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: 032018-007  Project Number: 2017-09-003
Installation Number: 095-0046

Parent Company: U.S. Government-Army
Parent Company Address: P.O. Box 1000, Independence, MO 64051

Installation Name: Alliant Techsystems Operations, LLC - Lake City Army Ammunition Plant
Installation Address: 25201 East MO Hwy 78, Independence, MO 64051
Location Information: Jackson County, S31/32, T50N, R30W

Application for Authority to Construct was made for:
Phase VI of the phased projects: One can printer and one crate printer. 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.

Prepared by
Jordan Hull
New Source Review Unit

Director or Designee
Department of Natural Resources
MAR 15 2018
Effective Date
STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Enforcement and Compliance Section of the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Enforcement and Compliance Section of the Department’s Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department’s regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department’s personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit using the contact information below.

Contact Information:
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
http://dnr.mo.gov/regions/
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Alliant Techsystem Operations, LLC - Lake City Army Ammunition Plant
Jackson County, S31/32, T50N, R30W

1. Superseding Condition
The conditions of this permit supersede all special conditions found in the previously issued construction permit 082016-007 issued by the Air Pollution Control Program.

2. VOC Emission Limitation
A. Alliant Techsystem Operations, LLC - Lake City Army Ammunition Plant shall emit less than 40.0 tons of VOCs in any consecutive 12-month period from all equipment in Phases I-VI of this project (see table below)

Table 1 Project (Phases I-VI) Emission Units

<table>
<thead>
<tr>
<th>Emission Point</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-13F</td>
<td>Phase I: 7.62mm &amp; 50Cal Can Printer Ink</td>
</tr>
<tr>
<td>EP-13F</td>
<td>Phase I: 7.62mm &amp; 50Cal Can Printer Make-up Solution/Solvent</td>
</tr>
<tr>
<td>EP-13G</td>
<td>Phase I: 7.62mm &amp; 50Cal Crate Printer Ink</td>
</tr>
<tr>
<td>EP-15G</td>
<td>Phase I: 7.62mm &amp; 50Cal Crate Printer Make-up Solution/Solvent</td>
</tr>
<tr>
<td>EP-20G</td>
<td>Phase II: Annealing Furnace, 2.5 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-20H</td>
<td>Phase II: Annealing Furnace, 2.5 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-34E</td>
<td>Phase II: Pickle/Wash Dryer, 0.4 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-34F</td>
<td>Phase II: Pickle/Wash Dryer, 0.4 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-20G</td>
<td>Phase III: Annealing Furnace, 2.5 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-20G</td>
<td>Phase III: Pickle/Wash Dryer, 0.4 MMBtu/hr natural gas</td>
</tr>
<tr>
<td>EP-15G</td>
<td>Phase VI: Shellac Sealant</td>
</tr>
<tr>
<td>EP-16A</td>
<td>Phase VI: Foil Paper Activation</td>
</tr>
<tr>
<td>EP-16B</td>
<td>Phase VI: Sealant Thinners</td>
</tr>
</tbody>
</table>
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

<table>
<thead>
<tr>
<th>Emission Point</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-19C</td>
<td>Phase VI: Solvent Cleaning</td>
</tr>
<tr>
<td>EP-54</td>
<td>Phase VI: Primer Particulates</td>
</tr>
<tr>
<td>EP-13H</td>
<td>Phase V: 50Cal Crate Printer Ink</td>
</tr>
<tr>
<td></td>
<td>Phase V: 50Cal Crate Printer Make-up Solution/Solvent</td>
</tr>
<tr>
<td>EP-13I</td>
<td>Phase VI: 7.62mm and 50Cal Can Printer Ink</td>
</tr>
<tr>
<td>EP-13I</td>
<td>Phase VI: 7.62mm and 50Cal Crate Printer Make-up Solution/Solvent</td>
</tr>
<tr>
<td>EP-13J</td>
<td>Phase VI: 7.62mm and 50Cal Can Printer Ink</td>
</tr>
<tr>
<td>EP-13J</td>
<td>Phase VI: 7.62mm and 50Cal Crate Printer Make-up Solution/Solvent</td>
</tr>
</tbody>
</table>

B. Attachment A or an equivalent form, such as an electronic form, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 2.A.

C. Alliant Techsystem Operations, LLC – Lake City Army Ammunition Plant shall retain records for each waste solvent shipment sent off-site for reclamation. These records shall consist of:
   1) Date of each shipment
   2) Weight (tons) of each shipment
   3) VOC content (wt%) of each shipment
   4) EPA test method(s) used to determine the VOC content (wt%) of each shipment

3. Record Keeping and Reporting Requirements
   A. Alliant Techsystem Operations, LLC - Lake City Army Ammunition Plant 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.

   B. Alliant Techsystem Operations, LLC - Lake City Army Ammunition Plant shall report to the Air Pollution Control Program's Compliance/Enforcement Section, by mail at P.O. Box 176, Jefferson City, MO 65102 or by email at AirComplianceReporting@dnr.mo.gov, 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.
Installation Address:
Alliant Techsystem Operations LLC - Lake City Army Ammunition Plant
MO Hwy 78
Independence, MO 64051

Parent Company:
U.S. Government- Army
P.O. Box 1000, Independence, MO 64051
Jackson County, S31/32, T50N, R30W

REVIEW SUMMARY

- Alliant Techsystem Operations, LLC - Lake City Army Ammunition Plant has applied for authority to install one 7.62mm & 50 caliber ammunition crate ink-jet printer and one 7.62mm & 50 caliber ammunition can ink-jet printer.

- The application was deemed complete on January 25, 2018.

- HAP emissions are not expected from the proposed equipment. MSDS/SDS provided by the company verified that there are no HAPs in the ink/solvent

- None of the New Source Performance Standards (NSPS) apply to the projects emission units.

- None of the NESHAPs apply to this projects emission units. 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 of Phase VI.

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

- This installation is located in Jackson County, a maintenance area for ozone and an attainment area for all other 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 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.

• Phase VI equipment shall be included in the installation’s Part 70 operating permit renewal due not later than January 10, 2019.

• Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Alliant Techsystem Operations LLC - Lake City Army Ammunition Plant (LCAAP) operates a small arms ammunition manufacturing facility (Lake City Ammunition Plant) in Independence, MO. The installation is an existing major source under construction permits for SO\textsubscript{x}, NO\textsubscript{x}, VOC, and HAP. The installation is currently operating under Part 70 operating permit OP2014-009 which expires July 10, 2019.

The following New Source Review permits have been issued to LCAAP from the Air Pollution Control Program.

Table 2: Permit History

<table>
<thead>
<tr>
<th>Permit Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1088-009A</td>
<td>Install three new painting/sealing systems and two air strippers</td>
</tr>
<tr>
<td>0690-009</td>
<td>Install a trinitroresorcinol (TNR) manufacturing building</td>
</tr>
<tr>
<td>0690-003</td>
<td>Install an explosive wastewater treatment plant to remove metals</td>
</tr>
<tr>
<td>0191-004</td>
<td>Install four air strippers that will strip VOC from drinking water</td>
</tr>
<tr>
<td>0492-002</td>
<td>Install emergency diesel pump for boiler feed and 20 emergency generators</td>
</tr>
<tr>
<td>1192-018</td>
<td>Install a natural gas fired generator unit</td>
</tr>
<tr>
<td>0694-021</td>
<td>Install a primer popping operation</td>
</tr>
<tr>
<td>0395-027</td>
<td>Install nine standby emergency diesel generators</td>
</tr>
<tr>
<td>1095-022</td>
<td>Install three video-jet printers for 20-mm case marking. This equipment replaced the ink-pad and rubber-stamping method</td>
</tr>
<tr>
<td>0496-018</td>
<td>Install three ink jet equipment for 5.56 mm packing cartons. This equipment replaced the existing rubber-stamp operation</td>
</tr>
<tr>
<td>1097-018</td>
<td>Modify existing process to manufacture l-136N igniter mix by eliminating calcium resinate and replacing it with a polyurethane formula</td>
</tr>
<tr>
<td>0199-021</td>
<td>Install emergency diesel booster pump and fuel storage tank</td>
</tr>
<tr>
<td>012000-017</td>
<td>Install three ammunition loading machines and one ammunition priming machine. Replaced four WWII machines</td>
</tr>
<tr>
<td>092000-002</td>
<td>Install calcium resinate system for manufacturing</td>
</tr>
<tr>
<td>112000-008</td>
<td>Install two 16.8 MMBtu/hr steam generating boilers</td>
</tr>
<tr>
<td>042001-003</td>
<td>Install machine gun belt link manufacturing equipment. Permit has been relinquished to Lake City Ammo by Galion, Inc</td>
</tr>
<tr>
<td>052001-012</td>
<td>Install two 12.1 MMBtu/hr natural gas fired steam generating boilers</td>
</tr>
</tbody>
</table>
Install one 45-ton press, one 75-ton press and one resistance welding station to an existing machine gun belt link manufacturing operation. Permit has been relinquished to Lake City Ammo by Valentec Wells, LLC (formerly Galion, Inc.)

Install two 150-ton presses and one 100-ton press to an existing machine gun belt link manufacturing operation.

Install two 30-ton presses and one 60 ton press to an existing machine gun belt link manufacturing operation.

Two Manurhin loaders for the combat cartridge tip identification and cartridge sealing operation (EP-14 and EP-15, respectively)

Installation of one 33.5 MMBtu/hr boiler

Installation of eight new priming machines and five new loading machines, including one Manurhin loading machine. (Phase I)

Installation of six new draw presses, three new wash and dry lines, two new pickle/wash/lube lines, and eight new back end case cells. (Phase II)

Installation of five ammunition can printing lines and four new crate printing lines. (Phase III)

Installation of three first draw presses, two natural gas fueled anneal ovens, two pickle trains, three second draw presses, three final wash lines, and five back end case cells. (Phase IV) Also includes amendment to Phase II by installing equipment for manufacturing 7.62 mm shell casings.

Transfer efficiency.

Change the formulation for the mouth water proofing compound.

Temporary permit for a Thermal Convection System (TCS).

Amendment to the temporary permit to allow the treatment of additional equipment by the TCS.

Use of new lube, wash additives, and brass brighteners for five high speed case manufacturing lines.

Increasing the usage and changing the formulation of the mouth water proofing compound.

Installation of natural gas burners on existing Boilers #5 and #6

Installation of a quench bath and replace existing furnaces associated with the installation's existing machine gun belt links operations.

Installation of one 7.62mm and 50 caliber ammunition can printer and one 7.62mm and 50 caliber ammunition crate printer. (Phase I)

Installation of two new annealing furnaces and pickling wash lines (Phase II)

Installation of four draw presses, one annealing furnace, and a pickle train washing system (Phase III)

Installation of six primer manufacturing lines (Phase IV)

Installation of 50 caliber crate printer (Phase V)
PROJECT DESCRIPTION

This project is the sixth phase of a number of projects that have been submitted by Alliant Techsystems Operations, LLC. This project's emissions will be added to the emissions from the previous five phase's construction permits. Phase I was the installation of a can printer and a crate printer for each of the 7.62mm and 50 caliber ammunition lines (Construction Permit 082015-006). Phase II was the installation of two new annealing furnaces and pickling wash lines (Construction Permit 092015-007).

Phase III was the installation of four draw presses, an annealing furnace, and a pickling train wash system with a dryer (Construction Permit 122015-011). Phase IV was the installation of six primer manufacturing lines (Construction Permit 052016-002). Phase V equipment replaced one of the crate printers at LCAAP in building 3. Because this project is part of a phased project, the phased project's total potential emissions include the potential emissions from the first five phases, as well as the potential emissions of this sixth phase.

Completed ammunition is packed into various configurations for field use depending upon the weapons system utilizing the round. Currently Phase VI equipment will replace some of the older current printers at LCAAP with the addition of a 7.62mm & 50 caliber crate printer and a 7.62mm & 50 caliber can printer. For storage, shipping and Department of Defense specifications, the ammunition must be packed in metal ammunition cans and then two cans are placed into one wooden crate. Each ammunition crate and can must contain information such as product type, pack configuration, and lot numbers.

Phase VI Project Description:
Lake City Army Ammunition Plant proposes the addition of one Leibinger Ink Jet 3 ammunition crate printer with two print heads and the ability to print 7.62mm and 50 caliber wooden crates being used in Building 3 packing area. This is the third printer being installed in Building 3. The design of the system is one conveyor line, two robotic print arms each with one print head. Only one crate will be printed at a time; one robotic arm will print the sides and the other will print the top. Only one size of crate will be printed at a time.

Lake City Army Ammunition would also like to install one Leibinger Ink Jet 3 ammunition can printing system with two print heads to be installed in Building 3 packing area. The system will have the capability to print on both 7.62mm and 50 caliber metal ammunition cans. The design of the system is two conveyors and two robotic print arms. Each robotic arm will have one print head. Printing is accomplished by both robotic arms printing on one can at a time, one arm will print the top and the second will print the side. The arm will then transition to the second conveyor and print the next can, alternating back and forth between conveyor lines, allowing the next can to index or transition into place while the other can is printing. Three sizes of ammunition cans will be printed on this equipment. The M19A1 and M548 can are used to pack 7.62mm, and the M2A1 can is used to pack both 7.62mm and 50 caliber ammunition. Only one size of crate will be printed at a time.
The Crate Printer has a maximum application rate of 0.0008 L/min. According to the manufacturer, printing only occurs 32 out of every 60 seconds. The remaining time the printer is spent indexing. This means the maximum amount of ink that can be printed is 0.000427 Liter(L)/min or 0.0256 L/hr. Accounting for the two print heads this makes the maximum amount of ink used equal 0.00512 L/hr.

The Can Printer has a maximum application rate of 0.00017 L/min. According to the manufacturer, printing occurs four out of every 12 seconds. The remaining time the printer is spent indexing. This means the maximum amount of ink that can be printed on cans is 0.000056 L/min or 0.0034 L/hr per print head. Accounting for the two print heads this makes the maximum amount of ink used equal 0.0068 L/hr.

Both printers will use ink and make-up solution to print on the cans and crates. Both ink and solvent MHDRs were increased to match current usage volumes (extrapolated to 8760 hours of operation) instead of the previously estimated 3.7 times ink volumes submitted in Phase I.

Table 3: Project Equipment list

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Description</th>
<th>Project Status</th>
<th>MHDR</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-13f</td>
<td>7.62 mm &amp; 50cal Crate Printer Ink</td>
<td>New</td>
<td>0.0014 gal/hr</td>
</tr>
<tr>
<td>EP-13j</td>
<td>7.62 mm &amp; 50cal Crate Printer Make-up Solution/Solvent</td>
<td>New</td>
<td>0.0021 gal/hr</td>
</tr>
<tr>
<td>EP-13j</td>
<td>7.62 mm &amp; 50cal Can Printer Ink</td>
<td>New</td>
<td>0.0018 gal/hr</td>
</tr>
<tr>
<td>EP-13j</td>
<td>7.62 mm &amp; 50cal Can Printer Make-up Solution/Solvent</td>
<td>New</td>
<td>0.0107 gal/hr</td>
</tr>
</tbody>
</table>

EMISSIONS/CONTROLS EVALUATION

The emissions from the ink and solvent were determined by using mass balance. Density and VOC content of each product were attained from the individual MSDS/SDS that was provided by the applicant. It was assumed that 100% of the VOC content would be emitted.

The following table provides an emissions summary for this project. Existing potential emissions were taken from the installations previous construction permit (082016-007). Existing actual emissions were taken from the installation’s 2016 EIQ. Potential emissions of the Project represent the potential of the new printer additions, assuming continuous operation (8760 hours per year).
### Table 4: Emissions Summary (tpy)

<table>
<thead>
<tr>
<th></th>
<th></th>
<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/A</td>
<td>0.08</td>
<td>N/A</td>
<td>0.08</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>15.0</td>
<td>83.82</td>
<td>7.62</td>
<td>0.29</td>
<td>N/A</td>
<td>0.29</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>10.0</td>
<td>N/D</td>
<td>7.57</td>
<td>0.29</td>
<td>N/A</td>
<td>0.29</td>
</tr>
<tr>
<td>SOₓ</td>
<td>40.0</td>
<td>1,780.66</td>
<td>1.12</td>
<td>0.02</td>
<td>N/A</td>
<td>0.02</td>
</tr>
<tr>
<td>NOₓ</td>
<td>40.0</td>
<td>370.73</td>
<td>44.02</td>
<td>3.74</td>
<td>N/A</td>
<td>3.74</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>1,462.72</td>
<td>91.51</td>
<td>85.34</td>
<td>0.19</td>
<td>&lt;40.0</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>168.94</td>
<td>29.54</td>
<td>3.14</td>
<td>N/A</td>
<td>3.14</td>
</tr>
<tr>
<td>Lead Compounds</td>
<td>10.0/.01</td>
<td>N/D</td>
<td>N/D</td>
<td>0.001</td>
<td>N/A</td>
<td>0.001</td>
</tr>
<tr>
<td>Methanol</td>
<td>10.0/10</td>
<td>N/D</td>
<td>N/D</td>
<td>0.37</td>
<td>N/A</td>
<td>0.37</td>
</tr>
<tr>
<td>MIBK</td>
<td>10.0/10</td>
<td>N/D</td>
<td>N/D</td>
<td>0.02</td>
<td>N/A</td>
<td>0.02</td>
</tr>
<tr>
<td>GHG (CO₂e)</td>
<td>75,000 / 100,000</td>
<td>N/D</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/D</td>
</tr>
<tr>
<td>GHG (mass)</td>
<td>0.0 / 100.0 / 250.0</td>
<td>N/D</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/D</td>
</tr>
<tr>
<td>HAPs</td>
<td>10.0/25.0</td>
<td>272.27</td>
<td>0.0196</td>
<td>0.89</td>
<td>N/A</td>
<td>0.89</td>
</tr>
<tr>
<td>Sulfuric Acid Mist</td>
<td>7.0</td>
<td>N/A</td>
<td>N/D</td>
<td>0.012</td>
<td>N/A</td>
<td>0.012</td>
</tr>
</tbody>
</table>

N/A = Not Applicable; N/D = Not Determined  
¹Existing Emissions as stated in Permit# 082016-007

**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 VOC are conditioned below de minimis levels.

**APPLICABLE REQUIREMENTS**

Alliant Techsystems Operations, LLC - Lake City Army Ammunition Plant 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
  o 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

SPECIFIC REQUIREMENTS

Control of Emissions from Industrial Surface Coating Operations, 10 CSR 10-2.230 does not apply to the facility. The facility does not distribute to commerce; therefore, the facility operations do not meet the definition of “industrial surface coating operations” at 10 CSR 10-6.020(2)(I)9.

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 September 5, 2017, received September 5, 2017, designating Lake city army ammo as the owner and operator of the installation.
Attachment A – VOC Compliance Worksheet (Phase I-VI)

Alliant Techsystems Operations, LLC – Lake City Army Ammunition Plant
Jackson County (S31/32, T50N, R30W)
Project Number: 2017-08-003
Installation ID Number: 005-0046
Permit Number: 032018-007

This sheet covers the month of ___________ in the year ___________.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>1 Amount of Chemical Used (gal)</th>
<th>2 VOC Content (lb/gal)</th>
<th>3 Amount of VOCs Consumed (tons)</th>
<th>4 Amount of VOCs Disposed (tons)</th>
<th>5 Phase I Monthly Emissions (tons)</th>
<th>6 Phases II &amp; III Monthly Emissions (tons)</th>
<th>7 Phase IV Monthly Emissions (tons)</th>
<th>8 Phase V Monthly Emissions (tons)</th>
<th>9 Phase VI Monthly Emissions (tons)</th>
<th>10 Individual Monthly Emissions (tons)</th>
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<tr>
<td>(Ex.) PSM24</td>
<td>205</td>
<td>6.06</td>
<td>0.621</td>
<td>0.170</td>
<td>0.0175</td>
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</table>

1. Enter the total amount of each VOC-containing chemical used in any of the older can/crate printer (Phase I), the six primer manufacturing lines (Phase IV), the new crate printer (Phase V), or the new can/crate printers in the given month.
2. Enter the VOC content of each chemical, taken from the respective SDS sheet. If a range is listed, use the highest value in the range to demonstrate compliance.
3. Multiply the Amount of Chemical Used (gal) by the VOC Content (lb/gal) and divide by 2,000.
4. Enter the total amount of VOCs from waste solvent collected and disposed for each chemical. The Amount of VOCs Disposed (tons) = Tons of waste solvent sent off-site for reclaim x VOC Content of the waste solvent.
5. Subtract the Amount of VOCs Disposed (tons) from the Amount of VOCs Consumed (tons) for each phase (I, IV, V, & VI) and place calculated value in appropriate column.
6. Add all Phases (I, II, III, IV, V, & VI) Monthly Emissions (tons) to get a sum of VOCs for the month.
7. Add the Individual Monthly Emissions (tons) for all chemicals.
8. Enter the sum of the Total Monthly Emissions (tons) for the previous 11 months.
9. Add the Total Monthly Emissions (tons) to the Previous 11 Months’ Total Emissions (tons).
10. A Current 12-Month Total Emissions (tons) of less than 40.0 is necessary for compliance.

The installation is required to include the startup, shutdown, and malfunction emissions as reported to the Air Pollution Control Program’s Compliance/Enforcement Section according to the provisions of 10 CSR 10-6.050 towards compliance with this limit.
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
PM₀.₅ ...... 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
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
MARCH 15, 2018

Ms. Tonya Aggson  
Environmental Engineer  
Lake City Army Ammo  
P.O. Box 1000  
MO Hwy 78  
Independence, MO 64051

RE: New Source Review Permit - Project Number: 2017-09-003

Dear Ms. Aggson:

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 Jordan Hull, 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: 2017-09-003

Permit Number: 032018-007