

# ADEQ OPERATING AIR PERMIT

Pursuant to the Regulations of the Arkansas Operating Air Permit Program, Regulation 26:

Permit No. : 0617-AOP-R7  
Renewal #1

IS ISSUED TO:

Aerojet - General Corporation  
East Walton Road, Highland Industrial Park  
East Camden, AR 71701  
Calhoun County  
AFIN: 07-00035

THIS PERMIT AUTHORIZES THE ABOVE REFERENCED PERMITTEE TO INSTALL, OPERATE, AND MAINTAIN THE EQUIPMENT AND EMISSION UNITS DESCRIBED IN THE PERMIT APPLICATION AND ON THE FOLLOWING PAGES. THIS PERMIT IS VALID BETWEEN:

AND

THE PERMITTEE IS SUBJECT TO ALL LIMITS AND CONDITIONS CONTAINED HEREIN.

Signed:

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Mike Bates  
Chief, Air Division

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Date

**Table of Contents**

<b>SECTION I: FACILITY INFORMATION</b> .....	5
<b>SECTION II: INTRODUCTION</b> .....	6
<b>Summary of Permit Activity</b> .....	6
<b>Process Description</b> .....	6
<b>Regulations</b> .....	14
<b>Emission Summary</b> .....	15
<b>SECTION III: PERMIT HISTORY</b> .....	25
<b>SECTION IV: SPECIFIC CONDITIONS</b> .....	28
<b>SN-02- Natural Gas-Fired Boilers (7 Units)</b> .....	28
<b>SN-03-Rocket Test Facility</b> .....	29
<b>SN-04 - Thermal Treatment Facility</b> .....	32
<b>SN-07 - Liner Mixer and Spray Liner Machine</b> .....	34
<b>SN-11 - Lacquer Preparation</b> .....	35
<b>SN-12 - Spray Paint Booth</b> .....	36
<b>SN-13 - Ultrasonic Cleaner</b> .....	37
<b>SN-19 - Motor Case Cleaner</b> .....	38
<b>SN-20 - Solvent Wipe Rooms</b> .....	39
<b>SN-22 - Mix Room</b> .....	40
<b>SN-24 - Spray Paint Booth</b> .....	41
<b>SN-25 - Natural Gas-Fired Boilers (7 Units)</b> .....	42
<b>SN-28 - Spray Liner Machine and mixer unit</b> .....	43
<b>SN-30 - High Explosives Test Facility</b> .....	44
<b>SN-36 - Vapor Degreaser</b> .....	46
<b>SN-37 - Motor Case Cleaning</b> .....	47
<b>SN-38 - Motor Case Cleaning</b> .....	48
<b>SN-39 - Adhesive Primer Operations</b> .....	49
<b>SN-40 - Adhesive Operations</b> .....	50
<b>SN-41 - Adhesive Barrier Coating Operations</b> .....	51
<b>SN-42 - Spray Liner Ma</b> .....	52
<b>SN-43 - Spray Paint Booth</b> .....	53
<b>SN-44 - Floor Operations</b> .....	54
<b>SN-47 - Foam-Blowing Operations</b> .....	57
<b>SN-48 - Phenolic Molding Operations</b> .....	58
<b>SN-49 - Hockey Puck Manufacturing</b> .....	59
<b>SN-52 - Sling Liner Machines</b> .....	60
<b>SN-54 - Squib Powder Manufacturing</b> .....	61
<b>SN-56 - MK 104 Sample Collection</b> .....	62
<b>SN-57 - Air Bag R&amp;D Laboratory</b> .....	63
<b>SN-58 - Pill Manufacturing</b> .....	64
<b>SN-59 - Air Bag Propellant Manufacturing</b> .....	65
<b>SN-62 - Mixing Operations</b> .....	67
<b>SN-63 - Nitramines and Explosives Dryer</b> .....	68
<b>SN-64 - Vacuum Ovens</b> .....	69
<b>SN-67 - Grit Blast Machines</b> .....	70
<b>SN-69 - Natural Gas-Fired Boilers (8 Units)</b> .....	72
<b>SN-71 - Gasoline Storage Tank</b> .....	73
<b>SN-72 - Diesel Fuel Storage Tanks</b> .....	74

<b>SN-73 - Nitramines and Explosives Grinder .....</b>	<b>75</b>
<b>SN-74 - Solvent Wipe Room.....</b>	<b>76</b>
<b>SN-75 - Sling Liner Machine.....</b>	<b>77</b>
<b>SN-76 - Adhesive Primer Operations.....</b>	<b>78</b>
<b>SN-77 - Adhesive Operations .....</b>	<b>79</b>
<b>SN-78 - Adhesive Barrier Coating Operations.....</b>	<b>80</b>
<b>SN-80 - Warhead Coating Operation.....</b>	<b>81</b>
<b>SN-81 - Diesel-Powered Pump at Rocket Motor Case Washout Facility .....</b>	<b>82</b>
<b>SN-82 - New Air Bag Propellant Manufacturing Operations.....</b>	<b>84</b>
<b>SN-83 - Spray Painting Area.....</b>	<b>86</b>
<b>SN-84 - Warhead Manufacturing Operations.....</b>	<b>87</b>
<b>SN-85 - Motor Case Cleaning Operations .....</b>	<b>89</b>
<b>SECTION V: COMPLIANCE PLAN AND SCHEDULE.....</b>	<b>90</b>
<b>SECTION VI: PLANTWIDE CONDITIONS .....</b>	<b>91</b>
<b>40 CFR 63 Subpart T (Halogenated Solvents) Requirements .....</b>	<b>96</b>
<b>40 CFR 63 Subpart GG (Aerospace) Requirements.....</b>	<b>98</b>
<b>Acid Rain (Title IV) .....</b>	<b>101</b>
<b>Title VI Provisions .....</b>	<b>101</b>
<b>Permit Shield .....</b>	<b>102</b>
<b>SECTION VII: INSIGNIFICANT ACTIVITIES.....</b>	<b>104</b>
<b>SECTION VIII: GENERAL PROVISIONS.....</b>	<b>105</b>
<b>Appendix A MACT GG</b>	
<b>Appendix B MACT T</b>	

### **List of Acronyms and Abbreviations**

A.C.A.	Arkansas Code Annotated
AFIN	ADEQ Facility Identification Number
CFR	Code of Federal Regulations
CO	Carbon Monoxide
HAP	Hazardous Air Pollutant
lb/hr	Pound Per Hour
MVAC	Motor Vehicle Air Conditioner
No.	Number
NO <sub>x</sub>	Nitrogen Oxide
PM	Particulate Matter
PM10	Particulate Matter Smaller Than Ten Microns
SNAP	Significant New Alternatives Program (SNAP)
SO <sub>2</sub>	Sulfur Dioxide
SSM	Startup, Shutdown, and Malfunction Plan
Tpy	Tons Per Year
UTM	Universal Transverse Mercator
VOC	Volatile Organic Compound

Aerojet- General Corporation  
Permit No.: 0617-AOP-R7  
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**SECTION I: FACILITY INFORMATION**

PERMITTEE: Aerojet - General Corporation

AFIN: 07-00035

PERMIT NUMBER: 0617-AOP-R7

FACILITY ADDRESS: East Walton Road, Highland Industrial Park  
East Camden, AR 71701

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COUNTY: Calhoun

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UTM North South (Y): Zone 15: 3,720 km

UTM East West (X): Zone 15: 528 km

## SECTION II: INTRODUCTION

### Summary of Permit Activity

Aerojet – General Corporation, currently operates a manufacturing facility located in the Highland Industrial Park near East Camden, Arkansas. Aerojet manufactures solid rocket propellants and motors, related components for rocket and missile systems, warheads and ordnance, and similar products for the United States Department of Defense. Aerojet also produces the propellants for automobile air bag systems. These energetic materials are utilized in the on-site production operations and are commercially distributed as finished products. Research and Development (R&D) activities for the products are also performed.

This modification is the first Title V Permit renewal for this facility. In addition, the facility will be making the following changes:

- Decreasing hourly and annual throughput limits of rocket propellant at the Rocket Test Facility (SN-03),
- Decreasing annual throughput limits for air bag propellants at the Rocket Test Facility (SN-03),
- Eliminating individual throughput limits for Arcadene #428 propellant facility wide (Arcadene #428 will be included in the general rocket propellant now),
- Decreasing annual throughput limit for explosives in the High Explosives Test Facility (SN-30),
- Eliminating individual throughput limits for air bag propellants at the High Explosives Test Facility (SN-30) (air bag propellants will be included in the general explosives limit),
- Removing Rubber Molding Operations (SN-50), Barrier Coating Operation (SN-53), and Negative Pressure Tables (SN-65) from the permit,
- Recalculating and Moving Extruder Operations (SN-51) and MLRS Igniter Assembly (SN-55) to the Insignificant Activities Table,
- Removing the composite solvent “CompSol” from the permit,
- Revising formulation limits for individual solvents, paints, primers, adhesives, barrier coatings, and other process materials plantwide, and
- Increasing annual throughput limits for paints, thinners, primers, adhesives, barrier coatings, and other process materials plantwide.

This modification will decrease PM/PM<sub>10</sub> emissions by 6.6 tons per year, VOC emissions by 44.6 tons per year, CO emissions by 19.7 tons per year and SO<sub>2</sub> emissions by 0.1 tons per year. It will increase emissions of NO<sub>x</sub> emissions by 3.5 tons per year and lead emissions by 2.28 tons per year.

### Process Description

#### DESCRIPTION OF GENERIC ROCKET MOTOR PRODUCTION PROGRAM

Aerojet manufactures a number of solid rocket motors for the U.S. Department of Defense (DoD) and other military contractors. These production programs include the following:

- MK-104 Ballistic Missile Defense System

- Army Tactical Missile System (ATACMS)
- Multiple Launch Rocket System (MLRS)
- Patriot (PAC-2) Air Defense Missile System
- Patriot (PAC-3) Air Defense Missile System
- Tactical Tomahawk Cruise Missile System
- Sidewinder Air-To-Air Missile System
- Javelin Air Defense Missile System
- Stinger Portable Air Defense System
- Supersonic Sea-Skimming Target (SSST) Missile System

A generic description of the manufacturing operations for a typical rocket motor program is provided below.

### **Motor Case Preparation**

Production of a typical rocket motor commences with the receipt of pre-manufactured metal motor cases from a vendor. Each case is subsequently cleaned to remove residual oil and grease. Cleaning is performed using one of two degreaser units: the motor case cleaner (vapor degreaser) at Building 2-SH-14 (SN-19) or the aqueous degreaser at Building 2-SH-2 (no SN). As an alternative, the motor case may be manually cleaned. The hand-wipe cleaning activities (SN-37) are conducted at Buildings 2-SH-2 and 2-SH-14.

After cleaning, the rocket motor case is grit blasted at Building 2-SH-2 or 2-SH-14. This operation prepares the interior surface of the metal case for coating. Sand, coal slag, steel grit, and other materials are used as the abrasive media. The particulate emissions from the grit blast machines (SN-67) are controlled using various devices (cyclones, baghouses, shop vacuums, etc.).

After grit blasting, the case is degreased a second time. Cleaning is again performed using the motor case cleaner (SN-19) at Building 2-SH-14 or the aqueous degreaser at Building 2-SH-2. As an alternative, the case may be hand-wipe cleaned (SN-38) at either location.

Once clean, the rocket motor case is transported to Building M-2. At this time, the case is physically inspected for defects using a "Magnaflux" machine. This equipment is a specially-designed black-light fluoroscope (SN-68). It is used to examine metal components for hairline cracks and other flaws.

After inspection, the rocket motor case is transferred to Building 2-SH -14, 2-SH -15, or M-8 (or remains at M-2) for adhesive application. First, an adhesive primer is applied to the interior surface of the case (SN-39 and SN-76). The coating is applied within enclosed production bays. Depending on the program, the adhesive primer is manually applied using paintbrushes (SN-39) at Buildings 2-SH-14 and 2-SH-15. Aerojet also operates adhesive spray machines at Buildings M-2 and M-8. Each automated unit consists of a spray nozzle mounted on a traveling wand. During application of the adhesive primer (SN -7 6), the wand is slowly drawn through the motor case to provide a uniform coating. Afterwards, the case is either allowed to air dry at ambient temperature or is cured in a steam-heated oven (no SN).

Next, the motor case is coated with an adhesive. Depending on the production program, the coating is manually applied (SN-40) at Buildings 2-SH-14 and 2-SH-15 or is applied using the

spray machines (SN-77) at Buildings M-2 and M-8. The motor case is then allowed to air dry or is cured in an oven.

Rubber insulators are fabricated concurrent with preparation of a typical rocket motor case. This production operation is conducted at Buildings 2-SH-14 and M-2. The "case rubber" for the rocket motor is made by "laying up" (wrapping) rubber sheeting around a metal forming tool (a mandrel). The unit is then cured in an oven. The finished rubber piece has a cylindrical shape.

After fabrication, the insulator component is degreased with a solvent. The hand-wipe cleaning operations are performed within enclosed rooms at Building 2-SH-14 (SN-20), Building 2-SH-15 (SN-20), or Building M-2 (SN-74).

After cleaning, the case rubber is installed within the prepared motor case. Tooling is then attached to the case assembly ("tool-up" process). The motor case is subsequently subjected to a series of mechanical and physical tests for quality control purposes. After testing, the entire insulated case assembly is cured within an oven. The tooling is then removed from the motor case ("de-tooling" process). The insulated motor case is subsequently wiped down with a solvent (SN-20 and SN-74).

After degreasing, the rocket motor case is returned to the oven for an extended period of curing (several days). Next, the case is again hand-wipe cleaned (SN-20 and SN-74). An adhesive barrier coating is subsequently applied to the interior surface of the insulated motor case. The coating is manually applied using paintbrushes (SN-41) at Buildings 2-SH-14 and 2-SH-15, or is applied using the spray machines (SN-78) at Buildings M-2 and M-8. The case is then cured again in an oven (IE). The prepared rocket motor case is subsequently lined with a polyurethane coating.

### **Lining of Prepared Motor Case**

Once prepared, the interior of the typical rocket motor case is lined with a specially formulated polyurethane coating. The liner compounds are prepared for use in the mixer units at Building M-8 (SN-07), Building 2-SH-15 (SN-22), and Building M-2 (SN-28). (The liner mixtures are composed of a polymer, curing agent, bonding agent, and a filler. These materials are not volatile. The coatings are prepared within closed mixer units. As a result, the mixing operations themselves are insignificant sources of air emissions. However, various solvents are used to clean the liner mixers.)

The prepared liner material is first applied by hand to the dome areas of the rocket motor case. The case is then cured in an oven. The remaining interior sections of the cylindrical case are then coated with the liner material. Application is performed using several "sling liner" machines. Each automated unit consists of a rotating applicator head mounted on a traveling wand. During liner application, the wand is slowly drawn through the motor case to provide a uniform coating. The spinning head slings the liner onto the inside of the case. The lined rocket motor case is then cured in an oven. Aerojet operates sling liner machines at Building 2-SH-15 (SN-52), Building M-8 (SN-52), and Building M-2 (SN-75).

Depending on the production program, the liner material may also be applied using a "spray liner machine." Each automated unit consists of a spray nozzle mounted on a traveling wand. During application of the liner, the wand is slowly drawn through the motor case to provide a uniform



coating. The lined rocket motor case is then cured in an oven. Aerojet operates spray liner machines at Building M-8 (SN-07), Building M-2 (SN-28), and Building 2-SH-15 (SN-42).

The lined rocket motor case is now ready for loading with solid propellant ("casting" process).

### **Fabrication of Nozzle Assembly**

The "nozzle assembly" for the typical rocket motor is fabricated in a separate series of operations. This component is made of a composite carbon/phenolic resin material plus pre-manufactured metal and plastic hardware. First, sections of carbon-impregnated phenolic resin tape are die cut to the desired sizes and shapes. The cut patterns are then assembled and press molded to form a rigid plastic nozzle. The press machines at Buildings 2-SH-3 or 2-SH-14 (both SN-48) are utilized. After molding, the nozzle unit is machined to attain the proper dimensions. The metalworking lathes (IE) at Building 2-SH-3 (SN-66) are used for this operation.

The nozzle unit is then assembled at Building 2-SH-14 or Building M-2 (or elsewhere). The metal and plastic components are manually glued together using small quantities of epoxy and/or urethane adhesives. The nozzle unit is subsequently wiped down with a solvent. The hand-wipe cleaning operations are performed at Building 2-SH-14 (SN-20) or Building M-2 (SN-74). The entire nozzle assembly is then transported to Building #33 or Building #48 for installation on the motor case.

### **Fabrication of Igniter Assembly**

Launch of a typical rocket motor is initiated using an electrically-fired igniter. Fabrication of the igniter assembly is performed as follows: First, the pre-manufactured metal igniter cup is etched with acid. This bench-top operation is conducted in the Chemistry Lab at Building B-17. Concurrently, the pre-manufactured plastic igniter components are cut to size, hand-wiped with solvent and glued together. The plastic parts are then combined with the etched metal cup to form the igniter assembly. These production operations are performed at Building M-85. The fugitive air emissions from the small-scale cleaning and gluing activities are accounted for in the facility-wide "floor operations" (SN-44).

After assembly, a small charge of propellant is placed within the igniter. The loaded component is then sealed. The finished igniter unit is subsequently shipped to Building #33 or Building #48 for installation within the motor case.

### **Casting, Curing and Assembly of Finished Rocket Motor**

As stated above, the interior of the clean rocket motor case is coated with a primer and an adhesive. A "case rubber" insulator is then installed within the unit. Following an extended oven-curing period, an adhesive barrier coating is applied to the rubber insulator. The interior of the case is then lined with a polyurethane material. After curing, the lined motor case is ready for propellant "casting."

An integral component of Aerojet's manufacturing activities is the formulation of solid rocket propellants that perform to exacting specifications. In general, propellant production involves the combining of various dry energetic materials (premix, oxidizer, and fuel), plus liquid polymers and plasticizers/curing agents, within a mechanical mixer. The ingredients are then

consolidated into a uniform propellant formulation. Mixer units are operated at multiple locations throughout the East Camden complex. (All of the dry and liquid ingredients are handled in a controlled manner. The liquid polymers and curing agents are not volatile. No significant air emissions are generated during the mixing operations.)

Once formulated, the rocket fuel is "cast" (loaded) within the prepared rocket motor case. During this operation, the lined case is filled with the propellant/polymer/plasticizer mixture while under vacuum. The fuel mixture is then allowed to cure within the motor case. (The casting and curing activities are insignificant sources of air emissions.)

A number of propellant casting and curing stations are operated throughout the Aerojet facility. Upon receipt at a particular building, the case is "tooled-up" and positioned at the casting station. Preparation of the case may include insertion of a metal mandrel. Use of the forming tool creates a hollow core within the cast propellant. The motor case is then filled with the fuel mixture. After casting, the case is loaded into a steam-heated or electric oven. The propellant is then cured under controlled temperature conditions.

Once cured, the motor case is removed from the oven and allowed to cool. The mandrel is then withdrawn from the cast motor case ("core pull" operation). Next, any propellant residue on the exterior of the case is manually removed for later disposal ("cut back" operation). Finally, the tooling is removed from the motor case.

At this time, the cast and cured rocket motor case is transported to Building #33 or Building #48 for final assembly. First, a primer coat of paint is applied to the exterior of the motor case. The unit is then allowed to air dry. As an alternative, the case may be cured in a steam-heated oven. Aerojet operates spray paint booths at Building #33 (SN-43) and Building #48 (SN-24). The coatings are applied using air-assisted paint guns. The paint booths are equipped with high-density mesh filters for the control of over-spray. Small-scale painting activities are also conducted at Building #60 (SN-12) and Building M-85 (SN-83).

Afterwards, a topcoat of paint is applied to the rocket motor case within one of the spray booths (SN-24 or SN-43). The unit is then allowed to air dry or is cured in an oven. The nozzle assembly and igniter are now installed on the motor case. The entire unit is then leak tested for quality control purposes. An inert gas (nitrogen, helium, or argon) is utilized.

After leak testing, the rocket motor case is transported to Building #46. The motor is then x-rayed to check for defects. Other quality control testing is also performed at this time.

The finished rocket motor is then labeled and packaged. These operations are performed at Building #33 or Building #48. The fugitive air emissions from the labeling activities are part of the floor operations (SN-44).

The rocket motors are then stored pending shipment off-site. Other DoD contractors perform the final assembly of most of the rocket motors made by Aerojet.

## **AIR BAG PROPELLANT MANUFACTURING OPERATIONS**

Aerojet makes a variety of propellant formulations for use in automobile air bag systems. For air permitting purposes, these plant-wide production activities are subdivided into two groups: the

Aerojet- General Corporation  
Permit No.: 0617-AOP-R7  
AFIN: 07-00035

"old" air bag propellant manufacturing operations (SN-59) and the "new" operations (SN-82). The "old" propellant activities are conducted primarily at Buildings M-2 and M-125. The "new" operations are performed mainly at Buildings A-4, A-5, A-8, A-9, A-90, #70, #71 and #74.

In general, an air bag propellant is manufactured by first combining various dry energetic ingredients within an aqueous slurry. The material is then dried using several steam-heated dryers. The powdered propellant is subsequently screened and packaged. Certain energetic materials may be granulated or pressed into pellets.

On occasion, air bag propellants may be formulated within a solvent solution as a safety precaution. Multiple stabilizing agents are used.

The air emissions from the air bag propellant manufacturing operations (using water or solvents) are exhausted directly to the atmosphere via various vents. No pollution control devices are utilized. Depending on the location, the dryers, screening equipment, granulators, and other propellant manufacturing units are equipped with a variety of control devices. These units include cyclones, baghouses, high-density mesh filters, and "wet boxes."

Aerojet operates a small research and development (R&D) laboratory (SN-57) at Building M-85. Experimental air bag propellants and related materials are formulated at this location. Extruder machines (SN-51) are operated at Buildings #39 and M-2. These units are used to covert semi-plastic propellant mixes into pellets and other solid forms.

## **PROPELLANT TESTING AND TREATMENT UNITS**

Aerojet tests rocket and air bag propellant formulations at the East Camden facility. Waste energetic materials are treated on-site. These operations are discussed below:

### **Rocket Test Facility (RTF)**

Rocket motors, air bag initiators, and other energetic devices are test fired for quality control and R&D purposes. These activities are performed at multiple locations throughout the East Camden complex. The rocket test sites include Bays #15, #18, and #45. Air bag propellants are tested at Buildings #16, M-85, and M-125. The RTF (SN-03) encompasses all of these locations.

To prepare for a test event, the rocket motor assembly is fitted with instrumentation and then temperature-conditioned. Once conditioning is complete, the motor is secured to a specially designed test stand. The rocket is then fired from a remote control building. Various test data are recorded during the event. After a cool-down period, the spent motor case is disassembled and evaluated. The test bays and apparatus are not equipped with air pollution control devices.

Air bag igniters, inflators, and other small energetic devices are also test fired for production and R&D purposes. A particular component is assembled, temperature-conditioned, secured to special test equipment, and then fired. Various test data are recorded during the event. The hardware is then disassembled and evaluated. The testing units are not equipped with air pollution control devices.

### **Thermal Treatment Facility (TTF)**

Waste rocket and air bag propellants and propellant-contaminated materials are generated during Aerojet's manufacturing operations. These waste streams are destroyed via open burning in the TTF. It is a permitted hazardous waste treatment unit. The existing facility (SN-04) consists of four large "bum burn pits" and a remote control station. Each pit is equipped with several specially constructed "burn pans" for the combustion of bulk propellant wastes. The TTF also includes two "bum burn cages" for the treatment of small energetic devices (squibs and igniters). To prepare for a thermal treatment event, the waste materials are transported from temporary storage areas to the TTF. The wastes are then placed in the bum burn pans or burn cages. Once preparations are complete, the materials are ignited using an electric current. Ignition is initiated from the remote control building. The wastes are then allowed to burn until combustion has been completed. After the event, the burn pans and burn cages are allowed to cool for 24 hours. The items are then prepared for reuse. The treatment units are not equipped with air pollution control devices.

### **High Explosives Test Facility (HETF)**

This site is used to support the manufacturing operations at the East Camden complex. Ordnance, explosives, and other energetic materials are tested at the HETF (SN-30) for quality control and R&D purposes. The items that are test-fired range from finished automobile air bag systems to various military ordnance to specially-prepared experimental propellant formulations. The tests are conducted under a variety of physical conditions. Denotation or ignition of a particular component may be initiated by dropping the item onto a hard surface, by the impact of a bullet, by a blasting cap-initiated high-explosive donor charge, or by a controlled bonfire. The test events are initiated and monitored from a control building. Various test data are recorded during each detonation event for subsequent evaluation. The test-firing area and apparatus are not equipped with air pollution control devices.

The HETF is located within the 16-A T Area of the Highland Industrial Park. It is situated approximately ten miles away from the main manufacturing complex.

### **MISCELLANEOUS MANUFACTURING OPERATIONS AND EQUIPMENT**

Aerojet operates several miscellaneous production units at the East Camden facility. The most significant of these items are discussed below:

#### **Lacquer Preparation Operations**

"Lacquer" is Aerojet's generic term for various liquid explosive compounds. These products are processed at Building #56. There are two general categories of operations involving lacquer: (1) the preparation of premixed lacquer solutions for use in propellant production and (2) the stabilization of lacquer premix for shipping and/or long-term storage.

When purchased from vendors, the lacquer products are premixed with a solvent, usually methylene chloride or isopropyl alcohol. The solvent acts as a stabilizing agent during transportation. To prepare the lacquer for subsequent use, the solvent is removed by sparging with nitrogen gas. The lacquer is then transferred to the mixing area for processing. All

stripping of lacquer premix (SN-11) is performed at Building #56. The sparging operation is a batch process.

The second category of lacquer preparation involves the addition of stabilizing materials to liquid explosives prior to their use, shipment, and/or long-term storage. The stabilization process (SN-11) is also performed at Building #56. The solvents and explosives are combined in a mixing vessel. The resultant lacquer premix is then packaged for use, transportation or storage.

### **Explosives Dryer**

Aerojet uses various energetic materials ("nitramine" compounds) and explosives in its production operations. When purchased from vendors, these products are wetted with isopropyl alcohol. The solvent acts as a stabilizing agent for safety purposes.

Prior to use, the energetic materials are processed in a rotary vacuum dryer (SN-63). This unit is located at Building #57. The dryer operates as follows: The explosive compounds are received in plastic bags. The containers are manually opened, and the materials are placed in the rotary drum dryer. The building is secured once the unit is loaded. The dryer is then heated using a hot-water jacket, while a vacuum pump simultaneously exhausts the dryer chamber. During operation, the chamber is periodically rotated to ensure thorough drying of its contents. Once dry, the energetic materials are ready for further processing. The vacuum pump is equipped with a chiller system, which condenses the solvent in the off-gas stream.

### **Explosives Grinder**

After drying, the nitramine compounds and explosives are milled to the proper particle size. A specialized grinder unit (SN-73) is operated at Building #58 for this purpose. Once prepared, the ground energetic materials are used in the production of rocket propellants and related compounds. The nitramines and explosives grinder is equipped with two baghouses for the control of dust emissions.

### **Rocket Motor Case Reclamation Facility**

Certain rocket motors cannot be fired due to damage or the age of the units. The propellants are removed from these products so that the metal motor cases can be reclaimed. First, the bulk propellant is mechanically removed using an electric-powered lathe ("hogout" operation). The remaining propellant is then extracted using a high-pressure spray of water ("washout operation"). A 300 horsepower diesel-fired internal combustion engine (SN-81) is used to power the water pump for the "hydro-lance machine."

### **Warhead Manufacturing Operations**

Aerojet makes a variety of warheads and other ordnance (SN-84) at Building M-11. The production activities include two coating operations. An asphalt or wax compound is applied to the inside of certain warhead units. The "stress-relaxing liner" prevents the explosive charge inside the case from cracking as the material cools after installation.

Two "melter/applicator machines" are operated for this purpose. The hot liner material is applied to the warhead cases using a hand-held wand. The asphalt or wax coating hardens as the components cool. The lined warhead cases are subsequently filled with an explosive.

## **SOURCES OF AIR EMISSIONS**

The two largest individual sources of air emissions at the East Camden plant are utilized for the testing and disposal of rocket propellants and other energetic materials. These units are the Rocket Test Facility (SN-03) and the Thermal Treatment Facility (SN-04/04R).

Aerojet's manufacturing operations and associated plant activities also represent a number of air emission sources at the East Camden facility. These operations include the following: multiple parts cleaning activities involving solvents; a variety of surface coating operations; parts assembly using specialty adhesives; the production of rocket and air bag propellants, explosives, and other energetic materials; the operation of natural gas-fired combustion equipment; R&D activities; and a number of miscellaneous production operations.

### **Regulations**

The following table contains the regulations applicable to this permit.

Regulations
Arkansas Air Pollution Control Code, Regulation 18, effective February 15, 1999
Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective May 28, 2006
Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective September 26, 2002
40 CFR 63 Subpart GG - National Emission Standards for Aerospace Manufacturing and Rework Facilities
40 CFR 63 Subpart T - National Emission Standards for Halogenated Solvent Cleaning

Aerojet applies surface coatings to rocket motor cases and other metal components which meet the definition of miscellaneous metal parts and products. Therefore, Aerojet is potentially subject to NESHAP for Surface Coating of Miscellaneous Metal Parts and Products (40 CFR 63, Subpart MMMM). However, per 40 CFR 63.3881(c)(10), the NESHAP does not apply to the "surface coating of metal components of aerospace vehicles that meet the applicability criteria for aerospace manufacturing and rework" operations of 40 CFR 63 Subpart GG, the Aerospace MACT.

The following table is a summary of emissions from the facility. This table, in itself, is not an enforceable condition of the permit.

**Emission Summary**

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
Total Allowable Emissions		PM	11,721.10	241.30
		PM <sub>10</sub>	11,710.0	241.3
		SO <sub>2</sub>	1.1	3.2
		VOC	1,313.0	153.6
		CO	7,228.5	75.5
		NO <sub>x</sub>	316.9	71.3
		Lead	148.71	5.61
HAPs		Acetaldehyde*	0.24	1.06
		Acrolein*	0.03	0.14
		Benzene*	0.28	1.23
		1,2 Butylene Oxide*	0.33	0.36
		1,3 Butadiene*	0.02	0.09
		Cadmium	1.48	0.08
		Chlorine	178.32	6.35
		Chromium, Trivalent	12.52	0.5
		Chromium, Hexavalent	0.13	0.01
		Diethylene Glycol Monobutyl Ether Acetate*	7.10	1.42
		Diethylene Glycol Monoethyl Ether Acetate*	14.20	2.84
		Ethyl Acrylate*	16.80	4.48
		Ethyl Benzene*	35.58	7.89
		Formaldehyde*	0.74	1.72
		Hydrogen Chloride	7531.42	123.46
		Hydrogen Fluoride	28.20	0.67
		Methanol*	46.85	10.84
		Methylene Chloride	384.52	96.25
		Methyl Isobutyl Ketone*	140.48	32.53
		PAH*	0.01	0.03
		Phenol*	16.45	3.41
		Propylene*	0.78	3.42
		Tetrachloroethylene	10.38	2.10
	Toluene*	157.98	42.33	
	1,1,1 Trichloroethane	166.15	48.25	
	Trichloroethylene*	27.60	5.52	
	Xylene*	143.72	33.56	
Air Contaminants		Acetone**	241.43	48.32
01	Source Deleted			

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
02	Natural Gas-Fired Boilers (7 Units)	PM	0.20	0.60
		PM <sub>10</sub>	0.2	0.6
		SO <sub>2</sub>	0.1	0.1
		VOC	0.1	0.4
		CO	1.4	6.1
		NO <sub>x</sub>	1.7	7.2
03	Rocket Test Facility	PM	7,645.7	48.70
		PM <sub>10</sub>	7,645.7	48.7
		VOC	400.0	2.5
		CO	7,076.7	44.6
		NO <sub>x</sub>	66.1	0.5
		Lead	56.80	1.47
		Cadmium	0.46	0.02
		Chlorine	48.00	0.30
		Chromium	4.20	0.11
		Hydrogen Chloride	5,601.55	35.04
Hydrogen Fluoride	16.20	0.11		
04	Thermal Treatment Facility	PM	3,874.40	166.20
		PM <sub>10</sub>	3,874.4	166.2
		VOC	160.0	7.4
		CO	40.0	1.9
		NO <sub>x</sub>	236.0	11.0
		Lead	84.00	3.87
		Cadmium	0.97	0.05
		Chlorine	129.60	6.02
		Chromium, Trivalent	7.90	0.37
		Chromium, Hexavalent	0.13	0.01
		Hydrogen Chloride	1,840.80	84.85
Hydrogen Fluoride	12.00	0.56		
05	Motor Case Cleaner A360	Removed From Service		
06	Nozzle Ring Cleaning Machines	Removed From Service		
07	Liner Mixer and Spray Liner Machine	VOC	8.5	4.3
		Methylene Chloride	11.00	5.50
08	Motor Case Cleaner A426	Removed From Service		
09	Source Deleted			
10	Source Deleted			
11	Lacquer Preparation	VOC	80.1	5.1
		Acetone	80.08	5.03
		Methylene Chloride	80.08	5.03



EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
12	Spray Painting Area	VOC	22.5	2.6
		Acetone**	12.19	1.36
		Ethyl Acrylate*	2.10	0.27
		Ethyl Benzene*	1.40	0.18
		Methanol*	2.80	0.35
		Methyl Isobutyl Ketone*	8.40	1.05
		Toluene*	11.90	1.49
		Xylene*	8.40	1.05
13	Ultrasonic Cleaner	VOC	0.2	0.3
		1,2 Butylene Oxide*	0.01	0.01
14	Source Deleted			
15	Source Deleted			
16	Source Deleted			
17	Source Deleted			
18	Source Deleted			
19	Motor Case Cleaner	VOC	6.6	10.7
		1,2 Butylene Oxide *	0.07	0.14
20	Solvent Wipe Rooms	VOC	17.0	2.2
		Methylene Chloride	22.00	2.75
21	Source Deleted			
22	Mix Room	VOC	8.5	4.3
		Methylene Chloride	11.00	5.50
23	Source Deleted			
24	Spray Paint Booth	PM	0.10	0.10
		PM <sub>10</sub>	0.1	0.1
		VOC	40.8	7.6
		Lead	0.01	0.01
		Acetone**	11.20	2.10
		Chromium Comp.	0.01	0.01
		Ethyl Acrylate*	4.20	0.79
		Ethyl Benzene*	2.80	0.53
		Methanol*	5.60	1.05
		Methyl Isobutyl Ketone*	16.80	3.15
		Toluene*	23.80	4.47
		1,1,1 Trichloroethane	5.43	1.63
		Xylene*	16.80	3.15

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
25	Natural Gas-Fired Boilers (7Units)	PM	0.10	0.40
		PM <sub>10</sub>	0.1	0.4
		SO <sub>2</sub>	0.1	0.1
		VOC	0.1	0.3
		CO	0.9	3.9
		NO <sub>x</sub>	1.1	4.6
26	Source Deleted			
27	Source Deleted			
28	Spray Liner Machine and Mixer Unit	VOC	8.5	4.3
		Methylene Chloride	11.00	5.50
29	Source Deleted			
30	High Explosives Test Facility	PM	137.00	5.50
		PM <sub>10</sub>	137.0	5.5
		VOC	6.0	0.3
		CO	106.0	4.3
		NO <sub>x</sub>	1.0	0.1
		Lead	5.88	0.24
		Cadmium	0.05	0.01
		Chlorine	0.72	0.03
		Chromium, Trivalent	0.42	0.02
		Hydrogen Chloride	89.07	3.57
31	Source Deleted			
32	Source Deleted			
33	Comfort Heating Boiler	Source Exempt		
34	Comfort Heating Boiler	Source Exempt		
35	Source Deleted			
36	Vapor Degreaser	VOC	1.1	6.4
		1,2 Butylene Oxide*	0.02	0.09
		Methylene Chloride	1.04	8.25
		1,1,1 Trichloroethane	1.04	8.14
37	Motor Case Cleaning	VOC	8.5	1.5
		Methylene Chloride	11.00	1.93
		1,1,1 Trichloroethane	10.85	1.90
38	Motor Case Cleaning	VOC	8.5	1.5
		Methylene Chloride	11.00	1.93
		1,1,1 Trichloroethane	10.85	1.90

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
39	Adhesive Primer Operations	VOC	20.0	3.0
		Ethyl Benzene*	2.88	0.58
		Formaldehyde*	0.06	0.02
		Methanol*	2.30	0.46
		Methyl Isobutyl Ketone*	7.48	1.50
		Tetrachloroethylene	1.73	0.35
		Toluene*	2.88	0.58
		1,1,1 Trichloroethane	6.33	1.27
		Trichloroethylene*	4.60	0.92
		Xylene*	9.78	1.96
40	Adhesive Operations	VOC	20.0	3.0
		Ethyl Benzene*	2.88	0.58
		Formaldehyde*	0.06	0.02
		Methanol*	2.30	0.46
		Methyl Isobutyl Ketone*	7.48	1.50
		Tetrachloroethylene	1.73	0.35
		Toluene*	2.88	0.58
		1,1,1 Trichloroethane	6.33	1.27
		Trichloroethylene*	4.60	0.92
		Xylene*	9.78	1.96
41	Adhesive Barrier Coating Operations	VOC	20.0	3.0
		Ethyl Benzene*	2.88	0.58
		Formaldehyde*	0.06	0.02
		Methanol*	2.30	0.46
		Methyl Isobutyl Ketone*	7.48	1.50
		Tetrachloroethylene	1.73	0.35
		Toluene*	2.88	0.58
		1,1,1 Trichloroethane	6.33	1.27
		Trichloroethylene*	4.60	0.92
		Xylene*	9.78	1.96
42	Spray Liner Machine	VOC	8.5	2.2
		Methylene Chloride	11.00	2.75

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
43	Spray Paint Booth	PM	0.10	0.10
		PM <sub>10</sub>	0.1	0.1
		VOC	36.5	8.5
		Lead	0.01	0.01
		Acetone**	11.20	2.80
		Chromium Comp.	0.01	0.01
		Ethyl Acrylate*	4.20	1.05
		Ethyl Benzene*	2.80	0.70
		Methanol*	5.60	1.40
		Methyl Isobutyl Ketone*	16.80	4.20
		Toluene*	23.80	5.95
		Xylene*	16.80	4.20
44	Floor Operations	VOC	116.0	19.7
		Acetone**	49.23	17.16
		1,2 Butylene Oxide*	0.23	0.12
		Diethylene Glycol Monobutyl Ether Acetate*	7.10	1.42
		Diethylene Glycol Monoethyl Ether Acetate*	14.20	2.84
		Ethyl Acrylate*	4.20	2.10
		Ethyl Benzene*	9.90	2.82
		Methanol*	16.25	4.93
		Methylene Chloride	50.40	16.68
		Methyl Isobutyl Ketone*	45.20	14.08
		Phenol*	16.33	3.27
		Toluene*	63.17	24.13
1,1,1 Trichloroethane	89.15	24.34		
Xylene*	34.55	11.95		
45	Motor Case Soak-Out Facility	VOC	6.0	0.8
		Acetone**	6.00	0.75
		Toluene*	6.00	0.75
46	Misc. Parts Soak-Out Facility	Removed From Service		
47	Foam-Blowing Operations	VOC	8.5	1.3
		Methylene Chloride	11.00	1.65
48	Phenolic Molding Operations	VOC	0.1	0.1
		Ammonia**	0.01	0.01
		Formaldehyde*	0.01	0.01
		Phenol*	0.06	0.07

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
49	Hockey Puck Manufacturing	VOC	0.1	0.1
		Ammonia**	0.01	0.01
		Formaldehyde*	0.01	0.01
		Phenol*	0.06	0.07
50	Rubber Molding Operations	Removed From Service		
51	Extruder Operations	Moved To Insignificant Activities		
52	Sling Liner Machines	VOC	8.5	2.2
		Methylene Chloride	11.00	2.75
53	Barrier Coating	Removed From Service		
54	Squib Powder Manufacturing	VOC	4.3	0.2
		Acetone**	3.30	0.09
55	MLRS Igniter Assembly	Moved To Insignificant Activities		
56	MK 104 Sample Collection	PM	0.10	0.50
		PM <sub>10</sub>	0.1	0.5
57	Air Bag R&D Laboratory	VOC	4.3	1.1
		Acetone**	3.30	0.83
58	Pill Manufacturing	VOC	8.5	10.7
		Acetone**	6.59	8.24
		Methylene Chloride	11.00	13.75
59	Air Bag Propellant Manufacturing	PM	1.00	4.40
		PM <sub>10</sub>	1.0	4.4
		VOC	25.5	5.1
		Acetone**	19.77	3.96
		Methylene Chloride	33.00	6.60
60	Ingredient Preparation Room	Insignificant Activity		
61	Screening Operations	Source Deleted		
62	Mixing Operations	VOC	8.5	0.9
		Acetone**	6.59	0.66
		Methylene Chloride	11.00	1.10
63	Nitramines and Explosives Dryer	VOC	18.0	0.5
64	Vacuum Ovens	VOC	8.5	0.9
		Acetone**	6.59	0.66
		Methylene Chloride	11.00	1.10
65	Negative Pressure Tables	Removed From Service		
66	Lathes	Insignificant Activity		

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
67	Grit Blast Machines	PM	49.20	6.20
		PM <sub>10</sub>	49.2	6.2
68	Magnaflux Machine	Insignificant Activity		
69	Natural Gas Fired Boilers (8 Units)	PM	0.1	0.50
		PM <sub>10</sub>	0.1	0.5
		SO <sub>2</sub>	0.1	0.1
		VOC	0.1	0.4
		CO	1.1	4.5
		NO <sub>x</sub>	1.3	5.4
70	Polymer Tank Farm	Insignificant Activity		
71	Gasoline Storage Tank	VOC	44.1	0.9
72	Diesel Fuel Storage Tanks	VOC	0.1	0.1
73	Nitramines and Explosive Grinder	PM	0.10	0.50
		PM <sub>10</sub>	0.1	0.5
74	Solvent Wipe Room	VOC	17.0	2.2
		Methylene Chloride	22.00	2.75
75	Sling Liner Machine	VOC	8.5	1.1
		Methylene Chloride	11.00	1.38
76	Adhesive Primer Operations	VOC	20.0	3.0
		Ethyl Benzene*	2.88	0.58
		Formaldehyde*	0.06	0.02
		Methanol*	2.30	0.46
		Methyl Isobutyl Ketone*	7.48	1.50
		Tetrachloroethylene*	1.73	0.35
		Toluene*	2.88	0.58
		1,1,1 Trichloroethane	6.33	1.27
		Trichloroethylene*	4.60	0.92
		Xylene*	9.78	1.96
77	Adhesive Operations	VOC	20.0	3.0
		Ethyl Benzene*	2.88	0.58
		Formaldehyde*	0.06	0.02
		Methanol*	2.30	0.46
		Methyl Isobutyl Ketone*	7.48	1.50
		Tetrachloroethylene*	1.73	0.35
		Toluene*	2.88	0.58
		1,1,1 Trichloroethane	6.33	1.27
		Trichloroethylene*	4.60	0.92
		Xylene*	9.78	1.96

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
78	Adhesive Barrier Coating Operation	VOC	20.0	3.0
		Ethyl Benzene*	2.88	0.58
		Formaldehyde*	0.06	0.02
		Methanol*	2.30	0.46
		Methyl Isobutyl Ketone*	7.48	1.50
		Tetrachloroethylene*	1.73	0.35
		Toluene*	2.88	0.58
		1,1,1 Trichloroethane	6.33	1.27
		Trichloroethylene*	4.60	0.92
		Xylene*	9.78	1.96
79	Natural Gas Combustion Equipment (5 Units)	Source Never Constructed		
80	Warhead Coating Operation	VOC	1.0	0.3
81	Diesel-Powered Pump Rocket at Motor Case Washout Facility	PM	0.70	2.90
		PM <sub>10</sub>	0.7	2.9
		SO <sub>2</sub>	0.7	2.8
		VOC	0.8	3.4
		CO	2.1	8.9
		NO <sub>x</sub>	9.3	40.8
		Acetaldehyde*	0.24	1.06
		Acrolein*	0.03	0.14
		Benzene*	0.28	1.23
		1,3 Butadiene*	0.02	0.09
		Formaldehyde*	0.36	1.58
		PAHs*	0.01	0.03
		Propylene Oxide*	0.78	3.42
		Toluene*	0.13	0.57
Xylene*	0.09	0.40		
82	New Air Bag Propellant Manufacturing Operations	PM	1.00	4.40
		PM <sub>10</sub>	1.0	4.4
		VOC	25.5	5.1
		Acetone**	19.77	3.96
		Methylene Chloride	33.00	6.60

EMISSION SUMMARY				
Source Number	Description	Pollutant	Emission Rates	
			lb/hr	tpy
83	Spray Painting Area	PM	0.10	0.10
		PM <sub>10</sub>	0.1	0.1
		VOC	22.5	2.2
		Lead	0.01	0.01
		Acetone**	5.60	0.70
		Chromium Comp.	0.01	0.01
		Ethyl Acrylate*	2.10	0.27
		Ethyl Benzene*	1.40	0.18
		Methanol*	2.80	0.35
		Methyl Isobutyl Ketone*	8.40	1.05
		Toluene*	11.90	1.49
Xylene*	8.40	1.05		
84	Warhead Manufacturing Operations	PM	0.10	0.20
		PM <sub>10</sub>	0.1	0.2
		SO <sub>2</sub>	0.1	0.1
		VOC	10.1	1.7
		CO	0.3	1.3
		NO <sub>x</sub>	0.4	1.7
85	Motor Case Cleaning Operations	VOC	25.5	2.2
		Methylene Chloride	11.00	2.75
		1,1,1 Trichloroethane	10.85	2.72

\* HAPs included in the VOC totals. Other HAPs are not included in any other totals unless specifically stated.

\*\* Air Contaminants such as ammonia and acetone are not VOCs or HAPs.



### **SECTION III: PERMIT HISTORY**

Permits 538-A and 617-A were issued to Atlantic Research in 1979 and 1980 for the installation of a facility in Highland Industrial Park to manufacture rocket propellants and the assembly of rocket motors.

Permit 617-AR-1 was issued on September 23, 1983. This permit allowed for installation of additional facilities to re-manufacture rocket motors from the U.S. Army Red River Depot in Texarkana.

Permit 617-AR-2 was issued on April 25, 1989. It allowed for production of solid propellant rocket motors and new facilities for painting rocket motor cases.

Permit 617-AR-3 was issued on April 18, 1990. This permit allowed for construction of a new facility to be used to conduct acceptance tests for military and commercial high explosives.

In 1992, ARC submitted an application for modification of its existing SIP permit. At that time, a number of significant process changes, including additional emission sources, were proposed for the East Camden facility. In June 1992, a draft air permit, 617-AR-4, was issued. ARC submitted comments on the draft in July 1992. A final permit was never issued.

In May 1996, a minor modification of 617-AR-3 was approved. It authorized production of the Sidewinder Missile at the East Camden facility. New sources SN-37 through SN-45 were added to the permit.

In October 1997, another minor modification of 617-AR-3 was approved. It authorized production of the AMRAAM warhead (SN-80) and the installation of a new grit blast machine (SN-67) at Building 2-SH-14.

In May 1998, a third minor modification of 617-AR-3 was approved. It authorized installation of a diesel-powered pump (SN-81). This equipment was part of a new facility for the reclamation of rocket motor cases.

In September 1998, a fourth minor modification was approved. It authorized construction of a new facility for the manufacture of air bag propellants (SN-82).

In February 1999, a de minimis change to 617-AR-3 was approved. It authorized production of the PAC-2 Missile. New sources SN-74, SN-75, and SN-79 were added to the permit and SN-67 was modified.

In March 1999, a second de minimis change was approved. It authorized production of the Advanced Tomahawk Missile at the facility. New source SN-83 was added to the permit and Sources SN-39 through SN-42 were modified.

On December 3, 2001, air permit 617-AOP-R0 was issued to ARC. This permit allowed for installation of the new Advanced Tomahawk production program, for modifications to the PAC-2 manufacturing operations, and for expansion of the air bag propellant and component manufacturing operations. This was also the first Title V Operating Permit issued to this facility.

Aerojet- General Corporation  
Permit No.: 0617-AOP-R7  
AFIN: 07-00035

On October 10, 2002, air permit 617-AOP-R1 was issued to Atlantic Research Corporation. This minor modification application allowed for production of the Supersonic Sea-Skimming Target Rocket (SSST) Motor and to add an insignificant activity. A proposed new vent for an existing cutting/grinding operation was also added to the list of insignificant activities. Emissions increases were 1.3 tons per year of carbon monoxide and 0.02 tons per year of hydrogen fluoride.

On May 13, 2003, Atlantic Research Corporation was granted authorization to relocate the Thermal Treatment Facility (SN-04) to a new site within the East Camden facility. There was no change in throughput or emissions.

On July 7, 2003, air permit 0617-AOP-R2 was issued to Atlantic Research Corporation. This minor modification application allowed for a replacement of a 1.7 MMBTU/hr boiler in SN-02 with a new 3.352 MMBTU/hr boiler.

On August 21, 2003, air permit 0617-AOP-R2 was administratively amended to add a new building to SN-82. There was no change in emissions.

On September 9, 2003, Atlantic Research Corporation was granted authorization to replace two 1.7 MMBTU/hr boilers at Building M-2 with a 3.352 MMBTU/hr unit (SN-02). There was no change in overall fuel capacity or emissions.

On October 4, 2003, air permit 0617-AOP-R2 was transferred from Atlantic Research Corporation to Aerojet-General Corporation.

On July 15, 2004, air permit 0617-AOP-R2 was administratively amended to add two insignificant activities. These activities were the Six-Bladed Saw, Camfer, and Drill Machine and the Composite Case Grinding Machine. There was no change in emissions.

On June 29, 2005, air permit 0617-AOP-R3 was issued to Aerojet – General Corporation. This permit involved several minor modifications for this facility. They were the following:

1. Production of a new propellant, ARCOMP 408, at the facility. This product is an ignition material for automobile air bag inflators. As part of the ARCOMP 408 program, three additional production buildings (#70, #71, and #74) were installed at the East Camden facility. These units are considered part of the New Air Bag Manufacturing Operations (SN-82). Production of ARCOMP 408 did not change any of the currently permitted emission rates.
2. An increase in the throughput of the waste air bag propellants burned in the Thermal Treatment Facility (SN-04). Throughput was increased by 25,000 lb/year. This change increased PM and PM<sub>10</sub> by 6.04 tons per year, NO<sub>x</sub> by 0.01 tons per year, and Hydrogen Chloride by 0.01 tons per year.
3. Correct the number of boilers listed in the group Process Boilers (SN-25). During an internal compliance audit, Aerojet determined that the inventory of gas-fired process equipment used to prepare the original Operating Permit application was not accurate. A total of 7, rather than 4, boilers should have been included. The correct heat input capacity of the equipment is 10.06 MMBTU/hr instead of 4.20.

4. Install a new Grit Blast Machine as part of SN-67. In addition, the existing Liner Spray Machine (SN-28) was to be replaced with an equivalent unit.

On December 1, 2005, air permit 0617-AOP-R4 was issued to Aerojet- General Corporation. This minor modification application allowed for installation of new processes and equipment for the production of warheads and ordnance at Building M-11 (SN-84). These items included two coating operations (application of asphalt and wax liners), two propane-fired “melter/applicator machines,” and a natural gas-fired boiler. This change increased PM by 0.2 tons per year, SO<sub>2</sub> by 0.1 tons per year, VOCs by 1.7 tons per year, CO by 1.3 tons per year, and NO<sub>x</sub> by 1.7 tons per year. This permit also added two steam-heated ovens to the Insignificant Activities section.

On April 3, 2006, air permit 0617-AOP-R5 was issued to Aerojet - General Corporation. This minor modification application allowed for processing new rocket propellants that contain two hazardous air pollutants (Cadmium and Chromium) during the testing and treatment activities at the Rocket Test Facility (SN-03), the Thermal Treatment Facility (SN-04), and the High Explosives Test Facility (SN-30). In addition, Aerojet proposed to install a new spray liner machine (SN-07) and grit blast machine (SN-67) to support multiple rocket motor manufacturing programs. Finally, Aerojet proposed to implement new motor case cleaning activities (SN-85) to support several production programs. This included construction of a solvent wipe room and installation of a motor case flush-cleaning apparatus. The rocket propellant part of this modification resulted in permitted emissions increases of 0.05 tpy of Cadmium, 0.01 tpy of Chlorine, 0.54 tpy of Chromium, and 0.01 tpy of Hydrogen Chloride and permitted emissions decrease of 0.68 tpy of lead and 0.32 tpy of 1,3 Dioxolane. The new SN-85 part of this modification resulted in permitted increases of 1.6 tpy of VOC, 1.58 tpy of Methylene Chloride, 1.58 tpy of Methyl Ethyl Ketone, and 1.58 tpy of 1,1,1-Trichloroethane.

On July 3, 2006, air permit 0617-AOP-R6 was issued to Aerojet – General Corporation. This minor modification was issued to replace one of the two natural gas-fired process boilers at Building #48 (SN-25). The new unit has a heat input capacity of 2.00 MMBTU/hr and replaces the 1.55 MMBTU/hr boiler. In addition, the source description for SN-02 was corrected. Increases from this modification were 0.2 tons per year of CO and 0.2 tons per year of NO<sub>x</sub>.

**SECTION IV: SPECIFIC CONDITIONS**

**SN-02- Natural Gas-Fired Boilers (7 Units)**

**Source Description**

Aerojet operates a total of seven natural gas-fired boiler units in Building M-2 and Building M-8. These boilers are used to produce the steam and/or hot water for the operations in these buildings. Building M-2 uses one 1.7 MMBTU/hr unit and two 3.352 MMBTU/hr units. Building M-8 uses two 2.0 MMBTU/hr units and two 2.1 MMBTU/hr units. All of these units are less than 10 MMBTU/hr each and are therefore not subject to New Source Performance Standard Subpart Dc.

**Specific Conditions**

1. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations and burning only natural gas. [§19.501 et seq. of Regulation #19, effective May 28, 2006 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.2	0.6
SO <sub>2</sub>	0.1	0.1
VOC	0.1	0.4
CO	1.4	6.1
NO <sub>x</sub>	1.7	7.2

2. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations and by burning only natural gas. [§18.801 of Regulation #18, effective February 15, 1999, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.20	0.60

3. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method 9. Compliance will be demonstrated by only burning natural gas.

SN	Limit	Regulatory Citation
02	5%	§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

**SN-03-Rocket Test Facility**

**Source Description**

In the Rocket Test Area, Aerojet test fires a certain number of rocket motors, air bag initiators, and other propellant devices as part of its Quality Assurance/Quality Control (QA/AC) Program. The testing sites include Bay 15, Bay 18, Bay 45, Building 16, Building 19, and the production and development Test Bays 1 and 2 at Building M-85. The amount of energetic material tested ranges from less than one pound to 20,000 pounds per event.

This source is not subject to National Emission Standards for Hazardous Air Pollutants for Engine Test Cells/Standards (40 CFR 63, Subpart P) because this source is considered to be an existing affected source since it was installed prior to the regulatory deadline of May 14, 2002.

**Specific Conditions**

4. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #6, #8, #10, #12, #14, and #16 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	7,645.7	48.7
VOC	400.0	2.5
CO	7,076.7	44.6
NO <sub>x</sub>	66.1	0.5
Lead	58.80	1.47

5. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #6, #8, #10, #12, #14, and #16, and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	7,655.70	48.70
Cadmium	0.46	0.02
Chlorine	48.00	0.30
Chromium	4.20	0.11
Hydrogen Chloride	5,601.55	35.04
Hydrogen Fluoride	16.20	0.11

6. The permittee shall not burn in excess of 20,000 pounds of any rocket propellant in SN-03 during any one hour period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
7. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #6. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
8. The permittee shall not burn in excess of 250,000 pounds of any rocket propellant in SN-03 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
9. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #8. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
10. The permittee shall not burn in excess of 100.0 pounds of air bag propellant in SN-03 during any one hour period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
11. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #10. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
12. The permittee shall not burn in excess of 5,000 pounds of air bag propellant in SN-03 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
13. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #12. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
14. The permittee shall not burn in excess of 3,000 pounds of rocket propellants that contain cadmium, chromium, and/or lead in SN-03 during any consecutive one-hour period. [§18.801 of Regulation #18, §19.501 et seq. of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
15. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #14. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7.

[§18.1004 of Regulation #18, §19.05 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

16. The permittee shall not burn in excess of 150,000 pounds of rocket propellants that contain cadmium, chromium, and/or lead in SN-03 during any consecutive twelve month period. [§18.801 of Regulation #18, §19.501 et seq. of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311
17. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #16. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§18.1004 of Regulation #18, §19.05 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

**SN-04 - Thermal Treatment Facility**

**Source Description**

The Thermal Treatment Area is where Aerojet destroys various scrap propellants and other waste energetic materials. Reactive wastes generated at Aerojet are first assembled in a number of marked accumulation points near the point of generation. The wastes are then collected and transported to the Thermal Treatment Area. The wastes are placed in one of four pits and destroyed by open burning. The Thermal Treatment Area is a permitted hazardous waste treatment facility.

**Specific Conditions**

18. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #20, #22, #24, and #26, and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	3,874.4	166.2
VOC	160.0	7.4
CO	40.0	1.9
NO <sub>x</sub>	236.0	11.0
Lead	84.00	3.87

19. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #20, #22, #24, and #26 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	3,874.40	166.20
Cadmium	0.97	0.05
Chlorine	129.60	6.02
Chromium, Trivalent	7.90	0.37
Chromium, Hexavalent	0.13	0.01
Hydrogen Chloride	1,840.80	84.85
Hydrogen Fluoride	12.00	0.56



20. The permittee shall not burn in excess of 8,000 pounds of waste rocket propellant in SN-04 during any one hour period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
21. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #20. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
22. The permittee shall not burn in excess of 737,100 pounds of waste rocket propellant in SN-04 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
23. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #22. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
24. The permittee shall not burn in excess of 8,000 pounds of waste air bag propellant in SN-04 during any one hour period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
25. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #24. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
26. The permittee shall not burn in excess of 235,000 pounds of waste air bag propellant in SN-04 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
27. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #26. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

### SN-07 - Liner Mixer and Spray Liner Machine

#### Source Description

The Liner Mixer and Spray Machine are used to prepare and apply liner materials to the insides of the rocker motor cases. This equipment is located in Building M-8. The motor cases may be either insulated or bare metal. The liner materials are mixed in a closed mixer and then mechanically applied to the interior of the degreased motor case. The batch lining operation is performed one component at a time. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

#### Specific Conditions

28. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	4.3

29. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of [Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	11.00	5.50

## SN-11 - Lacquer Preparation

### Source Description

Various liquid explosives are called “lacquer” by Aerojet. Lacquer preparation is done in Building C-56. Preparation of liquid explosive compounds involves the use of organic solvents for stabilizing agents. These solvents include: acetone, methylene chloride, ethyl alcohol, and isopropyl alcohol. Lacquer received from outside vendors is premixed with any of those solvents before transportation. These solvents are removed from the lacquer before use by nitrogen gas stripping. Lacquer preparation also includes adding solvents to liquid explosives prior to their use, shipment, and/or long-term storage. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

### Specific Conditions

30. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #32, Plantwide Condition #7, and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	80.1	5.1

31. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #32, Plantwide Condition #7, and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	80.08	5.03
Methylene Chloride	80.08	5.03

32. The permittee shall not use in excess of 40,000 pounds of lacquer premix in SN-11 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
33. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #32. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

## SN-12 - Spray Paint Booth

### Source Description

This spray painting area is located at Building C-60. Only a limited amount of surface coating is performed at this location. The paints are applied using aerosol spray cans. The painting area is equipped with a vent hood for general ventilation. In addition to painting, solvents are used to clean various components prior to further processing. The cleaning agents are applied with wiping cloths. Alternative solvents will also be used. Plantwide Condition #7 lists available solvents and VOC/HAP compositions and Plantwide Condition #11 lists available paint VOC/HAP compositions. Plantwide Condition #19 lists available adhesive VOC/HAP compositions.

### Specific Conditions

34. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #9, #11, and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	22.5	2.6

35. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #9, #11, #17, and #19 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	12.19	1.36
Ethyl Acrylate	2.10	0.27
Ethyl Benzene	1.40	0.18
Methanol	2.80	0.35
Methyl Isobutyl Ketone	8.40	1.05
Toluene	11.90	1.49
Xylene	8.40	1.05

### SN-13 - Ultrasonic Cleaner

#### Source Description

The Ultrasonic Cleaner is used to clean/degrease a variety of small parts. The cleaner consists of a one-liter beaker set in an ultrasonic waterbath. This open-top, batch vapor degreaser has a surface area of 1.95 square feet. It is located in Building M-85. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. This source is not subject to 40 CFR 63, Subpart T because a halogenated solvent is not used in this equipment.

#### Specific Conditions

36. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	0.2	0.3

37. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 and Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
1,2 Butylene Oxide	0.01	0.01

38. The permittee shall not use any halogenated solvents at this source. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

### SN-19 - Motor Case Cleaner

#### Source Description

This Motor Case Cleaner is used to clean/degrease rocket motor cases prior to further processing. This source is located in Building 2-SH-14 and has a capacity of 1,200 gallons of solvent. It is an open-top, batch degreaser with a working area of 44.0 square feet. Various solvents will be used in the degreaser. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. This source is not subject to 40 CFR 63, Subpart T because a halogenated solvent is not used in this equipment.

#### Specific Conditions

39. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	6.6	10.7

40. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
1,2 Butylene Oxide	0.07	0.14

41. The permittee shall not use any halogenated solvents at this source. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

## SN-20 - Solvent Wipe Rooms

### Source Description

One wipe room is operated in Building 2-SH-14, and one wipe room is operated in Building 2-SH-15. These rooms are used for motor case degreasing prior to application of the case liner. Other parts cleaning activities are also done. The solvents are manually applied using wiping cloths, and the components are allowed to air-dry. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. This source is not subject to 40 CFR 63, Subpart T because it is a hand-wipe cleaning activity.

### Specific Conditions

42. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	17.0	2.2

43. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	22.00	2.75

**SN-22 - Mix Room**

**Source Description**

This mix room, located in Building 2-SH-15, is used to mix ingredients during the preparation of motor case liner materials. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

**Specific Conditions**

44. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	4.3

45. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	11.00	5.50



## SN-24 - Spray Paint Booth

### Source Description

This paint booth is located in Building 48. It is used to paint various rocket components. Parts cleaning may also be performed in this spray booth. Plantwide Condition #7 lists available solvents and VOC/HAP compositions, and Plantwide Condition #11 lists available paint VOC/HAP compositions.

### Specific Conditions

46. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #9, and #11 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.10	0.10
VOC	40.8	7.6
Lead	0.01	0.01

47. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #9, and #11 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.10	0.10
Acetone	11.20	2.10
Chromium Compounds	0.01	0.01
Ethyl Acrylate	4.20	0.79
Ethyl Benzene	2.80	0.53
Methanol	5.60	1.05
Methyl Isobutyl Ketone	16.80	3.15
Toluene	23.80	4.47
1,1,1 Trichloroethane	5.43	1.63
Xylene	16.80	3.15

**SN-25 - Natural Gas-Fired Boilers (7 Units)**

**Source Description**

There are seven natural gas-fired boilers in this group, one in Building 47, two in Building 48, two in Building M-85, one in Building 66, and one in Building M-125. These units produce steam and/or hot water for the production operations at these buildings. The boiler in Building 47 has a capacity of 2.35 MMBTU/hr. Building 48 contains boilers with capacities of 0.75 MMBTU/hr and 2.00 MMBTU/hr. The two in Building M-85 are rated at 2.00 MMBTU/hr each. The one in Building 66 has a capacity of 1.15 MMBTU/hr. The boiler in Building M-125 is rated at 0.26 MMBTU/hr. All of these units are less than 10 MMBTU/hr each and are therefore not subject to New Source Performance Standard Subpart Dc.

**Specific Conditions**

48. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by burning only natural gas and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.1	0.4
SO <sub>2</sub>	0.1	0.1
VOC	0.1	0.3
CO	0.9	3.9
NO <sub>x</sub>	1.1	4.6

49. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by burning only natural gas and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.10	0.40

50. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method #9. Compliance will be demonstrated by only burning natural gas.

SN	Limit	Regulatory Citation
25	5%	§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

## SN-28 - Spray Liner Machine and mixer unit

### Source Description

The Liner Spray Machine is used to apply a liner material to the insides of the rocker motor cases. This equipment is located in Building M-2. The motor cases may be either insulated or bare metal. The liner material is mechanically applied to the interior of the degreased motor case. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. This source has been replaced by like equipment in 2005.

### Specific Conditions

51. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation 19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	4.3

52. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	11.00	5.50

**SN-30 - High Explosives Test Facility**

**Source Description**

Aerojet conducts performance-testing of energetic materials at the High Explosive Test Facility as part of its QA/QC Program. This facility is located in the 16-AT Area of the Highland Industrial Park approximately nine miles from the main Aerojet complex. The explosives are detonated with initiation by impact of a bullet, by falling, or by a cap-initiated high-explosive donor charge. Testing is also initiated by controlled bonfire and under proof-of-fire conditions. Test items range from finished air bag systems to military ordnance to R&D test samples.

**Specific Conditions**

53. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #55 and #57 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	137.0	5.5
VOC	6.0	0.3
CO	106.0	4.3
NO <sub>x</sub>	1.0	0.1
Lead	5.88	0.24

54. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #55 and #57, and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	137.00	5.50
Cadmium	0.05	0.01
Chlorine	0.72	0.03
Chromium, Trivalent	0.42	0.02
Hydrogen Chloride	89.07	3.57

55. The permittee shall not use in excess of 300 pounds of energetic materials in SN-30 during any one hour period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]

56. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #55. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to Department as required in General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
57. The permittee shall not use in excess of 24,000 pounds of energetic materials in SN-30 during any consecutive 12 month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
58. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #57. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to Department as required in General Provision #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

### SN-36 - Vapor Degreaser

#### Source Description

This batch vapor degreaser in Building 2-SH-4 is used to remove residual oil and grease from various rocket motor parts. This machine has a capacity of 25 gallons of solvent and a working surface area of 6.9 square feet. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

#### Specific Conditions

59. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	1.1	6.4

60. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
1,2 Butylene Oxide	0.02	0.09
Methylene Chloride	1.04	8.25
1,1,1 Trichloroethane	1.04	8.14

61. This solvent cleaning operation is subject to the provisions of 40 CFR Part 63, Subpart T - National Emission Standards for Halogenated Solvent Cleaning. A copy of 40 CFR Part 63, Subpart T has been included in Appendix B of this permit. The requirements of this subpart are outlined in Plantwide Conditions #24 through #36. [§19.304 of Regulation #19 and 40 CFR. §63.460(a)]

### SN-37 - Motor Case Cleaning

#### Source Description

This operation, located in Building 2-SH-2 or Building 2-SH-14, consists of removing residual preservative oil from rocket motor cases. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. This source is not subject to 40 CFR 63, Subpart T because these provisions do not regulate the use of halogenated solvents in hand-wipe cleaning activities.

#### Specific Conditions

62. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	1.5

63. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	11.00	1.93
1,1,1 Trichloroethane	10.85	1.90

### SN-38 - Motor Case Cleaning

#### Source Description

This operation, located in Building 2-SH-2 or Building 2-SH-14, consists of removing dust from rocket motor cases after they have been grit blasted. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. This source is not subject to 40 CFR 63 Subpart T because these provisions do not regulate the use of halogenated solvents in hand-wipe cleaning activities.

#### Specific Conditions

64. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	1.5

65. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	11.00	1.93
1,1,1 Trichloroethane	10.85	1.90



**SN-39 - Adhesive Primer Operations**

**Source Description**

Adhesive Primer Operations are located in Building 2-SH-14 and 2-SH-15. Interior surfaces of clean, dry rocket motor cases are coated with an adhesive primer. Thinning of the primer is done using methyl ethyl ketone. The primer is applied by hand. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. Plantwide Condition #19 lists available adhesive VOC/HAP compositions.

**Specific Conditions**

66. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	20.0	3.0

67. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Ethyl Benzene	2.88	0.58
Formaldehyde	0.06	0.02
Methanol	2.30	0.46
Methyl Isobutyl Ketone	7.48	1.50
Tetrachloroethylene	1.73	0.35
Toluene	2.88	0.58
1,1,1 Trichloroethane	6.33	1.27
Trichloroethylene	4.60	0.92
Xylene	9.78	1.96

### SN-40 - Adhesive Operations

#### Source Description

Following the application of the adhesive primer, adhesive is applied to the interior surfaces of the rocket motor cases. Adhesive Operations (SN-40) is located in Building 2-SH-14 and 2-SH-15. The adhesive is applied by hand. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. Plantwide Condition #19 lists available adhesive VOC/HAP compositions.

#### Specific Conditions

68. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	20.0	3.0

69. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Ethyl Benzene	2.88	0.58
Formaldehyde	0.06	0.02
Methanol	2.30	0.46
Methyl Isobutyl Ketone	7.48	1.50
Tetrachloroethylene	1.73	0.35
Toluene	2.88	0.58
1,1,1 Trichloroethane	6.33	1.27
Trichloroethylene	4.60	0.92
Xylene	9.78	1.96

### SN-41 - Adhesive Barrier Coating Operations

#### Source Description

Following the adhesive application, an adhesive barrier coating is applied to the interior surfaces of the rocket motor cases. This operation is performed in Building 2-SH-14. The barrier coating is applied by spray nozzles mounted on an automated, traveling wand. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. Plantwide Condition #19 lists available adhesive VOC/HAP compositions.

#### Specific Conditions

70. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	20.0	3.0

71. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Ethyl Benzene	2.88	0.58
Formaldehyde	0.06	0.02
Methanol	2.30	0.46
Methyl Isobutyl Ketone	7.48	1.50
Tetrachloroethylene	1.73	0.35
Toluene	2.88	0.58
1,1,1 Trichloroethane	6.33	1.27
Trichloroethylene	4.60	0.92
Xylene	9.78	1.96

## SN-42 - Spray Liner Ma

### Source Description

In Building 2-SH-15, a liner material is mechanically applied to the adhesive surface of rocket motor casings. Various solvents are used to flush the equipment. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

### Specific Conditions

72. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	2.2

73. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	11.00	2.75

### SN-43 - Spray Paint Booth

#### Source Description

This paint booth is located in Building D-33. This booth is used to surface coat various rocket components. Plantwide Condition #7 lists available solvents and VOC/HAP compositions, and Plantwide Condition #11 lists available paint VOC/HAP compositions.

#### Specific Conditions

74. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #9, and #11 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.1	0.1
VOC	36.5	8.5
Lead	0.01	0.01

75. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #9, and #11 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.10	0.10
Acetone	11.20	2.80
Chromium Compounds	0.01	0.01
Ethyl Acrylate	4.20	1.05
Ethyl Benzene	2.80	0.70
Methanol	5.60	1.40
Methyl Isobutyl Ketone	16.80	4.20
Toluene	23.80	5.95
Xylene	16.80	4.20

**SN-44 - Floor Operations**

**Source Description**

This source consists of various touch-up painting, bonding, labeling, and cleaning activities located throughout the facility. All of these activities are done by hand. Plantwide Condition #7 lists available solvents and VOC/HAP compositions, and Plantwide Condition #11 lists available paint VOC/HAP compositions. Plantwide Condition #15 lists available VOC/HAP compositions for miscellaneous materials. Plantwide Condition #19 lists available adhesive VOC/HAP compositions. This source is not subject to 40 CFR 63, Subpart T because these provisions do not regulate the use of halogenated solvents in hand-wipe cleaning activities.

**Specific Conditions**

76. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #9, #11, #13, #15, #17, and #19 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	116.0	19.7

77. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #9, #11, #13, #15, #17, and #19 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	49.23	17.16
1,2 Butylene Oxide	0.23	0.12
Diethylene Glycol Monobutyl Ether Acetate	7.10	1.42
Diethylene Glycol Monoethyl Ether Acetate	14.20	2.84
Ethyl Acrylate	4.20	2.10
Ethyl Benzene	9.90	2.82
Methanol	16.25	4.93
Methylene Chloride	50.40	16.68
Methyl Isobutyl Ketone	45.20	14.08
Phenol	16.33	3.27
Toluene	63.17	24.13

Aerojet- General Corporation  
Permit No.: 0617-AOP-R7  
AFIN: 07-00035

Pollutant	lb/hr	tpy
1,1,1 Trichloroethane	89.15	24.34
Xylene	34.55	11.95

### SN-45 - Motor Case Soak-Out Facility

#### Source Description

Some rocket motors are rejected due to manufacturing imperfections. Solvents are used in Building 2-SH-22 to remove the liner materials in the cases. These cases can then be reprocessed. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. This source is not subject to 40 CFR 63, Subpart T because it does not use one of the listed solvents.

#### Specific Conditions

78. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	6.0	0.8

79. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	6.00	0.75
Toluene	6.00	0.75



### SN-47 - Foam-Blowing Operations

#### Source Description

Various polyurethane foam components are made in Building 2-SH-4. The foam is produced using a two-part formulation combined in a 50-50 ratio. The foam is then forced into metal molds where it is cured. The mixer is purged with various solvents when the parts are changed. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

#### Specific Conditions

80. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #82, Plantwide Condition #7, and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	1.3

81. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #82, Plantwide Condition #7, and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	11.00	1.65

82. The permittee shall not exceed 40,000 pounds of polyurethane resin parts A & B in SN-47 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
83. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #82. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

## SN-48 - Phenolic Molding Operations

### Source Description

Phenolic Molding Operations are located in Buildings 2-SH-3 and 2-SH-14. These operations are used to make exit cone inlets, throat insulations, forward and aft igniter mounts, retention rings, launch motor insulators, rupture disks, nozzle bodies, and various other molded parts at this facility. The resin materials are received in powder form. During parts production the powder is first placed in metal molds, which are inserted in press machines. Electric heat and pressure are then applied to melt the phenolic resin.

### Specific Conditions

84. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #86 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	0.1	0.1

85. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #86 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Ammonia	0.01	0.01
Formaldehyde	0.01	0.01
Phenol	0.06	0.07

86. The permittee shall not process more than 500,000 pounds of phenolic resin in SN-48 and SN-49 combined during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E,]
87. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #86. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

### SN-49 - Hockey Puck Manufacturing

#### Source Description

Certain rocket components manufactured by Aerojet are phenolic billets. These parts, commonly called "hockey pucks," are produced using a press machine at Building 2-SH-3. Phenolic resin molding compounds are also used in this operation. The powdered resin material is conveyed into a bin, and then loaded into a consolidation billet press. Heat and pressure are applied to form the "hockey pucks."

#### Specific Conditions

88. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #86 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	0.1	0.1

89. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #86 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Ammonia	0.01	0.01
Formaldehyde	0.01	0.01
Phenol	0.06	0.07

## SN-52 - Sling Liner Machines

### Source Description

Two sling liner machines are operated at Building 2-SH-15 and M-8 to apply a liner to the inside of rocket motor cases. The liner is a solvent-free, carbon-filled polyurethane rubber. The rubber solution is pumped through a rotating head which slings the liner onto the interior of the motor case. The lined components are then placed in a curing oven. Once cured, the rocket motor cases are subjected to additional processing. The machines are cleaned using various solvents. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

### Specific Conditions

90. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	2.2

91. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	11.00	2.75

## SN-54 - Squib Powder Manufacturing

### Source Description

Squibs are small explosive devices. The energetic material for these units is manufactured in the Hood Room at Building M-85. A slurry of ground potassium perchlorate, titanium powder, and a solvent is hand-mixed in a pan. The slurry is then air-dried underneath the hood. After the composition has dried, it is packaged for use in the squib loading area. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

### Specific Conditions

92. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	4.3	0.2

93. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	3.30	0.09

### SN-56 - MK 104 Sample Collection

#### Source Description

Material samples from the nozzle assembly for the MK 104 missile are collected as part of the manufacturing process. These samples are obtained in a trailer next to Building 2-SH-4 for physical testing in the Chemistry Lab in Building 17. Sample collection consists of cutting and grinding the nozzle assembly in order to obtain the desired materials. The grinding operations, which generate particulate emissions, are performed under a vent hood.

#### Specific Conditions

94. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.1	0.5

95. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.10	0.50

### SN-57 - Air Bag R&D Laboratory

#### Source Description

Aerojet manufactures small pellets which are commonly referred to as “Auto-Ignition Pills” (AIPs). The pills act as safety devices by preventing explosion of the air bag units in the event of a fire. Research and Development of new formulations for AIPs, “gas-generating” pills, and other similar products are conducted in Building M-85. These activities are performed on an intermittent basis depending on production requirements.

#### Specific Conditions

96. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	4.3	1.1

97. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	3.30	0.83

### SN-58 - Pill Manufacturing

#### Source Description

The production of Auto-Ignition Pills (AIPs) and other products used in the manufacture of air bag systems may be performed in Buildings M-85, and/or M-2. In these operations, dry ingredients are combined in a solvent-based slurry and mixed in a ball mill. The slurry is then dried. Once dry, the AIP powder formulations are packaged and transferred to the pill press. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

#### Specific Conditions

98. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	10.7

99. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	6.59	8.24
Methylene Chloride	11.00	13.75



**SN-59 - Air Bag Propellant Manufacturing**

**Source Description**

Various proprietary propellant formulations for air bag systems are manufactured at Buildings M-2, and M-125. Dry ingredients for air bag propellants are screened, combined in a slurry, and mixed in a granulator. The slurry is then dried using a vibrating fluidized-bed dryer. Once dry, the propellant formulations are packaged and transferred to various departments for further processing. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

**Specific Conditions**

100. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	1.0	4.4
VOC	25.5	5.1

101. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	1.00	4.40
Acetone	19.77	3.96
Methylene Chloride	33.00	6.60

102. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method #9.

SN	Limit	Regulatory Citation
59	5%	§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

103. The permittee shall conduct weekly observations of the opacity from source SN-59 and keep a record of these observations. If the permittee detects visible emissions, the permittee must immediately take action to identify and correct the cause of the visible emissions. After implementing the corrective action, the permittee must document that

Aerojet- General Corporation

Permit No.: 0617-AOP-R7

AFIN: 07-00035

the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

## SN-62 - Mixing Operations

### Source Description

Aerojet manufactures energetic materials which will perform in specifically engineered ways. These materials are formulated in the mixing operations. The mixing process involves adding various dry ingredients to a particular mixer unit in an orderly, controlled manner and then consolidating these ingredients into a uniform formulation. Mixer units are operated at Buildings A-2, A-3, A-11, B-22, B-23, B-24, B-25, C-51, and M-125. The mixer capacities range from one-gallon to 420-gallons. On occasion, various ingredients are mixed in solvents as a safety precaution. The mix ingredients may also be packaged in a variety of solvents. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

### Specific Conditions

104. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	0.9

105. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	6.59	0.66
Methylene Chloride	11.00	1.10

### SN-63 - Nitramines and Explosives Dryer

#### Source Description

Various nitramines and explosive compounds are used in Aerojet's production operations. When received from the vendor, these materials are wetted with isopropyl alcohol which acts as a stabilizer. A rotary vacuum dryer is operated at Building C-58 in order to dry the energetic materials prior to their use. The explosive compounds are received in plastic bags and are manually opened. The materials are placed in the dryer and the building is secured. The dryer is then heated using a hot-water jacket, while a vacuum pump simultaneously exhausts the dryer chamber. During operation, the dryer chamber is periodically rotated to ensure thorough drying of its contents. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

#### Specific Conditions

106. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	18.0	0.5

## SN-64 - Vacuum Ovens

### Source Description

Vacuum ovens are operated at Buildings 2-SH-4 and A-3. The units are utilized to dry various production materials prior to use. The compounds, which are wetted with either water or solvent, are placed in pans and then inserted into a particular oven. A vacuum is then applied to the oven in order to extract the water or solvent from the process material. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

### Specific Conditions

107. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	0.9

108. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	6.59	0.66
Methylene Chloride	11.00	1.10

**SN-67 - Grit Blast Machines**

**Source Description**

The grit blast machines are used to prepare the interior and/or exterior surfaces of rocket motor cases and other components for the subsequent application of various surface coatings. The machines use sand, coal slag, and/or steel grit as the abrasive materials. Two units are located in Building 2-SH-2, two are located in Building 2-SH-3, one is located in Building 2-SH-4, five are located in Building 2-SH-14, two are located in Building M-85, one is located in Building M-82, two are located in Building M-2, one is located in Building #36 and one is located in Building #33. An emissions bubble is in effect for the grit blast machines.

**Specific Conditions**

109. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #113 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	49.2	6.2

110. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #113 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	49.20	6.20

111. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method #9.

SN	Limit	Regulatory Citation
67	5%	§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

112. The permittee shall conduct weekly observations of the opacity from each building at source SN-67 and keep a record of these observations. If the permittee detects visible emissions, the permittee must immediately take action to identify and correct the cause of the visible emissions. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions and the corrective action taken. The permittee must keep these records onsite and make them available to

Department personnel upon request. [§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

113. The permittee shall not exceed 300,000 pounds of blasting media in SN-67 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
114. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #113. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

**SN-69 - Natural Gas-Fired Boilers (8 Units)**

**Source Description**

Aerojet operates natural gas-fired boilers in Buildings M-142, M-125, 2-SH-15, and 2-SH-2. The boilers are used to produce the steam and/or hot water for the production operations in these buildings. Building M-142 uses one 0.15 MMBTU/hr unit. Building M-125 uses two 2.10 MMBTU/hr units and one 2.0 MMBTU/hr unit. Building 2-SH-15 uses three 1.34 MMBTU/hr units. Building 2-SH-2 uses one 2.00 MMBTU/hr unit. All of these units are less than 10 MMBTU/hr each and are therefore not subject to New Source Performance Standard Subpart Dc.

**Specific Conditions**

115. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by burning only natural gas and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.1	0.5
SO <sub>2</sub>	0.1	0.1
VOC	0.1	0.4
CO	1.1	4.5
NO <sub>x</sub>	1.3	5.4

116. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by burning only natural gas and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.10	0.50

117. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method #9. Compliance will be demonstrated by only burning natural gas.

SN	Limit	Regulatory Citation
69	5%	§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311



## SN-71 - Gasoline Storage Tank

### Source Description

Aerojet operates one above ground tank for gasoline storage. The vessel is located near Building 1. The storage tank has a capacity of 4,000 gallons.

### Specific Conditions

118. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #119 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	44.1	0.9

119. The permittee shall not exceed 50,000 gallons of gasoline in SN-71 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
120. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #119. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

## SN-72 - Diesel Fuel Storage Tanks

### Source Description

Aerojet operates three above-ground tanks for the storage of diesel fuel. The vessels are located near Building 1. The tanks have a capacity of 500 gallons each.

### Specific Conditions

121. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #122 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	0.1	0.1

122. The permittee shall not exceed 40,000 gallons of diesel fuel in SN-72 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
123. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #122. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

### SN-73 - Nitramines and Explosives Grinder

#### Source Description

Various nitramines and explosive compounds are conveyed to Building C-57 for particle-size reduction. A grinder unit is operated for this purpose. Once prepared, the ground energetic materials are utilized for the production of propellants and/or explosives.

#### Specific Conditions

124. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.1	0.5

125. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.10	0.50

126. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method #9. Compliance with this condition will be demonstrated by the permittee's established standard operating procedures for processing energetic materials.

SN	Limit	Regulatory Citation
73	5%	§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

### SN-74 - Solvent Wipe Room

#### Source Description

Aerojet operates a solvent wipe room at Building M-2. The facility consists an enclosed bay equipped with a vent hood. The wipe room is used for the hand-wipe degreasing of the rocket motor cases before and after installation of the case rubber. Several solvents are used as the cleaning agents and are manually applied using spray bottles and/or wiping cloths. This source is not subject to 40 CFR 63, Subpart T because it is a hand-wipe cleaning activity.

#### Specific Conditions

127. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	17.0	2.2

128. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	22.00	2.75

### SN-75 - Sling Liner Machine

#### Source Description

Various rocket motor cases are lined with specially-formulated in Building M-2. The coating is fed through a traveling wand to a rotating applicator head. The spinning head slings the liner onto the inside of the motor case. During liner application, the wand is slowly drawn through the case to provide a uniform coating. The lined rocket motor cases are then cured in an oven. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

#### Specific Conditions

129. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	8.5	1.1

130. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	11.00	1.38

## SN-76 - Adhesive Primer Operations

### Source Description

Adhesive Primer Operations are located in Buildings M-8 and/or M-2. Interior surfaces of clean, dry rocket motor cases are coated with an adhesive primer. The primer is applied using spray nozzles mounted on an automated, traveling wand. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. Plantwide Condition #19 lists available adhesive VOC/HAP compositions.

### Specific Conditions

131. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	20.0	3.0

132. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Ethyl Benzene	2.88	0.58
Formaldehyde	0.06	0.02
Methanol	2.30	0.46
Methyl Isobutyl Ketone	7.48	1.50
Tetrachloroethylene	1.73	0.35
Toluene	2.88	0.58
1,1,1 Trichloroethane	6.33	1.27
Trichloroethylene	4.60	0.92
Xylene	9.78	1.96

**SN-77 - Adhesive Operations**

**Source Description**

Following the application of the adhesive primer, adhesive is applied to the interior surfaces of the rocket motor cases. Adhesive Operations (SN-77) is located in Buildings M-8 and/or M-2. The adhesive is applied by spray nozzles mounted on an automated, traveling wand. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. Plantwide Condition #19 lists available adhesive VOC/HAP compositions.

**Specific Conditions**

133. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	20.0	3.0

134. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Ethyl Benzene	2.88	0.58
Formaldehyde	0.06	0.02
Methanol	2.30	0.46
Methyl Isobutyl Ketone	7.48	1.50
Tetrachloroethylene	1.73	0.35
Toluene	2.88	0.58
1,1,1 Trichloroethane	6.33	1.27
Trichloroethylene	4.60	0.92
Xylene	9.78	1.96

**SN-78 - Adhesive Barrier Coating Operations**

**Source Description**

Following the adhesive application, a two-part adhesive barrier coating is applied to the interior surfaces of the rocket motor cases. This operation is performed in Buildings M-8 and/or M-2. The barrier coating is applied by spray nozzles mounted on an automated, traveling wand. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. Plantwide Condition #19 lists available adhesive VOC/HAP compositions.

**Specific Conditions**

135. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	20.0	3.0

136. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #17, and #19 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Ethyl Benzene	2.88	0.58
Formaldehyde	0.06	0.02
Methanol	2.30	0.46
Methyl Isobutyl Ketone	7.48	1.50
Tetrachloroethylene	1.73	0.35
Toluene	2.88	0.58
1,1,1 Trichloroethane	6.33	1.27
Trichloroethylene	4.60	0.92
Xylene	9.78	1.96



## SN-80 - Warhead Coating Operation

### Source Description

The inside surface of the warhead cases are coated with a thin film of a Teflon-based release-agent. A propellant mixture is then cast (i.e., loaded) into the prepared cases in Building C-50. The units are subsequently cured in a steam or hot water-heated oven in Building C-61. Plantwide Condition #7 lists available solvents and VOC/HAP compositions and Plantwide Condition #11 lists available paint VOC/HAP compositions.

### Specific Conditions

137. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #9, #11 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	1.0	0.3

**SN-81 - Diesel-Powered Pump at Rocket Motor Case Washout Facility**

**Source Description**

Solid propellant is removed from off-specification/ unusable rocket motor cases so that the metal cases can be reused. The propellant is extracted using a high-pressure spray of water. The pump for the “hydrolance” machine is powered by a diesel-fired internal combustion engine. This pump has a maximum power rating of 300 hp and consumes 15 gallons of fuel per hour.

**Specific Conditions**

138. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #142 and equipment limitations. [§19.501 et seq. Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.7	2.9
SO <sub>2</sub>	0.7	2.8
VOC	0.8	3.4
CO	2.1	8.9
NO <sub>x</sub>	9.3	40.8

139. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Condition #142 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.70	2.90
Acetaldehyde	0.24	1.06
Acrolein	0.03	0.14
Benzene	0.28	1.23
1,3 Butadiene	0.02	0.09
Formaldehyde	0.36	1.58
PAHs	0.01	0.03
Propylene Oxide	0.78	3.42
Toluene	0.13	0.57

Pollutant	lb/hr	tpy
Xylene	0.09	0.40

140. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method #9.

SN	Limit	Regulatory Citation
81	20%	§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

141. The permittee shall conduct daily observations of the opacity from source SN-81 on those days when the equipment is in operation and keep a record of these observations. If the permittee detects visible emissions, the permittee must immediately take action to identify and correct the cause of the visible emissions. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
142. The permittee shall not use in excess of 131,400 gallons of diesel fuel in SN-81 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
143. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #142. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]

**SN-82 - New Air Bag Propellant Manufacturing Operations**

**Source Description**

Various proprietary propellant formulations for air bag systems are manufactured at Buildings A-4, A-5, A-8, A-9, A-90, 70, 71, and 74. Dry ingredients for air bag propellants are screened, combined with solvents in a slurry, and mixed in a granulator. The slurry is then dried using a vibrating fluidized-bed dryer. Once dry, the propellant formulations are packaged and transferred to various departments for further processing. Plantwide Condition #7 lists available solvents and VOC/HAP compositions.

**Specific Conditions**

144. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	1.0	4.4
VOC	25.5	5.1

145. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	1.00	4.40
Acetone	19.77	3.96
Methylene Chloride	33.00	6.60

146. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method #9.

SN	Limit	Regulatory Citation
82	5%	§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

147. The permittee shall conduct weekly observations of the opacity from source SN-82 and keep a record of these observations. If the permittee detects visible emissions, the permittee must immediately take action to identify and correct the cause of the visible

Aerojet- General Corporation  
Permit No.: 0617-AOP-R7  
AFIN: 07-00035

emissions. After implementing the corrective action, the permittee must document that the source complies with the visible emissions requirements. The permittee shall maintain records of the cause of any visible emissions and the corrective action taken. The permittee must keep these records onsite and make them available to Department personnel upon request. [§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

**SN-83 - Spray Painting Area**

**Source Description**

A spray painting area is operated at Building M-85. A limited amount of surface coating is performed at this location. The paints may be applied using brushes, aerosol spray cans or a spray paint gun. The painting area is equipped with a vent hood for general ventilation. The hood is equipped with high-density dust filters for the control of paint over-spray. Plantwide Condition #7 lists available solvents and VOC/HAP compositions, and Plantwide Condition #11 lists available paint VOC/HAP compositions.

**Specific Conditions**

148. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #9, and #11 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.10	0.10
VOC	22.5	2.2
Lead	0.01	0.01

149. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Conditions #7, #9, and #11 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Acetone	5.60	0.70
Chromium Compounds	0.01	0.01
Ethyl Acrylate	2.10	0.27
Ethyl Benzene	1.40	0.18
Methanol	2.80	0.35
Methyl Isobutyl Ketone	8.40	1.05
Toluene	11.90	1.49
Xylene	8.40	1.05

**SN-84 - Warhead Manufacturing Operations**

**Source Description**

Aerojet makes a variety of warheads and ordnance at Building M-11. A barrier coating (asphalt or wax) is first applied to the inside of the prepared metal cases. The components are then filled with explosives. The units are subsequently cured in a steam-heated oven. The warheads and ordnance are then moved to other buildings for finishing and final assembly. Two propane-fired “melter/applicator machines” are used to apply the barrier coatings. A small natural gas-fired boiler provides steam and hot water for the production equipment.

**Specific Conditions**

150. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Specific Conditions #153 and #155, equipment limitations, and by burning only natural gas and propane. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
PM <sub>10</sub>	0.1	0.2
SO <sub>2</sub>	0.1	0.1
VOC	10.1	1.7
CO	0.3	1.3
NO <sub>x</sub>	0.4	1.7

151. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by equipment limitations and by burning only natural gas and propane. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
PM	0.10	0.20

152. Visible emissions may not exceed the limits specified in the following table of this permit as measured by EPA Reference Method #9. Compliance will be demonstrated by burning only natural gas and propane.

SN	Limit	Regulatory Citation
84	5%	§18.501 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311

153. The permittee shall not use in excess of 15,000 pounds of asphalt coating in SN-84 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
154. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #153. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
155. The permittee shall not use in excess of 15,000 pounds of wax coatings in SN-84 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
156. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #155. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]



## SN-85 - Motor Case Cleaning Operations

### Source Description

Metal rocket motor cases are cleaned at Building M-8 to prepare them for adhesive bonding, surface coating, and/or lining. Residual oil and grease are removed by hand-wipe cleaning. Certain motor cases are cleaned using a special flushing-cleaning apparatus. Plantwide Condition #7 lists available solvents and VOC/HAP compositions. This source is not subject to 40 CFR 63, Subpart T because these provisions do not regulate the use of halogenated solvents in hand-wipe cleaning activities. In addition, the motor case flush-cleaning apparatus is not subject to Subpart T because halogenated solvents are not used in this equipment.

### Specific Conditions

157. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52, Subpart E]

Pollutant	lb/hr	tpy
VOC	25.5	2.2

158. The permittee shall not exceed the emission rates set forth in the following table. The permittee shall demonstrate compliance with this condition by Plantwide Condition #7 and equipment limitations. [§18.801 of Regulation #18 and A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

Pollutant	lb/hr	tpy
Methylene Chloride	11.00	2.75
1,1,1-Trichloroethane	10.85	2.72

Aerojet- General Corporation  
Permit No.: 0617-AOP-R7  
AFIN: 07-00035

## **SECTION V: COMPLIANCE PLAN AND SCHEDULE**

Aerojet will continue to operate in compliance with those identified regulatory provisions. The facility will examine and analyze future regulations that may apply and determine their applicability with any necessary action taken on a timely basis.

## SECTION VI: PLANTWIDE CONDITIONS

1. The permittee shall notify the Director in writing within thirty (30) days after commencing construction, completing construction, first placing the equipment and/or facility in operation, and reaching the equipment and/or facility target production rate. [§19.704 of Regulation #19, 40 CFR Part 52, Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
2. If the permittee fails to start construction within eighteen months or suspends construction for eighteen months or more, the Director may cancel all or part of this permit. [§19.410(B) Regulation #19 and 40 CFR Part 52, Subpart E]
3. The permittee must test any equipment scheduled for testing, unless stated in the Specific Conditions of this permit or by any federally regulated requirements, within the following time frames: (1) new equipment or newly modified equipment within sixty (60) days of achieving the maximum production rate, but no later than 180 days after initial start up of the permitted source or (2) operating equipment according to the time frames set forth by the Department or within 180 days of permit issuance if no date is specified. The permittee must notify the Department of the scheduled date of compliance testing at least fifteen (15) days in advance of such test. The permittee shall submit the compliance test results to the Department within thirty (30) days after completing the testing. [§19.702 of Regulation #19 and/or §18.1002 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
4. The permittee must provide: [§19.702 of Regulation #19 and/or §18.1002 of Regulation #18 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
  - a. Sampling ports adequate for applicable test methods;
  - b. Safe sampling platforms;
  - c. Safe access to sampling platforms; and
  - d. Utilities for sampling and testing equipment.
5. The permittee must operate the equipment, control apparatus and emission monitoring equipment within the design limitations. The permittee shall maintain the equipment in good condition at all times. [§19.303 of Regulation #19 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
6. This permit subsumes and incorporates all previously issued air permits for this facility. [Regulation #26 and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
7. The permittee shall not use in excess of the solvent throughput rates or exceed the VOC and HAP content limits listed in the following table at sources SN-07, SN-11, SN-12, SN-13, SN-19, SN-20, SN-22, SN-24, SN-28, SN-36 through SN-45, SN-47, SN-52, SN-54, SN-57, SN-58, SN-59, SN-62 through SN-64, SN-74 through SN-78, SN-80, SN-82, SN-83, and SN-85. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 70.6, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Solvent	Total lb/year	VOC Content
Generic Solvent (All VOC-based, non-HAP solvents)	171,000	8.50 lb/gal
Acetone	51,000	Non-VOC
Freon TF	23,000	Non-VOC
Methylene Chloride	171,100	Non-VOC, HAP
N-Propyl Bromide	66,000	Non-VOC
Toluene	14,500	100% VOC, HAP
1,1,1 Trichloroethane	50,000	Non-VOC, HAP

8. The permittee shall maintain records and MSDS sheets which demonstrate compliance with the throughput and formulation limits set in Plantwide Condition #7. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
9. The permittee shall not use in excess of 59,500 pounds of surface coating materials (primers, paints, catalysts, thinners, and related compounds) in SN-12, SN-24, SN-43, SN-44, SN-80 or SN-83 combined during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
10. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Specific Condition #9. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
11. The surface coating compounds processed at sources SN-12, SN-24, SN-43, SN-44, SN-80 and SN-83, shall not exceed the VOC and HAP content listed in the following table. The maximum density of the paint is 14.00 pounds per gallon. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 70.6, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Component	Weight Percent
VOC	100%
Acetone*	40.0%
Chromium Compounds	11.0%

Component	Weight Percent
Ethyl Acrylate	15.0%
Ethyl Benzene	10.0%
Lead Compounds	0.8%
Methyl Isobutyl Ketone	60.0%
Toluene	85.0%
Xylene	60.0%

\* Not a VOC

12. The permittee shall maintain records and MSDS sheets which demonstrate compliance with the formulation limits set in Plantwide Condition #11. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
13. The permittee shall not use in excess of 28,400 pounds of miscellaneous materials (inks, spray paints, mold release agents, contact adhesives, sealants, and related compounds) in SN-44 during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
14. The permittee shall maintain records which demonstrate compliance with the throughput limit set in Plantwide Condition #13. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
15. The miscellaneous materials processed at SN-44 shall not exceed the VOC and HAP content limits listed in the following table. The maximum density of the miscellaneous materials is 14.20 pounds per gallon. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 70.6, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]

Component	Weight Percent
VOC	100%
Acetone*	35.0%
Ethyl Benzene	10.0%
Glycol Ethers	45.0%
Methanol	15.0%
Methylene Chloride*	40.0%

Component	Weight Percent
Methyl Isobutyl Ketone	40.0%
Phenol	23.0%
Toluene	35.0%
1,1,1 Trichloroethane*	95.0%
Xylene	25.0%
*Not a VOC	

16. The permittee shall maintain records and MSDS sheets which demonstrate compliance with the formulation limits set in Plantwide Condition #15. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§18.1004 of Regulation #18, §19.705 of Regulation #19, 40 CFR Part 52 Subpart E, and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
17. The permittee shall not use in excess of 27,600 pounds of adhesives, adhesive primers, adhesive catalysts, barrier coatings, and related compounds in SN-39, SN-40, SN-41, SN-76, SN-77 and/or SN-78 combined during any consecutive twelve month period. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]
18. The permittee shall maintain records which demonstrate compliance with the throughput limits set in Plantwide Condition #17. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
19. The adhesives, adhesive primers, adhesive catalysts, barrier coatings, and related compounds processed at sources SN-39, SN-40, SN-41, SN-76, SN-77 and SN-78 shall not exceed the VOC and HAP content limits listed in the following table. The maximum density of the adhesive products is 11.50 pounds per gallon. [§19.501 et seq. of Regulation #19 and 40 CFR Part 52 Subpart E]

Component	Weight Percent
VOC	100%
Ethyl Benzene	25.0%
Formaldehyde	0.5%
Lead Compounds	5.0%
Methanol	20.0%
Methyl Isobutyl Ketone	65.0%

Component	Weight Percent
Tetrachloroethylene	15.0%
Toluene	25.0%
1,1,1 Trichloroethane*	55.0%
Trichloroethylene	40.0%
Xylene	85.0%

\* Not a VOC

20. The permittee shall maintain records and MSDS sheets which demonstrate compliance with the formulation limits set in Plantwide Condition #19. These records may be used by the Department for enforcement purposes. Records shall be updated on a monthly basis, shall be kept on site, and shall be provided to the Department in accordance with General Condition #7. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E]
21. The permittee shall be allowed to trade emissions within the permitted facility without requiring a permit modification. The permittee shall provide written notice to the Department a minimum of seven (7) days prior to any such emissions trade. This notice shall provide the following information: [§26.803 and §26.804 of Regulation #26]
1. The date when the proposed change(s) will occur,
  2. A description of the change(s),
  3. The pollutants currently emitted which are subject to the emissions trade,
  4. Any associated change(s) in facility emissions, and
  5. The permit requirements with which the source will comply.

The notice shall also refer to the emissions trading provisions of the State Implementation Plan (SIP) with which the source will comply, and that provide for the emissions trade. Absent any notification to the contrary, after seven days, the facility may proceed with the emissions trade without receiving prior written approval from the Air Division.

22. The concentrations of HAPS and/or other regulated air contaminants in the chemicals processed on-site shall not exceed the weight-percent values specified in Plantwide Conditions #7, #11, #15, and #19. The substitution of alternative brands or formulations of cleaning solvents, surface coating materials, adhesives and/or other process chemicals, which contain different components in amounts equal to or less than the air contaminant and HAP contents described therein, is acceptable, provided that the American Conference of Governmental Industrial Hygienist (ACGIH) Threshold Limit Values (TLVs), as listed on the current MSDS or in the ACGIH handbook titled "Threshold Limits Values (TLVs) and Biological Exposure Indices (BEIs)" of the new components must be equal to or higher than the TLVs of the compounds for which the substitutions are being made. These substitutions can be performed on a one-to-one basis or on a multiple substitution basis. The substitution values shall be documented in accordance with Plantwide Condition #25 below. These records shall be maintained on-site and shall be made available to Department personnel upon request. [A.C.A. §8-4-203 as referenced by §8-4-304 and §8-4-311]

23. The permittee shall maintain records which demonstrate compliance with the requirements for chemical substitutions specified in Plantwide Condition #22 above. These documents shall list the name of each HAP and/or other air contaminant contained in the material formulation, the weight-percent of each compound, and its TLV. The records shall be updated once per year and any time when a different process chemical is utilized. The documents shall be maintained on-site and shall be made available to Department personnel upon request. [§19.705 of Regulation #19 and 40 CFR Part 52 Subpart E,]

#### **40 CFR 63 Subpart T (Halogenated Solvents) Requirements**

24. Any batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, or chloroform, or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight as a cleaning or drying agent is subject to the requirements of this Subpart.[§19.304 of Regulation #19 and 40 CFR §63.460(a)]
25. The permittee shall maintain a log of solvent additions and deletions for SN-36. [§19.304 of Regulation #19 and 40 CFR §63.464(a)(1)(i)]
26. The permittee shall ensure that the emissions from SN-36 are equal to or less than 30.7 pounds per square foot per month on a rolling three-month basis. [§19.304 of Regulation #19 and 40 CFR §63.464(a)(1)(ii)]
27. The permittee shall demonstrate compliance with Plant-wide Condition #26 on a monthly basis as described in 40 CFR §63.465(b) and (c). [§19.304 of Regulation #19 and 40 CFR §63.464(b)]
28. If the applicable 3-month rolling average emission limit is not met, then an exceedance has occurred. All exceedances shall be reported as required in §63.468(h). [§19.304 of Regulation #19 and 40 CFR §63.464(c)]
29. The permittee shall on the first operating day of every month ensure that the solvent cleaning machine system contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent, and used solvent that has been cleaned of soils. A fill line must be indicated during the first month the measurements are made. The solvent level within the machine must be returned to the same fill-line each month immediately prior to calculating monthly emissions as specified in §63.465(c). The solvent cleaning machine does not have to be emptied and filled with fresh unused solvent prior to the calculations. [§19.304 of Regulation #19 and 40 CFR §63.465(b)]
30. The permittee shall on the first operating day of every month determine solvent emissions at SN-36. [§19.304 of Regulation #19 and 40 CFR §63.465(c)(1)]
31. The permittee shall on the first operating day of every month determine the monthly solvent emissions,  $E_i$ , for the previous monthly reporting period using Equation #2 in



- Subpart T, and the records of all solvent additions and deletions for the reporting period. [§19.304 of Regulation #19 and 40 CFR §63.465(c)(1)]
32. The permittee shall determine the total amount of halogenated HAP solvent removed from the solvent cleaning machine in solid waste, SSRI, for the previous monthly reporting period using the method specified in §63.465(c)(2)(i) or §63.465(c)(2)(ii). [§19.304 of Regulation #19 and 40 CFR §63.465(c)(2)]
  33. The permittee shall on the first operating day of every month determine the monthly rolling average, EA, for the 3-month period ending with the most recent reporting period using Equation #4 in Subpart T. [§19.304 of Regulation #19 and 40 CFR §63.465(c)(3)]
  34. The permittee shall maintain records of the following items either in electronic or written format for a period of 5 years: [§19.304 of Regulation #19 and 40 CFR §63.467(c)]
    1. The dates and amounts of solvent that are added to the solvent cleaning machine.
    2. The solvent composition of wastes removed from the cleaning machine as determined using the procedure described in §63.465(c)(2).
    3. Calculation sheets showing how monthly emissions and the rolling 3-month average emissions from the solvent cleaning machine were determined, and the results of all calculations.
  35. The permittee shall submit a solvent emission report every year. This solvent emission report shall contain the following information: [§19.304 of Regulation #19 and 40 CFR §63.468(g)]
    1. The size and type of each unit subject to this subpart.
    2. The average monthly solvent consumption for the solvent cleaning machine in kilograms per month.
    3. The 3-month monthly rolling average solvent emission estimates calculated each month using the method as described in §63.465(c).
  36. The permittee shall submit an exceedance report to the Administrator semiannually except when, the Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source or, and exceedance occurs. Once an exceedance has occurred, the permittee shall follow a quarterly reporting format until a request to reduce reporting frequency under §63.468(i) is approved. Exceedance reports shall be delivered or postmarked by the 30<sup>th</sup> day following the end of each calendar half or quarter, as appropriate. The exceedance report shall include the following information: [§19.304 of Regulation #19 and 40 CFR §63.468(h),]

1. Information on the actions taken to comply with §63.464(a)(1). This information shall include records of written or verbal orders for replacement parts, a description of the repairs made, and additional monitoring conducted to demonstrate that monitored parameters have returned to accepted levels.
2. If an exceedance has occurred, the reason for the exceedance and description of the actions taken.
3. If no exceedances of a parameter have occurred, or a piece of equipment has not been inoperative, out of control, repaired or adjusted, such information shall be stated in the report.

#### **40 CFR 63 Subpart GG (Aerospace) Requirements**

37. All wastes that are determined to be hazardous wastes under the Resource Conservation and Recovery Act of 1976 (RCRA) as implemented by 40 CFR parts 260 and 261, and that are subject to RCRA requirements as implemented in 40 CFR parts 262 through 268, are exempt from the requirements of this subpart. [§19.304 of Regulation #19 and 40 CFR §63.741(e)]
38. Any specialty coatings used by the facility are exempt from the requirements of this subpart. These specialty coatings must meet the definition set forth in 40 CFR §63.742. A listing of all specialty coatings used at this facility and the justification why it is exempt must be kept on site and made available to Department personnel upon request. [§19.304 of Regulation #19 and 40 CFR §63.741(f)]
39. Any adhesives, adhesive primers, and sealants used by the facility are exempt from the requirements of this subpart. Subpart GG does not regulate research and development, quality control, and laboratory testing activities. The requirements of this subpart do not apply to primers, topcoats, cleaning solvents, and other process chemicals that contain HAP and VOC concentrations at less than 0.1 percent for carcinogens and 1.0 percent for non-carcinogens. [§19.304 of Regulation #19 and 40 CFR §63.741(f)]
40. The requirements for primers and topcoats specified in §63.745 and §63.747 do not apply to the use of low-volume coatings in these categories for which the annual total of each separate formulation used at the facility does not exceed 50 gallons, and that the combined annual total of all such primers and topcoats used at the facility does not exceed 200 gallons. Primers and topcoats exempted under §63.741(f), §63.745(f)(3), and §63.745(g)(4) are not included in the 50 gallon and 200 gallon limits. [§19.304 of Regulation #19 and 40 CFR §63.741(g)]
41. The permittee shall comply with the requirements of Plant-wide Conditions #42, #43, and #44 unless the cleaning solvent used is identified in Table 1 of Subpart GG or contains HAP and VOC concentrations below the de minimis levels specified in §63.741(f). [§19.304 of Regulation #19 and 40 CFR §63.744(a)]
42. The permittee shall place solvent-laden cloth, paper, or any other absorbent applicators used for cleaning aerospace vehicles or components in bags or other closed containers

immediately after use. The permittee shall ensure that these bags and containers are kept closed at all times except when depositing or removing these materials from the container. The permittee shall use bags and containers of such design as to contain the vapors of the cleaning solvent. Cotton-tipped swabs used for very small cleaning operations are exempt from this requirement. [§19.304 of Regulation #19 and 40 CFR §63.744(a)(1)]

43. The permittee shall store fresh and spent cleaning solvents used in aerospace cleaning operations in closed containers. [§19.304 of Regulation #19 and 40 CFR §63.744(a)(2)]
44. The permittee shall conduct the handling and transfer of cleaning solvents used in aerospace cleaning operations to or from enclosed systems, vats, waste containers, and other cleaning operation equipment that hold or store fresh or spent cleaning solvents in such a manner that minimizes spills. [§19.304 of Regulation #19 and 40 CFR §63.744(a)(3)]
45. The following cleaning operations are exempt from the requirements of §63.744(b): cleaning and surface activation prior to adhesive bonding. [§19.304 of Regulation #19 and 40 CFR §63.744(e)]
46. Each owner or operator of a new or existing spray gun cleaning operation subject to this subpart in which spray guns are used for the application of coating or any other materials that require the spray guns to be cleaned shall use one or more of the techniques, or their equivalents, specified in the following methods. Spray gun cleaning operations using cleaning solvent solutions that contain HAP and VOC concentrations below the de minimis levels specified in §63.741(f) are exempt from the requirements of this condition. [§19.304 of Regulation #19 and 40 CFR §63.744(c)]
  1. Non-atomized Cleaning: The permittee shall clean the spray gun by placing solvent in the pressure pot and forcing the solvent through the gun with the atomizing cap in place. The practice must be performed without the use of atomizing air pressure. The solvent must be directed into a waste container. The container must be kept closed when not in use. [§19.304 of Regulation #19 and 40 CFR §63.744(c)(2)]
  2. Disassembled Gun Cleaning: The permittee shall clean the spray gun by disassembling the unit and cleaning it by hand in a vat. As an alternative, the spray gun may be cleaned by soaking the components in a vat. The solvent container must be kept closed except during use (when cleaning by hand) or when inserting or removing the spray gun parts (if cleaning is accomplished by soaking). The vat must be kept closed when soaking the components. [§19.304 of Regulation #19 and 40 CFR §63.744(c)(3)]
  3. Atomized Cleaning: The permittee shall clean the spray gun by placing solvent in the pressure pot and forcing the solvent through the unit using air pressure. The resulting atomized spray must be

directed into a waste container that is fitted with a device designed to capture the atomized cleaning solvent emissions. [§19.304 of Regulation #19 and 40 CFR §63.744(c)(4)]

47. Each owner or operator of a flush cleaning operation subject to this subpart (excluding those in which Table 1 or semi-aqueous cleaning solvents are used) shall empty the used cleaning solvent each time aerospace parts or assemblies, or components of a coating unit (with the exception of spray guns) are flush cleaned into an enclosed container or collection system that is kept closed or into a system with an equivalent emission control. The container or collection system shall be kept closed except when in use. [§19.304 of Regulation #19 and 40 CFR §63.744(d)]
48. The permittee of each facility subject to this subpart that produces a waste that contains HAP shall conduct the handling and transfer of the waste to, or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills. [§19.304 of Regulation #19 and 40 CFR §63.748, except as provided in §63.741(e)]
49. Each owner or operator of a new or existing cleaning operation subject to this subpart shall record the name, vapor pressure, and documentation showing the organic HAP constituents of each cleaning solvent used for affected cleaning operations at the facility. [§19.304 of Regulation #19 and 40 CFR §63.752(b)(1),]
50. For each cleaning solvent used in hand-wipe cleaning operations that complies with the composition requirements specified in §63.744(b)(1) or for semi-aqueous cleaning solvents used for flush cleaning operations, the permittee shall record: [§19.304 of Regulation #19 and 40 CFR §63.752(b)(2)]
  - i. The name of each cleaning solvent used;
  - ii. All data and calculations that demonstrate that the cleaning solvent complies with one of the composition requirements; and
  - iii. Annual records of the volume of each solvent used, as determined from facility purchase records or usage records.
51. For each cleaning solvent used for the exempt hand-wipe cleaning operations specified in §63.744(e) that does not conform to the vapor pressure or composition requirements of §63.744(b), the permittee shall record: [§19.304 of Regulation #19 and 40 CFR §63.752(b)(4)]
  - i. The identity and amount (in gallons) of each cleaning solvent used each month at each operation; and
  - ii. A list of the processes set forth in §63.744(e) to which the cleaning operation exemption applies.
52. The permittee of a cleaning operation subject to this subpart shall submit semiannual reports occurring every 6 months from the date of the notification of compliance status that identify the following: [§19.304 of Regulation #19 and 40 CFR §63.753(b)(1)]

- i. Any instance where a noncompliant cleaning solvent is used for a non-exempt hand-wipe cleaning operation;
- ii. A list of any new cleaning solvents used for hand-wipe cleaning in the previous six months, and, as appropriate, their composite vapor pressure or a notification that they comply with the composition requirements specified in §63.744(b)(1);
- iii. Any instance where a noncompliant spray gun cleaning method is used; and
- iv. If the operations have been in compliance for the semiannual period, a statement that the cleaning operations have been in compliance with the applicable standards. Sources shall also submit a statement of compliance signed by a responsible company official certifying that the facility is in compliance with all applicable requirements.

#### **Acid Rain (Title IV)**

53. The Director prohibits the permittee to cause any emissions exceeding any allowances the source lawfully holds under Title IV of the Act or the regulations promulgated under the Act. No permit revision is required for increases in emissions allowed by allowances acquired pursuant to the acid rain program, if such increases do not require a permit revision under any other applicable requirement. This permit establishes no limit on the number of allowances held by the permittee. However, the source may not use allowances as a defense for noncompliance with any other applicable requirement of this permit or the Act. The permittee will account for any such allowance according to the procedures established in regulations promulgated under Title IV of the Act. [§26.701 of Regulation #26 and 40 CFR 70.6(a)(4)]

#### **Title VI Provisions**

54. The permittee must comply with the standards for labeling of products using ozone-depleting substances. [40 CFR Part 82, Subpart E]
- a. All containers containing a class I or class II substance stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced to interstate commerce pursuant to §82.106.
  - b. The placement of the required warning statement must comply with the requirements pursuant to §82.108.
  - c. The form of the label bearing the required warning must comply with the requirements pursuant to §82.110.
  - d. No person may modify, remove, or interfere with the required warning statement except as described in §82.112.

55. The permittee must comply with the standards for recycling and emissions reduction, except as provided for MVACs in Subpart B. [40 CFR Part 82, Subpart F]
- a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to §82.156.
  - b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to §82.158.
  - c. Persons performing maintenance, service repair, or disposal of appliances must be certified by an approved technician certification program pursuant to §82.161.
  - d. Persons disposing of small appliances, MVACs, and MVAC like appliances must comply with record keeping requirements pursuant to §82.166. (“MVAC like appliance” as defined at §82.152)
  - e. Persons owning commercial or industrial process refrigeration equipment must comply with leak repair requirements pursuant to §82.156.
  - f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to §82.166.

56. If the permittee manufactures, transforms, destroys, imports, or exports a class I or class II substance, the permittee is subject to all requirements as specified in 40 CFR Part 82, Subpart A, Production and Consumption Controls.

57. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners.

The term “motor vehicle” as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term “MVAC” as used in Subpart B does not include the air tight sealed refrigeration system used as refrigerated cargo, or the system used on passenger buses using HCFC 22 refrigerant.

58. The permittee can switch from any ozone depleting substance to any alternative listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR Part 82, Subpart G.

### **Permit Shield**

59. Compliance with the conditions of this permit shall be deemed compliance with all applicable requirements, as of the date of permit issuance, included in and specifically identified in the following table of this condition. The permit specifically identifies the following as applicable requirements based upon the information submitted by the permittee in an application dated June 1 2006.

**Applicable Regulations**

<b>Source No.</b>	<b>Regulation</b>	<b>Description</b>
Facility	19	Regulations of the Arkansas Plan of Implementation for Air Pollution Control, Regulation 19, effective May 28, 2006
Facility	26	Regulations of the Arkansas Operating Air Permit Program, Regulation 26, effective September 26, 2002
Facility	40 CFR 63, Subpart A	General Provisions of the NESHAPs for Source Categories
SN-36	40 CFR 63, Subpart T	National Emission Standards for Halogenated Solvent Cleaning
Facility	40 CFR 63, Subpart GG	National Emission Standards for Aerospace Manufacturing and Rework Facilities

The permit specifically identifies the following as inapplicable based upon information submitted by the permittee in an application dated June 1 2006.

**Inapplicable Regulations**

<b>Source No.</b>	<b>Regulation</b>	<b>Description</b>
Facility	40 CFR 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units
Facility	40 CFR 60, Subpart K	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after June 11, 1973, and Prior to May 19, 1978
Facility	40 CFR 60, Subpart Ka	Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced after May 18, 1978, and Prior to July 23, 1984
Facility	40 CFR 60, Subpart Kb -	Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984
Facility	40 CFR 61, Subpart D	National Emission Standard for Beryllium Rocket Motor Firing
Facility	40 CFR 52.21	Prevention of Significant Deterioration (PSD)
Facility	40 CFR 64	Compliance Assurance Monitoring

**SECTION VII: INSIGNIFICANT ACTIVITIES**

The following sources are insignificant activities. Any activity that has a state or federal applicable requirement shall be considered a significant activity even if this activity meets the criteria of §26.304 of Regulation 26 or listed in the table below. Insignificant activity determinations rely upon the information submitted by the permittee in an application dated June 6, 2006.

Description	Category
DOA Storage Tank (3,500 gallons, negligible vapor pressure)	Group A, Number 3
Extruder Operations (SN-51) at Buildings #39 and M-85	Group A, Number 13
MLRS Igniter Assembly (SN-55) at Building M-85	Group A, Number 13
SN-60 Ingredient Preparation Room	Group A, Number 13
SN-66 Lathes at Building 2-SH-3	Group A, Number 13
SN-70 Polymer Tank Farm	Group A, Number 13
Wall Vent for Parts Fabrication Room Production Trailer at Building 2-SH-4	Group A, Number 13
Six-Bladed Saw and Chamfer and Drill Machine at Building M- 8	Group A, Number 13
Composite Case Grinding Machine at Building M-8	Group A, Number 13



## SECTION VIII: GENERAL PROVISIONS

1. Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the sole origin of and authority for the terms or conditions are not required under the Clean Air Act or any of its applicable requirements, and are not federally enforceable under the Clean Air Act. Arkansas Pollution Control & Ecology Commission Regulation 18 was adopted pursuant to the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.). Any terms or conditions included in this permit which specify and reference Arkansas Pollution Control & Ecology Commission Regulation 18 or the Arkansas Water and Air Pollution Control Act (A.C.A. §8-4-101 et seq.) as the origin of and authority for the terms or conditions are enforceable under this Arkansas statute. [40 CFR 70.6(b)(2)]
2. This permit shall be valid for a period of five (5) years beginning on the date this permit becomes effective and ending five (5) years later. [40 CFR 70.6(a)(2) and §26.701(B) of the Regulations of the Arkansas Operating Air Permit Program (Regulation 26), effective September 26, 2002]
3. The permittee must submit a complete application for permit renewal at least six (6) months before permit expiration. Permit expiration terminates the permittee's right to operate unless the permittee submitted a complete renewal application at least six (6) months before permit expiration. If the permittee submits a complete application, the existing permit will remain in effect until the Department takes final action on the renewal application. The Department will not necessarily notify the permittee when the permit renewal application is due. [Regulation 26, §26.406]
4. Where an applicable requirement of the Clean Air Act, as amended, 42 U.S.C. 7401, et seq. (Act) is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, the permit incorporates both provisions into the permit, and the Director or the Administrator can enforce both provisions. [40 CFR 70.6(a)(1)(ii) and Regulation 26, §26.701(A)(2)]
5. The permittee must maintain the following records of monitoring information as required by this permit. [40 CFR 70.6(a)(3)(ii)(A) and Regulation 26, §26.701(C)(2)]
  - a. The date, place as defined in this permit, and time of sampling or measurements;
  - b. The date(s) analyses performed;
  - c. The company or entity performing the analyses;
  - d. The analytical techniques or methods used;
  - e. The results of such analyses; and
  - f. The operating conditions existing at the time of sampling or measurement.
6. The permittee must retain the records of all required monitoring data and support information for at least five (5) years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit. [40 CFR 70.6(a)(3)(ii)(B) and Regulation 26, §26.701(C)(2)(b)]

7. The permittee must submit reports of all required monitoring every six (6) months. If permit establishes no other reporting period, the reporting period shall end on the last day of the anniversary month of the initial Title V permit. The report is due within thirty (30) days of the end of the reporting period. Although the reports are due every six months, each report shall contain a full year of data. The report must clearly identify all instances of deviations from permit requirements. A responsible official as defined in Regulation No. 26, §26.2 must certify all required reports. The permittee will send the reports to the address below: [40 C.F.R. 70.6(a)(3)(iii)(A) and Regulation 26, §26.701(C)(3)(a)]

Arkansas Department of Environmental Quality  
Air Division  
ATTN: Compliance Inspector Supervisor  
Post Office Box 8913  
Little Rock, AR 72219

8. The permittee shall report to the Department all deviations from permit requirements, including those attributable to upset conditions as defined in the permit.
- a. For all upset conditions (as defined in Regulation 19, § 19.601), the permittee will make an initial report to the Department by the next business day after the discovery of the occurrence. The initial report may be made by telephone and shall include:
- i. The facility name and location
  - ii. The process unit or emission source deviating from the permit limit,
  - iii. The permit limit, including the identification of pollutants, from which deviation occurs,
  - iv. The date and time the deviation started,
  - v. The duration of the deviation,
  - vi. The average emissions during the deviation,
  - vii. The probable cause of such deviations,
  - viii. Any corrective actions or preventive measures taken or being taken to prevent such deviations in the future, and
  - ix. The name of the person submitting the report.

The permittee shall make a full report in writing to the Department within five (5) business days of discovery of the occurrence. The report must include, in addition to the information required by the initial report, a schedule of actions taken or planned to eliminate future occurrences and/or to minimize the amount the permit's limits were exceeded and to reduce the length of time the limits were exceeded. The permittee may submit a full report in writing (by facsimile, overnight courier, or other means) by the next business day after discovery of the occurrence, and the report will serve as both the initial report and full report.

- b. For all deviations, the permittee shall report such events in semi-annual reporting and annual certifications required in this permit. This includes all upset conditions reported in 8a above. The semi-annual report must include all the information as required by the initial and full reports required in 8a. [Regulation

19, §19.601 and §19.602, Regulation 26, §26.701(C)(3)(b), and 40 CFR 70.6(a)(3)(iii)(B)]

9. If any provision of the permit or the application thereof to any person or circumstance is held invalid, such invalidity will not affect other provisions or applications hereof which can be given effect without the invalid provision or application, and to this end, provisions of this Regulation are declared to be separable and severable. [40 CFR 70.6(a)(5), Regulation 26, §26.701(E), and A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]
10. The permittee must comply with all conditions of this Part 70 permit. Any permit noncompliance with applicable requirements as defined in Regulation 26 constitutes a violation of the Clean Air Act, as amended, 42 U.S.C. §7401, et seq. and is grounds for enforcement action; for permit termination, revocation and reissuance, for permit modification; or for denial of a permit renewal application. [40 CFR 70.6(a)(6)(i) and Regulation 26, §26.701(F)(1)]
11. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity to maintain compliance with the conditions of this permit. [40 CFR 70.6(a)(6)(ii) and Regulation 26, §26.701(F)(2)]
12. The Department may modify, revoke, reopen and reissue the permit or terminate the permit for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 70.6(a)(6)(iii) and Regulation 26, §26.701(F)(3)]
13. This permit does not convey any property rights of any sort, or any exclusive privilege. [40 CFR 70.6(a)(6)(iv) and Regulation 26, §26.701(F)(4)]
14. The permittee must furnish to the Director, within the time specified by the Director, any information that the Director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee must also furnish to the Director copies of records required by the permit. For information the permittee claims confidentiality, the Department may require the permittee to furnish such records directly to the Director along with a claim of confidentiality. [40 CFR 70.6(a)(6)(v) and Regulation 26, §26.701(F)(5)]
15. The permittee must pay all permit fees in accordance with the procedures established in Regulation 9. [40 CFR 70.6(a)(7) and Regulation 26, §26.701(G)]
16. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes provided for elsewhere in this permit. [40 CFR 70.6(a)(8) and Regulation 26, §26.701(H)]
17. If the permit allows different operating scenarios, the permittee shall, contemporaneously with making a change from one operating scenario to another, record in a log at the

- permitted facility a record of the operational scenario. [40 CFR 70.6(a)(9)(i) and Regulation 26, §26.701(I)(1)]
18. The Administrator and citizens may enforce under the Act all terms and conditions in this permit, including any provisions designed to limit a source's potential to emit, unless the Department specifically designates terms and conditions of the permit as being federally unenforceable under the Act or under any of its applicable requirements. [40 CFR 70.6(b) and Regulation 26, §26.702(A) and (B)]
  19. Any document (including reports) required by this permit must contain a certification by a responsible official as defined in Regulation 26, §26.2. [40 CFR 70.6(c)(1) and Regulation 26, §26.703(A)]
  20. The permittee must allow an authorized representative of the Department, upon presentation of credentials, to perform the following: [40 CFR 70.6(c)(2) and Regulation 26, §26.703(B)]
    - a. Enter upon the permittee's premises where the permitted source is located or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
    - b. Have access to and copy, at reasonable times, any records required under the conditions of this permit;
    - c. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit; and
    - d. As authorized by the Act, sample or monitor at reasonable times substances or parameters for assuring compliance with this permit or applicable requirements.
  21. The permittee shall submit a compliance certification with the terms and conditions contained in the permit, including emission limitations, standards, or work practices. The permittee must submit the compliance certification annually within 30 days following the last day of the anniversary month of the initial Title V permit. The permittee must also submit the compliance certification to the Administrator as well as to the Department. All compliance certifications required by this permit must include the following: [40 CFR 70.6(c)(5) and Regulation 26, §26.703(E)(3)]
    - a. The identification of each term or condition of the permit that is the basis of the certification;
    - b. The compliance status;
    - c. Whether compliance was continuous or intermittent;
    - d. The method(s) used for determining the compliance status of the source, currently and over the reporting period established by the monitoring requirements of this permit;
    - e. and Such other facts as the Department may require elsewhere in this permit or by §114(a)(3) and §504(b) of the Act.
  22. Nothing in this permit will alter or affect the following: [Regulation 26, §26.704(C)]

Aerojet- General Corporation

Permit No.: 0617-AOP-R7

AFIN: 07-00035

- a. The provisions of Section 303 of the Act (emergency orders), including the authority of the Administrator under that section;
  - b. The liability of the permittee for any violation of applicable requirements prior to or at the time of permit issuance;
  - c. The applicable requirements of the acid rain program, consistent with §408(a) of the Act or,
  - d. The ability of EPA to obtain information from a source pursuant to §114 of the Act.
23. This permit authorizes only those pollutant emitting activities addressed in this permit. [A.C.A. §8-4-203 as referenced by A.C.A. §8-4-304 and §8-4-311]