr and uses natural gas for the fuel.

All the emissions are below their insignificant levels, however, the fluidized bed was considered an incinerator. Per 10 CSR 10-6.060(1)(A)(5), all incinerators are required to obtain a construction permit. The fluidized bed was considered an incinerator based off the incinerator definition in 10 CSR 10-6.020 and that it burns off trade waste. It is also a department practice to permit burn off ovens or similar equipment, such as fluidized beds, as incinerators.

EMISSIONS/CONTROLS EVALUATION

The emission rates for PM, CO, VOC, and NO\textsubscript{x} were obtained from the emission data at the stack from the Environmental Data Sheet. This sheet was provided by the manufacturer, Dinamec Systems. PM\textsubscript{10} and PM\textsubscript{2.5} emissions were assumed to equivalent to PM emissions.

Table 2 provides an emissions summary for this project. Existing potential emissions were taken from the installation’s current Operating Permit, OP2018-045. Existing actual emissions were taken from the installation’s 2019 EIQ. Potential emissions of the project represent the potential of the new equipment, assuming continuous operation (8760 hours per year).
Table 2: Emissions Summary (tpy)

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Regulatory De Minimis Levels</th>
<th>Existing Potential Emissions</th>
<th>Existing Actual Emissions (2019 EIQ)</th>
<th>Potential Emissions of the Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>25.0</td>
<td>N/D</td>
<td>N/D</td>
<td>4.38</td>
</tr>
<tr>
<td>PM\textsubscript{10}</td>
<td>15.0</td>
<td>7.51</td>
<td>0.043</td>
<td>4.38</td>
</tr>
<tr>
<td>PM\textsubscript{2.5}</td>
<td>10.0</td>
<td>3.48</td>
<td>0.043</td>
<td>4.38</td>
</tr>
<tr>
<td>SO\textsubscript{x}</td>
<td>40.0</td>
<td>0.04</td>
<td>0.003</td>
<td>N/A</td>
</tr>
<tr>
<td>NO\textsubscript{x}</td>
<td>40.0</td>
<td>6.44</td>
<td>0.508</td>
<td>1.58</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>&lt;100</td>
<td>0.506</td>
<td>0.92</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>5.41</td>
<td>0.427</td>
<td>5.21</td>
</tr>
<tr>
<td>HAPs</td>
<td>10/25.0</td>
<td>&lt;10/25</td>
<td>0.00</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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

PERMIT RULE APPLICABILITY

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

APPLICABLE REQUIREMENTS

Peterson Manufacturing Company 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.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
• *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220

• *Restriction of Emission of Odors*, 10 CSR 10-6.165

**STAFF RECOMMENDATION**

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

**PERMIT DOCUMENTS**

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated March 30, 2020, received March 31, 2020, designating Peterson Manufacturing Company as the owner and operator of the installation.

- DINAMEC Systems' Environmental Data Sheet for the DINAMEC Fluid Clean Fluidized Bed Type E-15.10.10/FRL.
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
PM_{2.5} .......... particulate matter less than 2.5 microns in aerodynamic diameter
PM_{10} .......... 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
SDS .......... Safety Data Sheet
SIC .......... Standard Industrial Classification
SIP .......... State Implementation Plan
SMAL .......... Screening Model Action Levels
SOₓ .......... sulfur oxides
SO₂ .......... sulfur dioxide
SSM .......... Startup, Shutdown & Malfunction
tph .......... tons per hour
tpy .......... tons per year
VMT .......... vehicle miles traveled
VOC .......... Volatile Organic Compound
May 28, 2020

Sam Hihn
Senior Health & Safety Specialist
Peterson Manufacturing Company
4200 East 135th St.
Grandview, MO 64030

RE: New Source Review Permit - Project Number: 2020-03-040

Dear Sam Hihn:

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

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

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the administrative hearing commission, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc
If you have any questions regarding this permit, please do not hesitate to contact Jonathan Halla, 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

Enclosures

c: Kansas City Regional Office
   PAMS File: 2020-03-040

Permit Number: 052020-013