



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: 122008-007 Project Number: 2008-09-005

Parent Company: Alliant Techsystems Incorporated

Parent Company Address: 7480 Flying Cloud Drive, Minneapolis, MN 55344

Installation Name: Alliant Techsystems Incorporated - Lake City Ammunition Division

Installation Address: Intersection of Missouri Highways 7 & 78, P.O. Box 1000, Independence, MO 64051

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

Application for Authority to Construct was made for:
Installation of six (6) new draw presses, three (3) new wash and dry lines, two (2) new pickle/wash/lube lines and eight (8) new back end case cells. 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.

DEC 23 2008

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 departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. 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 start up of this (these) air contaminant source(s).

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 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 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.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2008-09-005

Installation ID Number: 095-0046

Permit Number:

Alliant Techsystems Inc. - Lake City Ammunition Div.
Intersection of Missouri Highways 7 & 78, P.O. Box 1000
Independence, MO 64051

Parent Company:
Alliant Techsystems Incorporated
7480 Flying Cloud Drive
Minneapolis, MN 55344

Jackson County, S31/32, T50N, R30W

Application Complete: September 11, 2008

REVIEW SUMMARY

- Alliant Techsystems Incorporated - Lake City Ammunition Division has applied for authority to install six (6) new draw presses, three (3) new wash and dry lines, two (2) new pickle/wash/lube lines and eight (8) new back end case cells.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment from this project in insignificant amounts due to the combustion of natural gas.
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) or currently promulgated Maximum Achievable Control Technology (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 from Phase I and Phase II combined are below de minimis levels.
- This installation is located in Jackson County, a maintenance area for ozone (O₃) and an attainment area for all other criteria air pollutants.
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- 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 new equipment.

- A revision to your Part 70 Operating Permit application is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended without special conditions.

INSTALLATION DESCRIPTION

Alliant Techsystems Lake City Ammunition Division (“Alliant - Lake City”) is a small arms ammunition manufacturer located in Independence, Missouri. This is an existing major source under construction permits. Alliant - Lake City received a Part 70 Operating Permit in November of 2003 (OP2003-042). A renewal to the Part 70 Operating Permit was received in May of 2008 and is currently undergoing technical review.

The following construction permits have been issued to this installation, or to private entities which have now been assumed by this installation, from the Air Pollution Control Program (APCP).

Table 1: Previous New Source Review Permits

Permit Number	Description
1088-009A	Install three (3) new painting/sealing systems and two (2) air strippers
0690-009	Install a trinitroresorcinol (TNR) manufacturing building
0690-003	Install an explosive wastewater treatment plant to remove metals
0191-004	Install four (4) air strippers that will strip VOCs from drinking water
0492-002	Install emergency diesel pump for boiler feed, and (20) emergency generators
1192-018	Install a natural gas fired generator unit
0694-021	Install a primer popping operation
0395-027	Install nine (9) standby emergency diesel generators
1095-022	Install three (3) video-jet printers for 20-mm case marking. This equipment replaced the ink-pad and rubber-stamping method
0496-018	Install three (3) ink jet equipment for 5.56 mm packing cartons. This equipment replaced the existing rubber-stamp operation
1097-018	Modify existing process to manufacture I-136N igniter mix by eliminating calcium resinate and replacing it with a polyurethane formula
0199-021	Install emergency diesel booster pump and fuel storage tank
012000-017	Install three (3) ammunition loading machines and one (1) ammunition priming machine. Replaced four (4) WWII machines
092000-002	Install calcium resinate system for manufacturing
112000-008	Install two (2) 16.8 MMBTU/hr steam generating boilers
042001-003	Install machine gun belt link manufacturing equipment. Permit has been relinquished to Lake City Ammo by Galion, Inc
052001-012	Install two (2) 12.1 million BTU per hour natural gas fired steam generating boilers
082001-016	Install one (1) 45-ton press, one (1) 75-ton press and one (1) 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.)
102001-006	Install two (2) 150-ton presses and one (1) 100-ton press to an existing machine gun belt link manufacturing operation
112001-009A	Install two (2) 30-ton presses and one (1) 60 ton press to an existing machine gun belt link manufacturing operation
012003-008	Two (2) Manuhrin loaders for the combat cartridge tip identification and cartridge sealing operation (EP-14 and EP-15, respectively)
032005-012	Installation of one (1) 33.5 MMBtu per hour boiler
112008-012	Installation of eight (8) new priming machines and five (5) new loading machines, including one (1) Manurhin loading machine.

PROJECT DESCRIPTION

Alliant - Lake City is seeking authority to install 7.62mm case manufacturing equipment. The proposed installation is for six (6) new draw presses, three (3) new wash and dry lines, two (2) new pickle/wash/lube lines and eight (8) new back end case cells in the 7.62 mm case production line. Anticipated operating rate of this equipment is 160 million pieces per year. This project is considered the second phase of the Modernization Effort. The first phase was permitted under Permit No. 112008-012 and included the installation of eight (8) new priming machines and five (5) new loading machines, including one (1) Manurhin loading machine. Information relating to the process description and emissions evaluation for Phase I can be found in the previous permit. However, since this project and the previous project are part of a phased construction, the potential emissions of both projects are combined for permit type determination.

The modified 7.62 mm case line will perform the case draw in two draw stages. This will eliminate one draw, anneal, pickle, rinse lube and drying operation from the current case manufacturing line. The proposed installation will be done in turns, as one of the new sets of equipment is brought up and running, one of the existing sets of equipment will be taken out of service and dismantled. Existing demand will not allow the operation of the new equipment and the existing equipment.

As mentioned before, this project consists of six (6) new draw presses, three (3) new wash and dry lines, two (2) new pickle/wash/lube lines and eight (8) new back end case cells. However, much of the new equipment does not have any associated emissions. Drawing of the case is performed using electric powered presses. In addition, the drawing lube is water soluble with no volatile organic compounds (VOCs). Lube and water emulsion is pooled around the parts as they are pressed, so aerosol or particulate matter (PM) emissions are not expected. In the new wash and dry lines, heating of the wash water will be either by existing steam source or by electricity. The new back end case cells perform annealing, pressing, washing, turning & trimming, and further annealing operations. All heating, drying, mouth and neck annealing power will be provided using electricity and therefore no emissions are expected from the back end case cells.

The only sources of emissions from the addition of the new equipment are from the pickling of the cases after annealing and from the possible addition of two furnaces. Sulfuric acid will be used in the equipment to pickle the cases after annealing. The design will be similar to the existing lines, so emissions are not expected to increase. Possible emissions from the pickling process consists of sulfuric acid mist (SAM). There are currently 3 pickle trains in operation that process 7.62 mm cases. The proposed installation would eliminate one of the pickle train lines and the associated emissions. At this time of this project, it is unknown whether the existing case furnaces will be rebuilt, new natural gas furnaces will be installed, or electric annealing furnaces will be installed. To account for any possible emissions increase, it will be assumed that two (2) new natural gas furnaces will be installed. The furnaces will have a heat input of 1.03 MMBtu per hour each.

EMISSIONS/CONTROLS EVALUATION

Potential emissions for the pickling process are based upon stack sampling data conducted in March of 1997 at the Lake City Army Ammunition Plant. Potential emissions per pickle train stack were calculated to be 1.67 pounds per year. Two pickle trains are being added with this project.

The emission factors used for the natural gas furnaces were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 1.4, *Natural Gas Combustion (July 1998)*.

The following table provides an emissions summary for this project. The existing potential emissions are taken from Permit No. 032005-012. These include conditioned potential emissions. Existing actual emissions were taken from the 2007 Emissions Inventory Questionnaire (EIQ). Potential emissions of the application represent the potential of the equipment installed in Phase I and Phase II of the Modernization Effort, assuming continuous operation (8760 hours per year). No credit was taken for possible removal of equipment.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2007 EIQ)	Potential Emissions of the Phase II	Combined Potential Emissions of Phase I & II
PM ₁₀	15.0	71.57	9.89	0.07	2.88
SO _x	40.0	1,780.57	0.48	0.01	N/A
NO _x	40.0	343.51	35.37	0.86	N/A
VOC	40.0	1,387.99	119.52	0.05	14.54
CO	100.0	157.34	23.25	0.72	0.72
Lead	0.6	2.15	N/D	0.00	N/A
SAM	7.0	N/D	N/D	<0.002	<0.002
HAPs	10.0/25.0	268.54	N/D	0.02	2.72
Toluene	10	N/D	N/D	N/A	1.44
Xylene	10	N/D	N/D	N/A	0.67
Methanol	10	N/D	N/D	N/A	0.08
Lead Chromate*	0.01	N/D	N/D	N/A	0.07**
Dibutylphthalate	10	N/D	N/D	N/A	0.44

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

*The regulatory level listed for this individual HAP is the Screen Modeling Action Level (SMAL).

**A 0.01 tpy limit was taken on lead chromate in Phase I of the Modernization Effort. See Permit No. 112008-012 for more information.

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 from Phase I and Phase II combined are below de minimis levels.

APPLICABLE REQUIREMENTS

Alliant Techsystems Incorporated - Lake City Ammunition Division 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*
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *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 10-3.090*

SPECIFIC REQUIREMENTS

- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning Equipment Used for Indirect Heating, 10 CSR 10-3.060*

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.

Susan Heckenkamp
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated August 28, 2008, received September 2, 2008, designating Alliant Techsystems Incorporated as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Kansas City Regional Office Site Survey, dated September 18, 2008.

Mr. Tom Herman
Manager, Safety and Environmental Engineer
Alliant Techsystems Incorporated - Lake City Ammunition Division
Intersection of Missouri Highways 7 & 78,
P.O. Box 1000
Independence, MO 64051

RE: New Source Review Permit - Project Number: 2008-09-005

Dear Mr. Herman:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files.

Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance.

The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact Susan Heckenkamp, at the departments' 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

Kendall B. Hale
New Source Review Unit Chief

KBH:smhl

Enclosures

c: Kansas City Regional Office
PAMS File: 2008-09-005

Permit Number: