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: 052016-002 Project Number: 2016-02-022
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 78 Highway, Independence, MO 64051

Location Information: Jackson County (S31/32, T50N, R30W)

Application for Authority to Construct was made for:
The installation of six primer manufacturing lines. 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
Ryan Schott
New Source Review Unit

Director or Designee
Department of Natural Resources
MAY 11 2016
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 startup of this (these) air contaminant sources(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 startup 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 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 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 Techsystems Operations, LLC – Lake City Army Ammunition Plant
Jackson County (S31/32, T50N, R30W)

1. VOC Emission Limitation
   A. Alliant Techsystems 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 – IV of this project (see table below).

   Table 1. Project (Phases I – IV) Emission Units

<table>
<thead>
<tr>
<th>Emission Point</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-20G, -20H, -34E &amp; -34F</td>
<td>All Phase II Emission Units</td>
</tr>
<tr>
<td>EP-20G</td>
<td>All Phase III Emission Units</td>
</tr>
<tr>
<td>EP-15G</td>
<td>Shellac Sealant</td>
</tr>
<tr>
<td>EP-16A</td>
<td>Foil Paper Activation</td>
</tr>
<tr>
<td>EP-16B</td>
<td>Sealant Thinners</td>
</tr>
<tr>
<td>EP-19C</td>
<td>Solvent Cleaning</td>
</tr>
<tr>
<td>EP-54</td>
<td>Primer Particulates</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 1.A.

2. Record Keeping and Reporting Requirements
   A. Alliant Techsystems 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. These records shall include SDS for all materials used.

   B. Alliant Techsystems Operations, LLC – Lake City Army Ammunition Plant shall report to the Air Pollution Control Program’s Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 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.
Alliant Techsystems Operations, LLC – Lake City Army Ammunition Plant has applied for authority to install six primer manufacturing lines.

The application was deemed complete on March 15, 2016.

HAP emissions are expected from the proposed equipment. HAPs of concern from this process include methanol and methyl isobutyl ketone (MIBK).

None of the NSPS, NESHAPs, or currently promulgated MACT regulations apply to the proposed equipment. 40 CFR Part 63, Subpart MMMM – National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products does not apply to the facility because it is owned by the Army.

Fabric filters are voluntarily being used to control particulate emissions from the equipment in this permit, and are not required by special condition.

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

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.

Emissions testing is not required for the equipment.

Submittal of an amendment to your Part 70 Operating Permit is required within 1 year of equipment startup.

Approval of this permit is recommended with special conditions.
INSTALLATION DESCRIPTION

Alliant Techsystems Operations, LLC operates a small arms ammunition manufacturing facility (Lake City Army Ammunition Plant) in Independence, Missouri. The installation is an existing major source under construction permits for SO₂, NOₓ, VOCs, and HAPs. The installation currently operates under the Part 70 Operating Permit OP2014-009, which expires July 9, 2019.

The following New Source Review permits have been issued to Alliant Techsystems Operations, LLC – Lake City Army Ammunition Plant (or to private entities which have now been assumed by this installation) 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 I-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>
<tr>
<td>082001-016</td>
<td>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 Valenteck Wells, LLC (formerly Galion, Inc.)</td>
</tr>
<tr>
<td>102001-006</td>
<td>Install two 150-ton presses and one 100-ton press to an existing machine gun belt link manufacturing operation</td>
</tr>
<tr>
<td>112001-009A</td>
<td>Install two 30-ton presses and one 60 ton press to an existing machine gun belt link manufacturing operation</td>
</tr>
<tr>
<td>012003-008</td>
<td>Two Manuhrin loaders for the combat cartridge tip identification and cartridge sealing operation (EP-14 and EP-15, respectively)</td>
</tr>
<tr>
<td>032005-012</td>
<td>Installation of one 33.5 MMBtu/hr boiler</td>
</tr>
<tr>
<td>112008-012</td>
<td>Installation of eight new priming machines and five new loading machines, including one Manuhrin loading machine (Phase I)</td>
</tr>
<tr>
<td>122008-007</td>
<td>Installation of six new draw presses, three new wash and dry lines, two new pickel/wash/lube lines, and eight new back end case cells (Phase II)</td>
</tr>
<tr>
<td>062009-004</td>
<td>Installation of five ammunition can printing lines and four new crate printing lines (Phase III)</td>
</tr>
<tr>
<td>022010-008</td>
<td>Installation of three first draw presses, two natural gas fueled anneal ovens, two pickle</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>042010-005</td>
<td>Temporary concrete crusher</td>
</tr>
<tr>
<td>042010-005A</td>
<td>Correcting responsible party</td>
</tr>
<tr>
<td>112008-012A</td>
<td>Transfer efficiency</td>
</tr>
<tr>
<td>112008-012B</td>
<td>Change the formulation for the mouth water proofing compound</td>
</tr>
<tr>
<td>022011-010</td>
<td>Temporary permit for a Thermal Convection System (TCS)</td>
</tr>
<tr>
<td>022011-010A</td>
<td>Amendment to the temporary permit to allow the treatment of additional equipment by the TCS</td>
</tr>
<tr>
<td>012013-009</td>
<td>Use of new lube, wash additives, and brass brighteners for five high speed case manufacturing lines</td>
</tr>
<tr>
<td>062013-007</td>
<td>Increasing the usage and changing the formulation of the mouth water proofing compound</td>
</tr>
<tr>
<td>102013-006</td>
<td>Installation of natural gas burners on existing Boilers #5 and #6</td>
</tr>
<tr>
<td>032015-020</td>
<td>Installation of a quench bath and replace existing furnaces associated with the installation’s existing machine gun belt links operations</td>
</tr>
<tr>
<td>082015-006</td>
<td>Installation of new can and crate printers (Phase I)</td>
</tr>
<tr>
<td>092015-007</td>
<td>Installation of two new annealing furnaces and pickling wash lines (Phase II)</td>
</tr>
<tr>
<td>122015-011</td>
<td>Installation of four draw presses, one annealing furnace, and a pickle train washing system (Phase III)</td>
</tr>
</tbody>
</table>

**PROJECT DESCRIPTION**

This project is the fourth 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 three phases’ 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). Because this project is part of a phased project, the phased project’s total potential emissions include the potential emissions from the first three phases, as well as the potential emissions of this project.

The Lake City Army Ammunition Plant manufactures primers as a component of each completed small caliber cartridge. The primer serves as the initiating explosive in the cartridge. Primer manufacturing is performed in Building 35, in two separate explosive wings. The 5.56 wing manufactures only 5.56mm primers, and the 20 wing manufactures 7.62mm, 50cal, and 20mm primers. Currently, 5.56mm primer manufacturing utilizes twelve primer manufacturing lines. A primer manufacturing line consist of primer mix pellet formation, foil & tamp, shellac, anvil seating, brushing, and inspection. Each 5.56mm primer manufacturing line can produce up to 70,000 primers per hour. Currently, 7.62mm, 50cal, and 20mm primer manufacturing utilize one primer manufacturing line each.

**Phase IV Project Description:**
Lake City Army Ammunition Plant proposes to remove fourteen of the fifteen total existing primer manufacturing lines and replace them with six modernized primer manufacturing lines. The existing 20mm primer manufacturing line will be the only one
Replacement of the individual primer manufacturing lines will be gradual. Initially, one 5.56mm line will be replaced, which will serve as a test for final production and tooling adjustments. After finalization of the design, the remaining five units will be installed, replacing existing units approximately one every few months. Four of the new primer manufacturing lines will be dedicated to 5.56mm primer manufacturing, one will manufacture 7.62mm primers, and one will manufacture 50cal primers. All new equipment will be installed in the 5.56 wing, and no new equipment will be placed in the 20 wing.

Each piece of equipment within a primer manufacturing line has the capability of being tooled to run any type of primer; therefore, all calculations were performed assuming that all six lines run 5.56mm primers because the production volume per hour is the highest while manufacturing 5.56mm primers. Each new primer manufacturing line will have the capacity to produce up to 120,000 primers per hour, making the overall maximum design rate of the project 720,000 primers per hour.

EMISSIONS/ CONTROLS EVALUATION

Emission factors for VOCs and HAPs emitted during primer manufacturing were calculated by measuring chemical usage rates during eight previous months of operation and using mass balances for each VOC and HAP constituent. Between April and December 2014, the total usage rate of each VOC and HAP constituent was divided by the total number of primers manufactured to yield the emission factors for each pollutant in pounds per primer. These emission factors were then multiplied by the maximum number of primers able to be manufactured at the maximum design rate. It was assumed that 100% of VOCs and volatile HAPs used during primer manufacturing are emitted.

Emission factors for particulates (including lead) emitted during primer manufacturing were calculated by measuring the mass of the explosive wing air filters before and after the same eight month period. Using an overall control efficiency of 70% for each of the eighteen filters and the total number of primers manufactured, the amount of uncontrolled particulates emitted per primer was found. This emission factor was multiplied by the maximum number of primers able to be manufactured at the maximum design rate. Because the overall uncontrolled emissions were found to be less than 0.01 tons per year for particulate matter and less than 0.001 tons per year for lead, the filters are not required to be used. Although the filters are only rated at having a 70% control efficiency for particulates 3μm – 10μm in diameter, all unaccounted PM$_{2.5}$ emissions were deemed negligible.

The following table provides an emissions summary for this project. Existing potential emissions were taken from the installation’s previous construction permit (032015-020). Existing actual emissions were taken from the installation’s 2014 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year).
Table 3: Emissions Summary (tons per year)

<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/D</td>
<td>0.07</td>
<td>0.01</td>
<td>0.08</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>15.0</td>
<td>83.82</td>
<td>7.62</td>
<td>0.28</td>
<td>0.01</td>
<td>0.29</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>10.0</td>
<td>N/D</td>
<td>7.57</td>
<td>0.28</td>
<td>0.01</td>
<td>0.29</td>
</tr>
<tr>
<td>SO$_x$</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>NO$_x$</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>1,462.53</td>
<td>91.51</td>
<td>0.42</td>
<td>84.73</td>
<td>&lt;40.0</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>168.94</td>
<td>29.53</td>
<td>3.14</td>
<td>N/A</td>
<td>3.14</td>
</tr>
<tr>
<td>Lead Compounds</td>
<td>10.0 / 0.01</td>
<td>N/D</td>
<td>N/D</td>
<td>N/D</td>
<td>0.001</td>
<td>N/D</td>
</tr>
<tr>
<td>Methanol</td>
<td>10.0 / 10</td>
<td>N/D</td>
<td>N/D</td>
<td>N/D</td>
<td>0.37</td>
<td>N/D</td>
</tr>
<tr>
<td>MIBK</td>
<td>10.0 / 10</td>
<td>N/D</td>
<td>N/D</td>
<td>N/D</td>
<td>0.02</td>
<td>N/D</td>
</tr>
<tr>
<td>Lead Compounds</td>
<td>10.0 / 0.01</td>
<td>N/D</td>
<td>N/D</td>
<td>N/D</td>
<td>0.001</td>
<td>N/D</td>
</tr>
<tr>
<td>Total HAPs</td>
<td>25.0</td>
<td>272.27</td>
<td>0.020</td>
<td>0.71</td>
<td>0.39</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

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 VOCs are conditioned below the de minimis level.

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

- 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.
- 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

SPECIFIC REQUIREMENTS

- Control of Emissions from Industrial Surface Coating Operations, 10 CSR 10-2.230 does not apply to the facility because facility operations do not constitute “industrial surface coating operations,” and none of the compounds used meet the definitions of “coating” or “sealer” as defined in 10 CSR 10-6.020

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 February 4, 2016, received February 10, 2016, designating U.S. Government – Army as the owner and operator of the installation.
Attachment A – VOC Compliance Worksheet

Alliant Techsystems Operations, LLC – Lake City Army Ammunition Plant
Jackson County (S31/32, T50N, R30W)
Project Number: 2016-02-022
Installation ID Number: 095-0046
Permit Number:

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

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Amount of Chemical Used (gal)</th>
<th>VOC Content (lb/gal)</th>
<th>Amount of VOCs Consumed (tons)</th>
<th>Amount of VOCs Disposed (tons)</th>
<th>Phase IV Monthly Emissions (tons)</th>
<th>Phase I – III Monthly Emissions (tons)</th>
<th>Individual Monthly Emissions (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Ex.) PSM24</td>
<td>205</td>
<td>6.06</td>
<td>0.621</td>
<td>0.170</td>
<td>0.451</td>
<td>0.035</td>
<td>0.486</td>
</tr>
</tbody>
</table>

Total Monthly Emissions (tons)

Previous 11 Months’ Total Emissions (tons)

Current 12-Month Total Emissions (tons)

1 Enter the total amount of each VOC-containing chemical used in any of the six new primer manufacturing lines, in the given month
2 Enter the VOC content of each chemical, taken from the respective SDS sheet
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
5 Subtract the Amount of VOCs Disposed (tons) from the Amount of VOCs Consumed (tons)
6 Add the Phase IV Monthly Emissions (tons) to the Phase I – III Monthly Emissions (tons)
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)
A Current 12-Month Total Emissions (tons) of less than 40.0 is necessary for compliance
APPENDIX A

Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>percent</td>
</tr>
<tr>
<td>ºF</td>
<td>degrees Fahrenheit</td>
</tr>
<tr>
<td>acfm</td>
<td>actual cubic feet per minute</td>
</tr>
<tr>
<td>BACT</td>
<td>Best Available Control Technology</td>
</tr>
<tr>
<td>BMPs</td>
<td>Best Management Practices</td>
</tr>
<tr>
<td>Btu</td>
<td>British thermal unit</td>
</tr>
<tr>
<td>CAM</td>
<td>Compliance Assurance Monitoring</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service</td>
</tr>
<tr>
<td>CEMS</td>
<td>Continuous Emission Monitor System</td>
</tr>
<tr>
<td>CFR</td>
<td>Code of Federal Regulations</td>
</tr>
<tr>
<td>CO</td>
<td>carbon monoxide</td>
</tr>
<tr>
<td>CO₂</td>
<td>carbon dioxide</td>
</tr>
<tr>
<td>CO₂e</td>
<td>carbon dioxide equivalent</td>
</tr>
<tr>
<td>COMS</td>
<td>Continuous Opacity Monitoring System</td>
</tr>
<tr>
<td>CSR</td>
<td>Code of State Regulations</td>
</tr>
<tr>
<td>dscf</td>
<td>dry standard cubic feet</td>
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<td>EIQ</td>
<td>Emission Inventory Questionnaire</td>
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<td>EU</td>
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<td>fps</td>
<td>feet per second</td>
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<tr>
<td>ft</td>
<td>feet</td>
</tr>
<tr>
<td>GACT</td>
<td>Generally Available Control Technology</td>
</tr>
<tr>
<td>GHG</td>
<td>Greenhouse Gas</td>
</tr>
<tr>
<td>gpm</td>
<td>gallons per minute</td>
</tr>
<tr>
<td>gr</td>
<td>grains</td>
</tr>
<tr>
<td>GWP</td>
<td>Global Warming Potential</td>
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<tr>
<td>HAP</td>
<td>Hazardous Air Pollutant</td>
</tr>
<tr>
<td>hr</td>
<td>hour</td>
</tr>
<tr>
<td>hp</td>
<td>horsepower</td>
</tr>
<tr>
<td>lb</td>
<td>pound</td>
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<tr>
<td>lbs/hr</td>
<td>pounds per hour</td>
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<tr>
<td>MACT</td>
<td>Maximum Achievable Control Technology</td>
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<td>μg/m³</td>
<td>micrograms per cubic meter</td>
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<tr>
<td>m/s</td>
<td>meters per second</td>
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<tr>
<td>Mgal</td>
<td>1,000 gallons</td>
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<td>MW</td>
<td>megawatt</td>
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<td>MHDR</td>
<td>maximum hourly design rate</td>
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<tr>
<td>MMBtu</td>
<td>Million British thermal units</td>
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<td>MMCF</td>
<td>million cubic feet</td>
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<td>National Ambient Air Quality Standards</td>
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<td>NESHAPs</td>
<td>National Emissions Standards for Hazardous Air Pollutants</td>
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<td>nitrogen oxides</td>
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<td>NSPS</td>
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<td>NSR</td>
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<td>PM</td>
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<td>PM₁₀</td>
<td>particulate matter less than 10 microns in aerodynamic diameter</td>
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<tr>
<td>ppm</td>
<td>parts per million</td>
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<td>PSD</td>
<td>Prevention of Significant Deterioration</td>
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<td>PTE</td>
<td>potential to emit</td>
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<td>RACT</td>
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<td>scfm</td>
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<td>SDS</td>
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<td>SIC</td>
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<td>SOₓ</td>
<td>sulfur oxides</td>
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<td>sulfur dioxide</td>
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<td>tph</td>
<td>tons per hour</td>
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<tr>
<td>tpy</td>
<td>tons per year</td>
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<tr>
<td>VMT</td>
<td>vehicle miles traveled</td>
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<td>VOC</td>
<td>Volatile Organic Compound</td>
</tr>
</tbody>
</table>
Ms. Tonya Aggson
Environmental Engineer
Alliant Techsystems Operations, LLC – Lake City Army Ammunition Plant
P.O. Box 1000
Independence, MO 64051

RE: New Source Review Permit - Project Number: 2016-02-022

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 Ryan Schott, at the Department of Natural Resources’ Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp
New Source Review Unit Chief

SH:rsj

Enclosures

c: Kansas City Regional Office
   PAMS File: 2016-02-022

Permit Number: