



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: 112008-012 Project Number: 2008-03-057

Parent Company: Alliant Techsystems Inc.

Parent Company Address: 5050 Lincoln Drive, Edina, MN 55436-1097

Installation Name: Alliant Techsystems Inc. Lake City Ammunition Division

Installation Address: Intersection of 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 eight (8) new priming machines and five (5) new loading machines, including one (1) Manurhin loading machine. 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.

NOV 26 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.

Page No.	3
Permit No.	
Project No.	2008-03-057

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 Inc. Lake City Ammunition Division
Jackson County, S31/32, T50N, R30W

1. HAP Emission Limitations
 - A. Alliant Techsystems Inc. Lake City Ammunition Division ("Alliant - Lake City") shall emit less than 0.01 tons of lead chromate from the equipment listed in Table 1 in any consecutive 12-month period.

Table 1: Project Emission Points

Emission Point	Description	Associated New Equipment
EP15A	Case Mouthwater Proofing and Primer Cap Seal	8 New Primers (15A-1, 15A-2,....15A-8)

- B. When considering using alternative materials with the new equipment list that is different to those listed in the Application for Authority to Construct, Alliant - Lake City must calculate the potential emissions for each individual HAP in the alternative material. If the potential HAP emissions for the alternative material is equal to or greater than the Screen Modeling Action Levels (SMAL) as listed in Attachment C or is greater than 10 ton per year, then Alliant - Lake City must seek approval from the Air Pollution Control Program before use of the alternative material.
- C. Attachments A and B or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A and 1.B. Alliant - Lake City shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used in this equipment.
- D. Lake City shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, Missouri 65102, no later than ten (10) days after the end of the month during which the records from Special Condition Number 1.C indicate that the source exceeds the limitation of Special Conditions Number 1.A.

Page No.	4
Permit No.	
Project No.	2008-03-057

SPECIAL CONDITIONS:

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

2. Solvent/Ink Cloths

Alliant - Lake City shall keep the solvents and cleaning solutions in sealed containers whenever the materials are not in use. Alliant - Lake City shall provide and maintain suitable, easily read, permanent markings on all solvent and cleaning solution containers used with this equipment.

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

Project Number: 2008-03-057
Installation ID Number: 095-0046
Permit Number:

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

Complete: March 24, 2008

Parent Company:
Alliant Techsystems Inc.
5050 Lincoln Drive
Edina, MN 55436-1097

Jackson County, S31/32, T50N, R30W

REVIEW SUMMARY

- Alliant Techsystems Inc. Lake City Ammunition Division (“Alliant - Lake City”) has applied for authority to install eight (8) new priming machines and five (5) new loading machines which includes one (1) Manurhin loading machine.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are toluene, xylene, methanol, lead chromate and dibutylphthalate.
- 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 VOCs 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 the installation's Part 70 Operating Permit application is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with 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.

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 2: 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

PROJECT DESCRIPTION

Alliant - Lake City is seeking authority to install eight (8) new priming machines, five (5) new loading machines including one (1) Manurhin loading machine. The addition of this equipment is a part of the Modernization Project at Lake City. The first phase of this project began with the addition of one (1) 7.62 Manurhin loading machine (Project No. 2007-02-046). The determination of the project was that all emissions were under significance thresholds. At the time of that project, no other equipment additions were planned. However, Alliant Lake City now anticipates the addition of several new priming and loading machines. Since the addition of Manurhin loading machine is a part of the modernization project, it will be included in this permit along with the other new equipment. Installation of the Manurhin has not started. As the Modernization Project progresses, Alliant Lake City will include additional equipment and changes to operation under this permit. It is anticipated that four of the existing .50 caliber and three existing 7.62 mm priming machines will be removed.

The priming machines will be used to inspect the case, insert the primer, drip apply primer sealant, and wipe apply mouth waterproofing (MWP) compound. The priming equipment will require the use of solvent clean-up operations to clean primer sealants and MWP. Four of the new priming machines will manufacture 0.50 caliber ammunition and the other four machines will manufacture 7.62 mm ammunition. Each of the priming machines will operate at a maximum rate of 4,800 pieces per hour. Emissions associated with the priming machine are from the application of lacquer primer sealant (EP-15A) and from solvent clean-up. No emissions are associated with the application of MWP since it contains no VOCs. Based on maximum historical usage, each priming machine is estimated to use 0.00525 gallons of primer solvent per 4,800 pieces.

The loading equipment will be used to load propellant powder and insert the bullet into 7.62 mm and .50 caliber cartridges in Building 3 Loading. There will be four new loaders dedicated to .50 caliber production and one (the Manurhin loader) to 7.62 mm production. The only emissions associated with the four .50 caliber loading machines (EP14C) are due to the tip identification which dip applies paint onto the tip of the bullet for field identification purposes. The maximum rate for each of the four loaders is 4,800 pieces per hour. Based on historical usage, it is estimated that 0.175 gallons of paint are used per 4,800 pieces. In the case of the Manurhin loader, as stated in Project No. 2007-02-046, there are two emission points associated with it: the Combat Cartridge Tip Identification (EP-14C) and the Cartridge Sealing Operations (EP-15B). At EP-14C, the paint is applied to the tip by dip application. The maximum design rate for this machine is 250 cartridges per minute. One gallon of paint is required per 160,000 cartridges and one gallon of lacquer sealant is required per 120,000 cartridges.

Usage of solvent for clean-up operations (EP-19B) are based on maximum historical usage and is estimated to be approximately 0.59 gallons per hour. However, per hazardous waste disposal records, it is estimated that approximately 82.5 gallons per week are recovered and therefore not emitted into the air. Therefore, estimated usage is based on a rate of 0.1 gallons per hour. Please note that records of recovered waste are not required for this permit since inclusion of the amount being disposed would not cause the VOC totals for this project to exceed 40 tons per year. Please note that records may be required for Emission Inventory Questionnaire (EIQ) reporting purposes.

No control devices are associated with the proposed equipment.

EMISSIONS/CONTROLS EVALUATION

The emissions of concern from this project are PM₁₀, VOCs and HAPs. The emissions for the proposed equipment were estimated by using a mass balance approach. Information obtained from the Material Safety Data Sheets and maximum historical usages for each type of ammunition as provided by the applicant were used to estimate the maximum hourly design rates. 100% of the VOC and HAP content of the primer sealants lacquer thinner, and paints are assumed to be emitted into the atmosphere. PM₁₀ emissions for the application of the materials were evaluated based on the solids content of the paint and transfer efficiency from dip application. An 85% transfer efficiency was assumed. If not specifically stated, the solids content of the material was estimated by taking the density of the material and subtracting out the volatile content and assuming the remainder to be PM₁₀.

Potential emissions of each pollutant were determined for each material proposed. The highest potential emissions for total VOCs, combined HAPs, individual HAPs and PM₁₀ were then used to determine the worst case potential emissions for the project.

The existing potential emissions are taken from Permit No. 032005-012. These include conditioned potential emissions from the last permit. Existing actual emissions were taken from the 2006 Emissions Inventory Questionnaire (EIQ). Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The following table provides an emissions summary for this project.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2006 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	71.57	9.6	2.81	N/A
SO _x	40.0	1780.57	0.97	N/A	N/A
NO _x	40.0	343.51	38.78	N/A	N/A
VOC	40.0	1387.99	126.02	14.56	N/A
CO	100.0	157.34	19.19	N/A	N/A
Lead	0.6	2.15	0.35	N/A	N/A
HAPs	10/25.0	268.54	N/D	2.7	N/A
Toluene	10	N/D	N/D	1.44	N/A
Xylene	10	N/D	N/D	0.67	N/A
Methanol	10	N/D	N/D	0.08	N/A
Lead Chromate*	0.01	N/D	N/D	0.07	<0.01
Dibutylphthalate	10	N/D	N/D	0.44	N/A

N/A = Not Applicable; N/D = Not Determined *The regulatory levels listed for this individual HAP is the Screen Modeling Action Levels (SMAL), not de minimis level. All other HAPs have SMALs of 10 tons per year which is equal to the de minimis HAP level. Lake City has elected to take a limit for lead chromate to avoid modeling. The other individual HAPs do not have the potential to exceed their SMAL and therefore do not require additional limits.

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 below de minimis levels.

APPLICABLE REQUIREMENTS

Alliant Techsystems Inc. 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 April 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

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Maximum Allowable Emissions of Particulate Matter From Fuel Burning*

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 March 13, 2008, received March 17, 2008, designating Alliant Techsystems Inc. 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 April 11, 2008.
- Material Safety Data Sheets

Attachment B – Hazardous Air Pollutants (HAP) Calculation Sheet

Alliant Techsystems Inc. Lake City Ammunition Division
 Jackson County, S31/32, T50N, R30W
 Project Number: 2008-03-057
 Installation ID Number: 095-0046
 Permit Number:

Date: _____

HAP Name and CAS #: _____

Copy this sheet as needed.

Column 1	Column 2 (a)	Column 3	Column 4	Column 5 (b)	Column 6	Column 7	Column 8	Column 9 (c)
Material Used (Name, Type)	Application Rate (Gallons per hour)	Density (Pounds per gallon)	Individual HAP Content (Weight %)	Individual HAP Emissions (Tons per Year)	VOC Content (Weight %)	VOC Emissions (Ton per Year) for the Material	Scaled Individual HAP Emissions (Tons Per Year)	Screen Modeling Action Level (Tons per Year)
<i>Example, paint ABC</i>	37.3	9.01	1.4	20.6	14.4	212.0	3.9	5

- Instructions: Calculate the potential emissions of each individual HAP contained in the material**
- Note: The maximum hourly design rate is equal to 0.175 gallons per hour (gph) for the 50 cal loading machine (EP 14C,D), 0.00525 gph for the priming machines (EP 15A-E), 0.094 gph and 0.125 gph for the Manurhin machine (EP 14E and EP 15B, respectively) and xxx for clean-up solvent usage (EP19).
 - $[Column\ 2] \times [Column\ 3] \times [Column\ 4] \times [4.38] / 100 = [Column\ 5]$.
 - Screen Modeling Action Levels for individual HAPs can be found in Attachment D.
 - Compare potential emissions of the individual HAP in [Column 5] to those from [Column 9].
 - If [Column 5] is greater than [Column 9], then try scaling as detailed in (f) through (h).
 - $Column\ 2] \times [Column\ 3] \times [Column\ 6] \times [4.38] / 100 = [Column\ 7]$
 - $40 \times [Column\ 5] / [Column\ 7] = [Column\ 8]$
 - Compare potential emissions of the scaled individual HAP in [Column 8] to those from [Column 9].
 - If [Column 8] is greater than [Column 9] or 10 tons per year, obtain permission from Air Pollution Control program before using this material.

Attachment C: Screen Modeling Action Levels Table

Chemical	CAS#	Emission Threshold Levels (tpy)	Synonyms
Acetaldehyde	75-07-0	9	Acetic Aldehyde, Aldehyde, Ethanal, Ethyl Aldehyde
Acetamide	60-35-5	1	Acetic Acid Amide, Ethanamide
Acetonitrile	75-05-8	4	Methyl Cyanide, Ethanenitrile, Cyanomethane
Acetophenone	98-86-2	1	Acetylbenzene, Methyl Phenyl Ketone, Hyponone
Acetylaminofluorine, [2-]	53-96-3	0.005	N-2-Fluorenyl Acetaminde, N-Fluroen-2-yl Acetamide, 2-Acetamideofluorene
Acrolein	107-02-8	0.04	Acrylaldehyde, Acrylic Aldehyde, Allyl Aldehyde, Propenal
Acrylamide	79-06-1	0.02	Propenamamide, Acrylic Amide, Acrylamide Monomer, Ethylenecarboxamide
Acrylic Acid	79-10-7	0.6	Propenoic Acid, Ethylene Carboxylic Acid, Vinylformic Acid
Acrylonitrile	107-13-1	0.3	Vinyl Cyanide, Cyanoethylene, Propenenitrile
Allyl Chloride	107-05-1	1	1-Chloro-2-Propene, 3-Chloropropylene, Chloroallylene, Alpha-Propylene
Aminobiphenyl, [4-]	92-67-1	1	Biphenylene, P -Phenylaniline, Xenylamine, 4-Aminodiphenyl, 4-Biphenylamine
Aniline	62-53-3	1	Aminobenzene, Phenylamine, Aniline Oil, Aminophen, Arylamine
Anisidine, [Ortho-]	90-04-0	1	O-Methoxyaniline
Antimony Compounds (except those specifically listed)		5	Antimony (Pentachloride, Tribromide, Trichloride, Trifluoride)
Antimony Pentafluoride	7783-70-2	0.1	
Antimony Potassium Tartrate	28300-74-5	1	
Antimony Trioxide	1309-64-4	1	
Antimony Trisulfide	1345-04-6	0.1	
Arsenic and Inorganic Arsenic Compounds		0.005	Arsenic (Diethyl, Disulfide, Pentoxide, Trichloride, Trioxide, Trisulfide), Arsinine, Arsenous Oxide
Benz(a)Anthracene	56-55-3	0.01	
Benz(c)acridine	225-51-4	0.01	
Benzene	71-43-2	2	Benzol, Phenyl Hydride, Coal Naphtha, Phene, Benxole, Cyclohexatriene
Benzidine	92-87-5	0.0003	4,4'-Biphenyldiamine, P-Diaminodiphenyl, 4,4'-Diaminobiphenyl, Benzidine Base
Chemical	CAS#	Emission Threshold Levels (tpy)	Synonyms
Benzo(a)pyrene	50-32-8	0.01	
Benzo(b)fluoranthene	205-992	0.01	
Benzo(trichloride)	98-07-7	0.006	Benzoic Trichloride, PhenylChloroform, Trichloromethylbenzene
Benzyl Chloride	100-44-7	0.1	Alpha-Chlorotoluene, Toly Chloride

Attachment C: Screen Modeling Action Levels Table

Beryllium Compounds (except Beryllium Salts)	Chemical	CAS#	Emission Threshold Levels (tons/year)
Beryllium Salts		0.00002	
Bis(Chloroethyl)Ether	111-44-4	0.06	Dichloroethyl ether, Dichloroether, Dichloroethyl Oxide, BCEE
Bis(Chloromethyl)Ether	542-88-1	0.0003	BCME, Sym-Dichloromethyl ether, Dichloromethyl Ether, Oxybis-(Chloromethane)
Butadiene, [1,3-]	106-99-0	0.07	Biethylene, Biviny, Butadiene Monomer, Divinyl Erythrene, Vinylethylene
Butylene Oxide, [1,2-]	106-88-7	1	1,2-Epoxybutane, 1-Butene Oxide, 1,2-Butene Oxide, Butylene Oxide, Ethylethylene
Cadmium Compounds		0.01	Cadmium (Dust, Fume, Acetate, Chlorate, Chloride, Fluoride, Oxide, Sulfate, Sulfide)
Carbon Disulfide	75-15-0	1	Carbon Bisulfide, Dithiocarbonic Anhydride
Carbon Tetrachloride	56-23-5	1	Tetrachloromethane, Perchloromethane
Carbonyl Sulfide	463-58-1	5	Carbon Oxide Sulfide, Carbonoxysulfide
Catechol	120-80-9	5	Pyrocatechol, O-Dihydroxybenzene
Chloramben	133-90-4	1	3-Amino-2,5-Dichlorobenzoic Acid, Amben, Amiben*, Vegiben* (*Trademark)
Chlordane	57-74-9	0.01	ENT9932, Octachlor
Chlorine	7782-50-5	0.1	Bertholite
Chloroacetic Acid	79-11-8	0.1	Monochloroacetic Acid, Chloroethanoic Acid
Chloroacetophenone, [2-]	532-27-4	0.06	Phenacyl Chloride, Chloromethyl Phenyl Ketone, Tear Gas, Mace
Chlorobenzilate	510-15-6	0.4	Ethyl-4,4'-Dichlorobenzilate, Ethyl-4,4'-Dichlorophenyl Glycollate
Chloroform	67-66-3	0.9	Trichloromethane
Chloromethyl Methyl Ether	107-30-2	0.1	CMME, Methyl Chloromethyl Ether, Chloromethoxymethane, Monochloromethyl Ether
Chloroprene	126-99-8	1	2-Chloro-1,3-Butadiene, Chlorobutadiene, Neoprene Rubber Compound
Chemical	CAS#	Emission Threshold Levels (tpy)	Synonyms
Chromic Chloride	10025-73-7	0.1	
Chromium Compounds (except Hexavalent)		5	Chromium, Chromium(II) Compounds, Chromium (III) Compounds
Chromium Compounds, Hexavalent		0.002	Chromium (VI)
Chrysene	218-01-9	0.01	
Cobalt Carbonyl	12010-68-1	0.1	
Cobalt Metal (and compounds, except those specifically listed)		0.1	Cobalt (Bromide, Chloride, Diacetate, Formate, Nitrate, Oxide, Sulfamate)

Attachment C: Screen Modeling Action Levels Table

Coke Oven Emissions	8007-45-2	0.03	Coal Tar, Coal Tar Pitch, Coal Tar Distillate
Cresol, [Meta-]	108-39-4	1	3-Cresol, M-Cresylic Acid, 1-Hydroxy-3-Methylbenzene, M-Hydroxytoluene
Cresol, [Ortho-]	95-48-7	1	2-Cresol, O-Cresylic Acid, 1-Hydroxy-2-Methylbenzene, 2-Methylphenol
Cresol, [Para-]	106-44-5	1	4-Cresol, P-Cresylic Acid, 1-Hydroxy-4-Methylbenzene, 4-Hydroxytoluene
Cresols/ Cresylic Acid (isomers and mixture)	1319-77-3	1	
Cyanide Compounds (except those specifically listed)	20-09-7	5	Cyanide (Barium, Chlorine, Free, Hydrogen, Potassium, Silver, Sodium, Zinc)
DDE (p,p'-Dichlorodiphenyl Dichloroethylene)	72-55-9	0.01	
Di(2-Ethylhexyl)Phthalate, (DEHP)	117-81-7	5	Bis(2-ethylhexyl)Phthalate, Di(2-Ethylhexyl)Phthalate, DOP, Di-Sec-Octyl Phthalate
Diaminotoluene, [2,4-]	95-80-7	0.02	2,4-Toluene Diamine, 3-Amino-Para-Toluidine, 5-Amino-Ortho-Toluidine
Diazomethane	334-88-3	1	Azimethylene, Diazirine
Dibenz(a,h)anthracene	53-70-3		
Dibenzofuran	132-64-9	5	Diphenylene Oxide
Chemical	CAS#	Emission Threshold Levels (tpy)	Synonyms
Dibenzopyrene, [1,2:7,8]	189-55-9		
Dibromo-3-Chloropropane, [1,2-]	96-12-8	0.01	DBCP
Dibromomethane, [1,2-]	106-93-4	0.1	Ethylene Dibromide, Ethylene Bromide, Sym-Dibromoethane
Dichlorobenzene, [1,4-]	106-46-7	3	1,4-Dichloro-P-DCB, 1-4-DCB, PDB, PDCB
Dichlorobenzidene, [3,3-]	91-94-1	0.2	4,4'-Diamino-3,3'-Dichlorobiphenyl, 3,3'-Dichlorobiphenyl-4,4'-Diamine, DCB
Dichloroethane, [1,1-]	75-34-3	1	Ethylidene Dichloride, 1,1-Ethylidene Dichloride, Asymmetrical Dichlorethane
Dichloroethane, [1,2-]	107-06-2	0.8	Ethylene Dichloride, Glycol Dichloride, Ethylene Chloride
Dichloroethylene, [1,1-]	75-35-4	0.4	Vinylidene Chloride, DCE, VDC
Dichloropropane, [1,2-]	78-87-5	1	Propylene Dichloride
Dichloropropene [1,3-]	542-75-6	1	1,3-Dichloropropylene, Alpha-Chlorallyl Chloride
Dichlorvos	62-73-7	0.2	DDVP, 2,2-Dichlorovinyl dimethylphosphate
Diethanolamine	11-42-2	5	Bis(2-Hydroxyethyl)Amine, 2,2'-Dihydroxydiethylamine, Di(2-Hydroxyethyl)Amine
Diethyl Sulfate	64-67-5	1	Diethyl Ester Sulfuric Acid, Ethyl Sulfate
Dimethoxybenzidine, [3,3-]	119-90-4	0.1	Fast Blue B Base, Dianisidine, O-Dianisidine
Dimethylbenz(a)anthracene, [7,12]	57-97-6	0.01	
Dimethyl Benzidine, [3,3-]	119-93-7	0.008	O-Tolidine, Bianisidine, 4,4'-Diamino-3,3'-Dimethylbiphenyl, Diaminoditoyl
Dimethyl Carbamoyl Chloride	79-44-7	0.02	DMCC, Chloroformic Acid Dimethyl Amide, Dimethyl Carbamyl Chloride
Dimethyl Formamide	68-12-2	1	DMF, Formyldimethylamine

Attachment C: Screen Modeling Action Levels Table

Dimethyl Hydrazine, [1,1-]	57-14-7	0.008	Unsymmetrical Dimethylhydrazine, UDMH, Dimazine
Dimethyl Sulfate	77-78-1	0.1	Sulfuric Acid Dimethyl Ester, Methyl Sulfate
Dimethylaminoazobenzene, [4-]	60-11-7	1	N,N-Dimethyl-P-Phenylazo-Aniline, Benzeneazo Dimethylaniline
Dimethylaniline, [N,N-]	121-69-7	1	N,N-Diethyl Aniline, N,N-Dimethylphenylamine, DMA
Dinitro-O-Cresol, [4,6-] and salts	534-52-1	0.1	DNOC, 3,5-Dinitro-O-Cresol, 2-Methyl-4,6-Dinitrophenol
Dinitrophenol, [2,4-]	51-28-5	1	DNP
Chemical	CAS#	Emission Threshold Levels (tpy)	Synonyms
Dinitrotoluene, [2,4-]	121-14-2	0.02	Dinitrotoluol, DNT, 1-Methyl-2,4-Dinitrobenzene
Dioxane, [1,4-]	123-91-1	6	1,4-Diethyleneoxide, Diethylene Ether, P-Dioxane
Diphenylhydrazine, [1,2-]	122-66-7	0.09	Hydrazobenzene, N,N'-Diphenylhydrazine, N,N'-Bianiline, 1,1'-Hydrodibenzene
Diphenylmethane Diisocyanate, [4,4-]	101-68-8	0.1	Methylene Bis(Phenylisocyanate), Methylene Diphenyl Diisocyanate, MDI
Epichlorohydrin	106-89-8	2	1-Chloro-2,3-Epoxypropane, EPI, Chloropropylene Oxide, Chloromethyloxirane
Ethyl Acrylate	140-88-5	1	Ethyl Propenoate, Acrylic Acid Ethyl Ester
Ethylene Imine (Aziridine)	151-56-4	0.003	Azacyclopropane, Dimethyleneimine, Ethylenimine, Vinylamine, Azirane
Ethylene Oxide	75-21-8	0.1	1,2-Epoxyethane, Oxirane, Dimethylene Oxide, Anprolene
Ethylene Thiourea	96-45-7	0.6	2-Imidazolidinethione, ETU
Fluomine	62207-76-5	0.1	
Formaldehyde	50-00-0	2	Oxymethylene, Formic Aldehyde, Methanal, Methylene Oxide, Oxomethane
Glycol Ethers (except those specifically listed)		5	
Heptachlor	76-44-8	0.02	1,4,5,6,7,8,8A-Heptachloro-3A,4,7,7A-Tetrahydro-4,7-Methanoindiene
Hexachlorobenzene	118-74-1	0.01	Perchlorobenzene, HCB, Pentachlorophenyl Benzene, Phenyl Perchloryl
Hexachlorobutadiene	87-68-3	0.9	Perchlorobutadiene, 1,3-Hexachlorobutadiene, HCB
Hexachlorocyclopentadiene	77-47-4	0.1	HCCPD, HEX
Hexachloroethane	67-72-1	5	Perchloroethane, Carbon Hexachloride, HCE, 1,1,1,2,2,2-Hexachloroethane
Hexamethylene Diisocyanate, 1,6-	822-06-0	0.02	1,6-Diisocyanatohexane, 1,6-Hexanediol Diisocyanate
Hexamethylphosphoramide	680-31-9	0.01	Hexamethylphosphoric Triamide, HEMPA, Hexametapol, Hexamethylphosphoramide
Hydrazine	302-01-2	0.004	Methylhydrazine, Diamide, Diamine, Hydrazine Base
Hydrogen Fluoride	7664-39-3	0.1	Hydrofluoric Acid Gas, Fluorhydric Acid Gas, Anhydrous Hydrofluoric Acid
Hydrogen Selenide	7783-07-5	0.1	
Chemical	CAS#	Emission Threshold Levels (tpy)	Synonyms
Hydroquinone	123-31-9	1	Quinol, Hydroquinol, P-Diphenol, 1,4-Benzenediol, Hydrochinone, Arctivin

Attachment C: Screen Modeling Action Levels Table

Indeno(1,2,3-cd)Pyrene	193-39-5	0.01	
Lead and Compounds (except those specifically listed)	20-11-1	0.01	Lead (Acetate, Arsenate, Chloride, Fluoride, Iodide, Nitrate, Sulfate, Sulfide)
Lindane [Gamma-Hexachlorocyclohexane]	58-89-9	0.01	Benzene Hexachloride – Gamma Isomer
Maleic Anhydride	108-31-6	1	2,5-Furandiene, Cis-Butenedioic Anhydride, Toxic Anhydride
Manganese and Compounds (except those specifically listed)	20-12-2	0.8	Manganese (Acetate, Chloride, Dioxide, (II)-Oxide, (III)-Oxide, (II)-Sulfate)
Mercury Compounds (except those specifically listed)	20-13-3	0.01	Mercury Compounds (Methyl-, Ethyl-, Phenyl-)
Mercury Compounds (Inorganic)	20-13-3	0.01	Mercury (Chloride, Cyanide, (I,II)-[Bromide, Iodide, Nitrate, Sulfate], Oxide)
Methyl Hydrazine	60-34-4	0.06	Monomethylhydrazine, Hydrozomethane, 1-Methylhydrazine
Methyl Iodide	74-88-4	1	Idomethane
Methyl Isocyanate	624-83-9	0.1	Isocyanatomethane, Isocyanic Acid, Methyl Ester
Methylcyclopentadienyl Manganese	12108-13-3	0.1	
Methylene Bis(2-Chloroaniline), [4,4-]	101-14-4	0.2	Curene, MOCA, 4,4'-Diamino-3,3'-Dichlorodiphenylmethane
Methylenedianiline, [4,4-]	101-77-9	1	4,4'-Diaminodiphenylmethane, DDM, MDA, Bis(4-Aminophenyl)Methane,
Nickel Carbonyl	13463-39-3	0.1	
Nickel Compounds (except those specifically listed)		1	Nickel (Acetate, Ammonium Sulfate, Chloride, Hydroxide, Nitrate, Oxide, Sulfate)
Nickel Refinery Dust	12035-72-2	0.08	
Chemical	CAS#	Emission Threshold Levels (tpy)	Synonyms
Nickel Subsulfide		0.04	
Nitrobenzene	98-95-3	1	Nitrobenzoin, Oil of Mirbane, Oil of Bitter Almonds
Nitrobiphenyl, [4-]	92-93-3	1	4-Nitrodiphenyl, P-Nitrobiphenyl, P-Nitrophenyl, PNB
Nitrophenol, [4-]	100-02-7	5	4-Hydroxynitrobenzene, Para-Nitrophenol
Nitropropane, [2-]	79-46-9	1	Dimethylnitromethane, Sec-Nitropropane, Isonitropropane, Nitroisopropane
Nitroso-N-Methylurea, [N-]	684-93-5	0.0002	N-Methyl-N-Nitrosourea, N-Nitroso-N-Methylcarbamide
Nitrosodimethylamine, [N-]	62-75-9	0.001	Dimethylnitrosamine, DMN, DMNA
Nitrosomorpholine, [N-]	59-89-2	1	4-Nitrosomorpholine
Parathion	56-38-2	0.1	DNTP, Monothiophosphate, Diethyl-P-Nitrophenyl
PCB (Polychlorinated Biphenyls)	1336-36-3	0.009	Aroclors
Pentachloronitrobenzene	82-68-8	0.3	Quintobenzene, PCNB, Quiniozene
Pentachlorophenol	87-86-5	0.7	PCP, Penchlorol, Pentachlorophenate, 2,3,4,5,6-Pentachlorophenol

Attachment C: Screen Modeling Action Levels Table

Phenol	108-95-2	0.1	Carbolic Acid, Phenic Acid, Phenylic Acid, Phenyl Hydrate, Hydroxybenzene
Phenyl Mercuric Acetate	62-38-4	0.01	
Phosgene	75-44-5	0.1	Carbonyl Chloride, Carbon Oxychloride, Carbonic Acid Dichloride
Phosphine	7803-51-2	5	Hydrogen Phosphide, Phosphoretted Hydrogen, Phosphorus Trihydride
Phosphorous (Yellow or White)	7723-14-0	0.1	
Phthalic Anhydride	85-44-9	5	Phthalic Acid Anhydride, Benzene-O-Dicarboxylic Acid Anhydride, Phthalandione
Polycyclic Organic Matter (except those specifically listed)	TP15	0.01	POM, PAH, Polyaromatic Hydrocarbons,
Potassium Cyanide	151508	0.1	
Propane Sultone, [1,3-]	1120-71-4	0.03	1,2-Oxathiolane-2,2-Dioxide, 3-Hydroxy-1-Propanesulphonic Acid Sultone
Propiolactone, [Beta-]	57-57-8	0.1	2-Oxeatanone, Propiolactone, BPL, 3-Hydroxy-B-Lactone-Propanoic Acid
Propionaldehyde	123-38-6	5	Propanal, Propyl Aldehyde, Propionic Aldehyde
Propylene Oxide	75-56-9	5	1,2-Epoxypropane, Methylethylene Oxide, Methyl Oxirane, Propene Oxide
Propyleneimine, [1,2-]	75-55-8	0.003	2-Methyl Aziridine, 2-Methylazacyclopropane, Methylethyleneimine
Chemical	CAS#	Emission Threshold Levels (tpy)	Synonyms
Quinoline	91-22-5	0.006	1-Azanaphthalene, 1-Benzazine, Benzo(B)Pyridine, Chinoleine, Leucoline
Quinone	016-51-4	5	Benzoquinone, Chinone, P-Benzoquinone, 1,4-Benzoquinone
Selenium and Compounds (except those specifically listed)	7782-49-2	0.1	Selenium (Metal, Dioxide, Disulfide, Hexafluoride, Monosulfide)
Sodium Cyanide	143339	0.1	
Sodium Selenate	13410010	0.1	
Sodium Selenite	10102018 8	0.1	
Styrene	100-42-5	1	Cinnamene, Cinnamol, Phenethylene, Phenylethylene, Vinylbenzene
Styrene Oxide	96-09-3	1	Epoxyethylbenzene, Phenylethylene Oxide, Phenyl Oxirane, Epoxystyrene
Tetrachlorodibenzo-P-Dioxin	1746-01-6	6.00E-07	
Tetrachloroethane, [1,1,2,2-]	79-34-5	0.3	Sym-Tetachloroethane, Acetylene Tetrachloride, Ethane Tetrachloride
Tetraethyl Lead	78-00-2	0.01	
Tetramethyl Lead	75-74-1	0.01	
Titanium Tetrachloride	7550-45-0	0.1	Titanium Chloride
Toluene Diisocyanate, [2,4-]	584-84-9	0.1	TDI, Tolyene Diisocyanate, Diisocyanatoluene
Toluidine, [Ortho-]	95-53-4	4	Ortho-Aminotoluene, Ortho-Methylaniline, 1-Methyl-1,2-Aminobenzene
Toxaphene	8001-35-2	0.01	Chlorinated Camphene, Camphechlor, Polychlorcamphene
Trichloroethane, [1,1,2-]	79-00-5	1	Vinyl Trichloride, Beta-Trichloroethane
Trichlorophenol, [2,4,5-]	95-95-4	1	2,4,5-TCP

Attachment C: Screen Modeling Action Levels Table

Trichlorophenol, [2,4,6-]	88-06-2	6	2,4,6-TCP
Trifluralin	1582-09-8	9	2,6-Dinitro-N-N-Dipropyl-4-(Trifluoromethyl)Benzeneamine
Trimethylpentane, [2,2,4-]	540-84-1	5	Isobutyltrimethylethane, Isoctane
Urethane [Ethyl Carbamate]	51-79-6	0.8	Ethyl Urethane, O-Ethylurethane, Leucothane, NSC 746, Urethan
Chemical	CAS#	Emission Threshold Levels (tpy)	Synonyms
Vinyl Acetate	108-05-4	1	Acetic Acid Vinyl Ester, Vinyl Acetate Monomer, Ethenyl Ethanoate
Vinyl Bromide	593-60-2	0.6	Bromoethylene, Bromoethene
Vinyl Chloride	75-01-4	0.2	Chloroethylene, Chloroethene, Monochloroethylene

Mr. Tom Herman
Manager, Safety and Environmental Engineer
Alliant Techsystems Inc. Lake City Ammunition Division
P.O Box 1000
Independence, MO 64051

RE: New Source Review Permit - Project Number: 2008-03-057

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 revised 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:shl

Enclosures

c: Kansas City Regional Office
PAMS File: 2008-03-057

Permit Number: