Chertkovsky, Natalya V <natalya.v.chertkovsky@wv.gov>

RE: EXT :Re: Re: Re: ATK (1 of 3) TV permit SM02/MM02

Foor, SueEllen [US] (DS) <sueellen.foor@ngc.com> Thu, Mar 21, 2024 at 7:40 AM
To: "Chertkovsky, Natalya V" <natalya.v.chertkovsky@wv.gov>

Natalya,

It appears okay to me.

Thank you.

Sue Ellen

From: Chertkovsky, Natalya V <natalya.v.chertkovsky@wv.gov>
Sent: Thursday, March 14, 2024 9:42 PM
To: Foor, SueEllen [US] (DS) <sueellen.foor@ngc.com>
Subject: EXT :Re: Re: Re: ATK (1 of 3) TV permit SM02/MM02

Hi SueEllen,

Please, find attached draft TV permit modification SM02/MM02 and the modification fact sheet for your review.

In the fact sheet I included changes of PTE based on the information in the EE of the permits R14-3334B and R13-3534A, and PTE for Toluene - based on your information. Please, let me know if it looks ok to you.

Please, let me know if you have any questions or comments on the draft by March 21, 2024.

Thank you for your cooperation!

Sincerely,

Natalya

On Thu, Mar 14, 2024 at 9:58 AM Chertkovsky, Natalya V <natalya.v.chertkovsky@wv.gov> wrote:

> Thank you very much, it looks better!
>
> The only problem I have - in the R13-3334B engineering evaluation (EE) Ed included different numbers for PTE changes:

Pollutant		SueEllen Increase (TPY)	EE Increase (TPY)
Particulate Matter (PM10)		0.3	0.16
Volatile Organic Compounds (VOC)		20.41	17.99
Total HAPs		3.5119	3.49

> Please, verify and let me know what numbers are correct.
>
> Thank you in advance for your help!
>
> Natalya
>
> On Thu, Mar 14, 2024 at 7:47 AM Foor, SueEllen [US] (DS) <sueellen.foor@ngc.com> wrote:
>
>> I apologize. I must have gotten side tracked and forgot to finish dividing the pounds to get tons.
>>
>> Here is the corrected table.

Change from R13-3534 to new mod

Pollutant	R13-3534 (TPY)	R13-3534A (TPY)	Increase (TPY)
Particulate Matter (PM10)	0.0146	0.037	0.02
Volatile Organic Compounds (VOC)	1.0390	2.996	1.96
Total HAPs	0.2050	2.115	1.91
Ethyl benzene	0.0031	0.001	-0.003
Methanol	0.0003	0.001	0.001
MIBK	0.0362	0.065995	0.030
Toluene	0.0002	0.081265	0.081
Xylene	0.1649	1.898755	1.734
Barium chromate	0.000012	0.0738	0.074
Chromium compounds	0.000081	0.0403	0.040
Strontium chromate	0.000150	0.00082	0.001
Zinc chromate	0.000033	0.00014	0.000

From: Chertkovsky, Natalya V <natalya.v.chertkovsky@wv.gov>
Sent: Wednesday, March 13, 2024 5:31 PM
To: Foor, SueEllen [US] (DS) <sueellen.foor@ngc.com>
Subject: EXT :Re: Re: ATK (1 of 3) TV permit SM02/MM02

Yes, it's very helpful, thank you.

From the R13-3334 Table I can see that Toluene increased by 2 TPY.

From the R13-3534 Table I see the Toluene increased by 162.53 TPY.

Is it a typo (since total HAPs increase shown as 1.91 TPY)?

Thank you!

Natalya

On Wed, Mar 13, 2024 at 1:19 PM Foor, SueEllen [US] (DS) <sueellen.foor@ngc.com> wrote:

> Natalya,
>
> Hopefully, this will answer your question.
>
> **Change from R13-3334A to 3334B**
>
> | Pollutant | R13-3334A (TPY) | R13-3334B (TPY) | Increase (TPY) |
> |---|---|---|---|
> | **Particulate Matter (PM10)** | 0.2010 | 0.501 | 0.30 |

Volatile Organic Compounds (VOC)	13.6000	34.010	20.41
HAP-VOC	2.3500	5.860	3.51
HAP-PM	0.0013	0.003	0.0019
Total HAPs	2.3513	5.8632	3.5119

Ethyl benzene	0.14	0.36	0.22
MIBK	0.41	1.02	0.61
Toluene	1.33	3.33	2.00
Xylene	0.71	1.77	1.06

Change from R13-3534 to new mod

Pollutant	R13-3534 (TPY)	R13-3534A (TPY)	Increase (TPY)
Particulate Matter (PM10)	0.0146	0.037	0.02
Volatile Organic Compounds (VOC)	1.0390	2.996	1.96
Total HAPs	0.2050	2.115	1.91

Ethyl benzene	0.0031	1.050	1.05

Methanol	0.0003	2.010	2.01
MIBK	0.0362	131.99	131.95
Toluene	0.0002	162.53	162.53
Xylene	0.1649	3797.51	3797.35
Barium chromate	0.000012	0.0738	0.07
Chromium compounds	0.000081	0.0403	0.04
Strontium chromate	0.000150	0.00082	0.00
Zinc chromate	0.000033	0.00014	0.00

From: Chertkovsky, Natalya V <natalya.v.chertkovsky@wv.gov>
Sent: Tuesday, March 12, 2024 11:44 AM
To: Foor, SueEllen [US] (DS) <sueellen.foor@ngc.com>
Subject: EXT :Re: ATK (1 of 3) TV permit SM02/MM02

Sounds good, thank you SueEllen!

On Mon, Mar 11, 2024 at 7:56 AM Foor, SueEllen [US] (DS) <sueellen.foor@ngc.com> wrote:

> Natalya,

I will be out most of the day for smoke school today and I am on PTO tomorrow. I will look at my tables and get something back to you on Wednesday.

Sue Ellen Foor

Sr. Prin. Engineer EHS

Northrop Grumman Defense Systems

ABL Operations

210 State Route 956

Rocket Center, WV 26726

Phone: 304-726-5506

Cell: 240-727-5581

Fax: 304-726-5562

sueellen.foor@ngc.com

From: Chertkovsky, Natalya V <natalya.v.chertkovsky@wv.gov>
Sent: Saturday, March 9, 2024 11:31 PM
To: Foor, SueEllen [US] (DS) <sueellen.foor@ngc.com>
Subject: EXT :ATK (1 of 3) TV permit SM02/MM02

Hi SueEllen,

I'm working on the (1 of 3) SM02/MM02 TV modifications (based on permits R13-3334B and R13-3534A), and have a quick question, please.

As the result of these modifications there was an increase in PTE for HAPs for 3.49 TPY.

Did PTE for Tylenol increase as well (as part of HAPs increase)?

Thank you!

Sincerely,

Natalya Chertkovsky

West Virginia Department of Environmental Protection
Division of Air Quality

Fact Sheet

For Draft/Proposed Significant and Minor Modification Permitting Actions Under 45CSR30 and Title V of the Clean Air Act

This Fact Sheet serves to address the changes specific to these Significant and Minor Modifications, and shall be considered a supplement to the Fact Sheet corresponding with the Title V operating permit issued on July 16, 2019.

Permit Number: **R30-05700011-2019 (1 of 3)**
Application Received: **May 25, 2023 (SM02) and October 13, 2023 (MM02)**
Plant Identification Number: **057-00011**
Permittee: **Alliant Techsystems Operations LLC**
Facility Name: **Allegany Ballistics Laboratory**
Mailing Address: **210 State Route 956, Rocket Center, WV 26726-3548**

Permit Action Number: *SM02 / MM02* Revised: *Draft/Proposed*

Physical Location:	Rocket Center, Mineral County, West Virginia
UTM Coordinates:	686.47 km Easting • 4381.25 km Northing • Zone 17
Directions:	Left on plant access road from State Route 956 at the North Branch of the Potomac River

Facility Description

SIC Codes: Primary - 3764, Secondary – 3089

Fabrication of both steel and composite structure rocket motor and warhead cases, production of propellants and explosives which are loaded into above cases and all associated case preparation and testing for motors.

The facility is located at two plants - Plant 1 and Plant 2. For Title V Permit purposes, the facility operations were divided into the following Parts:

Part 1 - Motor Manufacturing,

Part 2 - Composites Manufacturing and Metal Fabrication,

Part 3 - Miscellaneous Units.

This Permit covers Part 1 of the facility - Motor Manufacturing operations.

These significant and minor modifications (SM02 and MM02) are based on recently issued permits R13-3334B and R13-3534A. They cover an increase of annual production of rocket motor cases from the Guided Multiple Launch Rocket System (GMLRS) production line from 260 lots per year (24 cases per lot) to 650 lots per year (permit R13-3334B), and changes to the product line that is developing the manufacturing process for a different variant of an existing missile system (permit R13-3534A).

Emissions Summary

The change in potential emissions associated with these modifications (SM02 and MM02) is as follows:

Pollutants	Increase in Potential Emissions, TPY
VOC	19.90-R13 22.37-SueEllen
PM	0.18 0.32
PM_{10}	0.18 0.32
$PM_{2.5}$	0.18 0.32
HAPs	3.49 5.422
Toluene	2.09
Xylene	2.80

Title V Program Applicability Basis

With the proposed changes associated with this modification, this facility maintains the potential to emit 165.8 TPY of VOC, 32.98 TPY of Toluene and 56.93 TPY of aggregate HAPs. Due to this facility's potential to emit over 100 tons per year of criteria pollutant, over 10 tons per year of a single HAP, and over 25 tons per year of aggregate HAPs, Alliant Techsystems Operations LLC is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 45CSR30.

Legal and Factual Basis for Permit Conditions

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the State of West Virginia Operating Permit Rule 45CSR30 for the purposes of Title V of the Federal Clean Air Act and the underlying applicable requirements in other state and federal rules.

The modification to this facility has been found to be subject to the following applicable rules:

Federal and State:	45CSR7	Particulate matter and opacity limits for manufacturing sources.
	45CSR13	Preconstruction permits for sources
	45CSR30	Operating permit requirement.
	45CSR34	Emission Standards for Hazardous Air Pollutants
	40CFR63, Subpart GG	National Emission Standards for Aerospace Manufacturing and Rework Facilities
State Only:	None	

Each State and Federally-enforceable condition of the Title V Operating Permit references the specific relevant requirements of 45CSR30 or the applicable requirement upon which it is based. Any condition of the Title V permit that is enforceable by the State but is not Federally-enforceable is identified in the Title V permit as such.

The Secretary's authority to require standards under 40 C.F.R. Part 60 (NSPS), 40 C.F.R. Part 61 (NESHAPs), and 40 C.F.R. Part 63 (NESHAPs MACT) is provided in West Virginia Code §§ 22-5-1 *et seq.,* 45CSR16, 45CSR34 and 45CSR30.

Active Permits/Consent Orders

The active permits/consent orders affected by this modification are as follows:

Permit or Consent Order Number	**Date of Issuance**	**Permit Determinations or Amendments That Affect the Permit *(if any)***
R13-3334B	November 17, 2023	
R13-3534A	January 19, 2024	

Conditions from this facility's Rule 13 permit(s) governing construction-related specifications and timing requirements will not be included in the Title V Operating Permit but will remain independently enforceable under the applicable Rule 13 permit(s). All other conditions from this facility's Rule 13 permit(s) governing the source's operation and compliance have been incorporated into this Title V permit in accordance with the "General Requirement Comparison Table," which may be downloaded from DAQ's website.

Determinations and Justifications

The following changes were made to the permit:

1) Emission Units Table 1.1 - revised design capacities for Emission Units 2-19S and 2-20S (Crossdraft Paint Booths B432) from "Varies" to "N/A", and a control device for Emission Unit 2-20S was revised from "2-10C 3 Stage Filtration" to "2-9C 3-Stage Filtration". There were changes to the description of the emission units Z-7S, Z-8S, Z-9S, Z-12S, Z-13S in the Area 00Z-GMLRS (Rocket Motor Chamber Preparation), and emission units Z-3S and Z-4S were removed. . Also, a description was corrected for a control device "Aget Manufacturing Company Dry Cyclone collector " (Control Device ID Z-4C).

2) Boilerplate conditions 2.1.3, 2.11.4, 2.17, 2.22.1, 3.5.3, 3.5.4, 3.5.7, 3.5.8.a.1, and 3.5.8.a.2 were revised.

3) Section 8.0 "GMLRS Rocket Motor Chamber Preparation Requirements – Plant 1"- was revised in accordance with requirements of underlying permit R13-3334B to increase production of cases from the GMLRS production line: requirements 8.1.1 through 8.1.5 were revised (including 40 CFR 63 Subpart GG conditions), old 8.1.6 - deleted, old 8.1.7 - re-numbered to 8.1.6; 8.2.1 through 8.2.3, 8.4.3 (40 CFR 63 Subpart GG conditions) and 8.5.1 - revised; 8.2.4 and 8.5.2 (40 CFR 63 Subpart GG conditions) - added.

4) Section 12.0 "Requirements for Crossdraft Paint Booths - B432 (2-19S) & B432 (2-20S)" - was revised in accordance with requirements of underlying permit R13-3534A to cover changes to the product line that is developing the manufacturing process for a different variant of an existing missile system: requirements 12.1.1 through 12.1.4 - replaced, 12.1.5 - added, old 12.1.5 - re-numbered to 12.1.6; 12.2.1 through 12.2.3 - replaced; 12.3.1 - deleted; 12.4.1 through 12.4.6 - deleted, old requirements 12.4.7 through 12.4.9 - re-numbered to 12.4.1 through 12.4.3, and 12.4.4 (40 CFR 63 Subpart GG conditions) - added; 12.5.1 - revised, 12.5.2 (40 CFR 63 Subpart GG conditions) - added.

5) 40 CFR 63 Subpart GG - per 40 CFR §63.741 the facility is subject to 40 CFR 63 Subpart GG because it is engaged in the manufacture or rework of military aerospace components and is a major source of HAPs. The activity used in the manufacturing of the rocket motor cases are subject to the "40 CFR §63.744 Standards: Cleaning operations" and "40 CFR §63.745 Standards: Primer, topcoat and specialty coating application operations". The regulation is focused on reducing HAPs in cleaning solvents and coatings. For the Cleaning requirements ATK has elected to use acetone for most cleaning activities. Acetone is non-VOC and non-HAP solvent. Also, methyl ethyl ketone (MEK) is a non-HAP solvent that is used to comply with the Cleaning requirements of 40 CFR 63 Subpart GG. Toluene is required for some cleaning activities (spray gun cleaning), and ATK uses it with one of the spray gun approved cleaning techniques (Disassembled spray gun cleaning). Applicable requirements of 40 CFR 63 Subpart GG are included in Sections 8.0 and 12.0 (see items 3 and 4 above).

Non-Applicability Determinations

The following requirements have been determined not to be applicable to the subject facility due to the following:

(a) 45CSR21– Regulation to Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds. The facility is not located in a county that is currently subject to 45CSR21, and is therefore currently exempt from this regulation.

(b) 40CFR63, Subpart PPP – National Emission Standards for Polyether Polyol Production. The

facility manufactures Terathane Polyethylene Glycol Block Copolymer (TPEG), which is a Polyether Polyol. However, the operation is exempted from this MACT because there are no HAPs used or generated during the manufacturing operation.

(c) 40CFR63, Subpart GGGGG – National Emission Standards for Site Remediation. The facility currently has two sites under remediation for groundwater contamination. These sites are both CERCLA ("Superfund") sites and are thus exempt from the MACT requirements. The facility also has a third site, commonly referred to as Plant 2, which is currently being investigated under the RCRA corrective action program, that could potentially require some form of active groundwater remediation or treatment within the next five to ten years. This site would also be exempted since it is being managed under a RCRA corrective action.

(d) 40CFR63, Subpart WWWW – National Emission Standards for Reinforced Plastic Composites Manufacturing. The facility manufactures composite based rocket motor chambers and aircraft components. However, the facility is exempt from this MACT because none of the resin or fiber systems used, contain HAPs.

(e) 40CFR64 CAM Plan - not applicable because there were no new PSEU added to the facility during these modifications.

Request for Variances or Alternatives

None

Insignificant Activities

Insignificant emission unit(s) and activities are identified in the Title V application.

Comment Period

Beginning Date: XXX
Ending Date: XXX

Point of Contact

All written comments should be addressed to the following individual and office:

Natalya V. Chertkovsky
West Virginia Department of Environmental Protection
Division of Air Quality
601 57th Street SE
Charleston, WV 25304
Phone: 304/926-0499 ext. 41250
natalya.v.chertkovsky@wv.gov

Procedure for Requesting Public Hearing

During the public comment period, any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. The Secretary shall grant such a request for a hearing if he/she concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

Response to Comments (Statement of Basis)

None

West Virginia Department of Environmental Protection

Austin Caperton
Cabinet Secretary

Permit to Operate

Pursuant to

Title V

of the Clean Air Act

Issued to:

Alliant Techsystems Operations LLC
Allegany Ballistics Laboratory
R30-05700011-2019 (1 of 3)

Laura M. Crowder
Director, Division of Air Quality

Issued: July 16, 2019 • Effective: July 30, 2019
Expiration: July 16, 2024 • Renewal Application Due: January 16, 2024

Permit Number: **R30-05700011-2019 (1 of 3)**
Permittee: **Alliant Techsystems Operations LLC**
Facility Name: **Allegany Ballistics Laboratory**
Permittee Mailing Address: **210 State Route 956, Rocket Center, WV 26726-3548**

This permit is issued in accordance with the West Virginia Air Pollution Control Act (West Virginia Code §§ 22-5-1 et seq.) and 45CSR30 — Requirements for Operating Permits. The permittee identified at the above-referenced facility is authorized to operate the stationary sources of air pollutants identified herein in accordance with all terms and conditions of this permit.

Facility Location:	Rocket Center, Mineral County, West Virginia
Facility Mailing Address:	210 State Route 956, Rocket Center, WV 26726-3548
Telephone Number:	(304) 726 - 5506
Type of Business Entity:	LLC
Facility Description:	Fabrication of both steel and composite structure rocket motor and warhead cases, production of propellants and explosives which are loaded into above cases and all associated case preparation and testing for motors
SIC Codes:	Primary - 3764, Secondary – 3089
UTM Coordinates:	686.47 km Easting • 4381.25 km Northing • Zone 17

Permit Writer: Natalya Chertkovsky-Veselova

Any person whose interest may be affected, including, but not necessarily limited to, the applicant and any person who participated in the public comment process, by a permit issued, modified or denied by the Secretary may appeal such action of the Secretary to the Air Quality Board pursuant to article one [§§ 22B-1-1 et seq.], Chapter 22B of the Code of West Virginia. West Virginia Code §22-5-14.

Issuance of this Title V Operating Permit does not supersede or invalidate any existing permits under 45CSR13, 14 or 19, although all applicable requirements from such permits governing the facility's operation and compliance have been incorporated into the Title V Operating Permit.

Table of Contents

1.0 Emission Units and Active R13, R14, and R19 Permits

1.1. Emission Units

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
001 Ingredient Preparation – Plant 1					
1-1S	1-1E	Sweco Shaker-262	1981	500 lb/hr	None
1-2S	1-2E	Blender/Dryer Condenser Vacuum Pump-262	1963	Variable	1-8C: Condenser
1-3S (25s)	1-3E (23e)	Grinder-262	1981	500 lb/hr	1-1C: Dust Control Filter
1-4S (26s)	1-4E (24e)	Nitrate Ester Sparge-352 (original)	1988(1)	1200 lb/hr lacquer	1-2C: Cryogenic Recovery
1-4S (26s)	1-13E	Nitrate Ester Sparge-352 (secondary)	2016(1)	1200 lb/hr lacquer	1-10C: Cryogenic Recovery
1-5S	VI*	Chemical Mixing Area-373	1993	Variable	1-3C: Carbon bed
1-6S	VI*	Parts Cleaning-373	1993	Variable	1-3C: Carbon bed
1-7S	1-5E	Sweco Shaker-374	1997	700 lb/hr	None
1-8S (41s)	1-6E (41e)	Blender/Dryer Condenser Vacuum Pump-374	2002	Variable	1-9C: Condenser
1-9S (40s)	1-7E (40e)	Grinder Mill-374	1993	700 lb/hr	1-4C: Dust Control Filter
1-10S	1-8E	RDX Drain Table-374	2002	Variable	None
1-11S (44s)	1-9E (44e)	Handling System-384	1994	Variable	1-5C: Dust Control Filter (HEPA)
1-12S (48s)	1-12E (48e)	Weighing System-384	1995	Variable	1-6C: Dust Control Filter (HEPA)

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
1-13S	1-10E	Heptane Storage Tank-384	1995	500 gallons	None
1-14S (45s/47s)	1-10/11E (45e/47e)	Mix Bowl-384	1995	500 lb	1-7C: Condenser
1-15S	1-10E	Attritor-384	1995	500 lb	None
1-16S	VI*	3-Roll Mill-384	1995	NA	None
1-17S	VI*	Electric Drying Oven-271	Early 80s	Variable	None
1-18S	VI*	Electric Drying Oven-271	Early 80s	Variable	None

002 Chamber Preparation – Plant 1

2-11S (54s)	2-9E (54e)	Walk-In Spray Booth-167	1980	Variable	2-7C (54c): Fabric filter
2-8S	VI*	Progressive Blasting Systems Grit Blaster-420	1999	200 lb/hr	2-1C: Cyclone dust collector
2-10S	VI*	Two Roll Mill-420	1999	NA	None
2-12S	2-10E	Fume Hood for CBL-420	1999	Variable	None
2-13S	2-11E	Case Bond Liner Spray Booths-420	1999	Variable	2-5C: Fabric filters
2-14S	2-11E	Case Bond Liner Spray Booths-420	1999	Variable	2-6C: Fabric filters
2-15S	2-12E	Drying Oven-420	1999	Variable	None
2-16S	2-13E	Actrel Degreaser-420	1999	355 gal	None
2-17S	2-14E	Actrel Solvent Recovery Still System-420	1999	50 gal/hr	None
2-18S	2-15E	Stencil Booth-420 Bay 3	2010	Variable	2-8C: Fabric filters
2-19S	2-16E	Crossdraft Paint Booth – B432	2021	N/A ~~Varies~~	2-9C 3-Stage Filtration
2-20S	2-17E	Crossdraft Paint Booth – B432	2021	N/A ~~Varies~~	2-9C ~~10C~~ 3-Stage Filtration

003 Mixing & Casting Operations – Plant 1

3-1S	VI*	50 Gallon Mixer-302	1964	50 gallons	None
3-2S	VI*	Casting Pits-308	1964	50 gallons	None
3-4S	VI*	Casting Pits-356	1990	150 gallons	None
3-5S	VI*	Linear Casting Line	1980	150 gallons	None
3-6S	NDV**	300 Gallon Mixer-375	2012	300 gallons	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
005 Propellant Machining – Plant 1					
5-1S	VI*	Drilling/machining equipment-410	1996	NA	None
006 Loading/Inspection/Final Assembly – Plant 1					
6-1S	NE***	X-Ray equipment-180	1981	Variable	None
6-2S	NE***	X-Ray equipment-360	1991	Variable	None
6-3S	6-1E	XO-Mat X-Ray Developer System-360	1991	Variable	None
6-4S (144s)	6-2E (144e)	Paint Booth-364	1995	Variable	6-1C: Fabric filter
6-5S	6-3E	Exhaust Hood-369	1995	Variable	None
6-13S	6-10E	Large & Small Temperature Chambers-369	1995	NA	None
6-14S	6-11E	Large & Small Temperature Chambers-369	1995	NA	None
6-6S (152s)	6-4E (152e)	Paint Booth-392	1995	Variable	6-2C: Fabric filter
6-7S (153s)	6-5E (153e)	Paint Booth-392	1995	Variable	6-3C: Fabric filter
6-8S (154s)	6-6E (154e)	Paint Booth-392	1995	Variable	6-4C: Fabric filter
6-9S (155s)	6-7E (155e)	Paint Booth-392	1995	Variable	6-5C: Fabric filter
6-10S	6-8E	Teflon Spray Booth-412	1997	Variable	6-6C: Fabric filter
6-11S	6-8E	Teflon Drying Oven-412	1997	3 mm BTU/hr	None
6-12S	6-9E	Decontamination Oven-412	1997	1.5 mm BTU/hr	None
007 Mold Parts Cleanup – Plant 1					
7-1S (10s)	7-1E	Parts Washer-151	Pre-1970	36 gallons	None
7-2S (11s)	7-2E	Parts Washer-151	Pre-1970	35 gallons	None
7-3S	7-3E	Parts Washer-407 (6 pans)	1997	125 gallons (6)	None
7-4S	7-3E	Parts Washer-407	1997	35 gallons	None
7-5S	7-3E	Parts Washer-407 (2 pans)	1997	52 gallons	None
7-6S	7-4E	Acetone Recovery Unit	1997	5.5 gal/hr	None
00C Gas Generator Fabrication – Plant 1					
C-1S	C-1E	Cellulose Acetate Machine-420B2	2000	NA	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
C-2S	C-2E	Weigh-Out and Mixing Hood-180	2000 - moved in 2012	Variable	None
C-3S	VI*	Inhibiting Area-180	2000 - moved in 2012	Variable	None
C-4S	VI*	Vacuum Pump-180	2000 - moved in 2012	Variable	None
00E Ingredient Preparation – Plant 2					
E-1S (15s)	VI*	Gustafson Grinder System-2003	1978	500 lb/hr	E-1C: Mikro-D Pulsaire dust collector
E-2S	VI*	Mikro Airlock Grinder System-2003	1978	500 lb/hr	E-2C: Mikro-D Pulsaire dust collector
E-3S	VI*	Walk-In Freezer-2015	Pre-80s	Variable	None
E-4S	VI*	Walk-In Freezer-2015	Pre-80s	Variable	None
00F Chamber Preparation – Plant 2					
F-1S	F-1E	Binks Chemlok/Sparrow Spray Booth-2014	Pre-80s	Variable	F-1C: Fabric filters
F-2S	F-21E	Slinger-2014	1999	Variable	None
F-3S	VI*	3-Roll Mill-2014	Pre 80s	Variable	None
F-4S	F-2E	Curing/Drying Oven #3-2014	1994	Variable	None
F-5S	F-3E	Binks Paint Booth-2014	1994	Variable	F-2C: Fabric filters
F-6S	F-4E	Small Actrel Solvent Distillation Units-2014	1995	8 gal/hr	None
F-7S (16s)	F-5E (16e)	Vertical Spray Booth – Paint [Intermediate (Sparrow) Line] – 2014	1978	Variable	F-3C: Fabric filters
F-8S	F-6E	Trinco DP850 Grit Blast Cabinet-2014 Intermediate (Sparrow) Line] –2014	1978	Variable	F-4C: Cyclone dust collector
F-9S	F-7E	Actrel Degreaser [Intermediate (Sparrow) Line] –2014	1995	17 gal/min	None
F-10S	F-8E	Drying Oven #1 [Intermediate (Sparrow) Line] –2014	1978	Variable	None
F-11S	F-8E	Drying Oven #4 [Intermediate (Sparrow) Line] –2014	1978	Variable	None
F-12S (7s)	F-9E (7e)	Case Bondliner Paint Booth [Intermediate (Sparrow) Line] – 2014	1978	Variable	F-5C: Fabric filters
F-13S	F-10E	Drying Oven #2 [Intermediate (Sparrow) Line] –2014	1978	Variable	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
F-14S	VI*	Ross Mixer-5 gallon [Intermediate (Sparrow) Line] −2014	1980	5 gallon	None
F-15S	VI*	Ross Mixer-1 gallon [Intermediate (Sparrow) Line] −2014	1968	1 gallon	None
F-16S	VI*	Cowles Dissolver/Mixer/Disperer [Intermediate (Sparrow) Line] − 2014	1968	5 gallon	None
F-17S	F-11E	Vertical Spray Booth − Alodine [Intermediate (Sparrow) Line] − 2014	1978	Variable	F-6C: Demister
F-18S	VI*	Benchtop Electric Curing Oven #7 [Intermediate (Sparrow) Line] − 2014	1968	Variable	None
F-19S	F-12E	Mold Release Spray Booth [Intermediate (Sparrow) Line] − 2014	1988	Variable	F-7C: Fabric filters
F-20S	F-13E	DeVilbiss Horizontal Spray Booth-2014	1980	Variable	F-8C: Fabric filter
F-21S (27s)	F-14E (25e)	Zero Mfg. Grit Blaster (Large Motor Line) −2014	1988	500 lb/hr grit	F-9C: Cyclone dust collector
F-22S	F-15E	Actrel Degreaser (Large Motor Line) −2014	1995	17 gal/min	None
F-23S (29s)	F-16E (27e)	Binks Vertical Internal Paint Booth (Large Motor Line) −2014	1988	Variable	F-10C: Fabric filter
F-24S (31s)	F-17E (29e)	Paint/Degreaser Drying Room/Oven #5 (Large Motor Line) −2014	1988	Variable	None
F-25S (30s)	F-18E (28e)	Binks Vertical Paint Booth (Large Motor Line) −2014	1988	Variable	F-11C: Fabric filter
F-26S	F-19E	Actrel Vacuum Still & Storage Tank (Large Motor Line) −2014	1995	60 gal/hr	None
F-27S	F-20E	Drying Oven #6-2014	1980	Variable	None
00G Mixing & Casting Operations − Plant 2					
G-2S		Mixer-300 gallon-2000	1968	300 gallon	None
G-3S		Casting Pit-2000	1968	300 gallon	None
G-4S	G-2E	Feed Hopper Exhaust Hood-2000	1968	Variable	G-1C: Fabric filter
00I Disassembly/Machining − Plant 2					
I-1S	VI*	Propellant Machining System	1968	Variable	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
00J Loading/Inspection/Final Assembly – Plant 2					
J-1S	VI*	Varian X-Ray equipment-2010	1990	Variable	None
J-2S	OS****	Kodak XO-Mats X-Ray Processor-2010	1990	Variable	None
J-3S	J-1E	Drying Oven-2011	1980	Variable	None
J-4S (8s)	J-2E (8e)	Interior Coating Spray Line-2011	1980	Variable	J-1C: Fabric filter
J-5S	J-3E	Vacuum Test System-2011	1980	Variable	None
J-7S	J-4E	Automated Case Painting System-368 Annex	2000 – moved in 2012	Variable	J-2C: Fabric filters
J-8S	J-5E	Stenciling Booth-2031	2000	Variable	J-3C: Fabric filters
J-9S	J-6E	Drying Oven-2031	2000	Variable	None
J-10S	J-7E	Stenciling Conveyor-2011	1978	Variable	J-4C: Fabric filter
B-95S	B-27E	Pittsburgh Spray Booth-2031	2000 – moved in 2012	Variable	B-11C
B-102S	B-34E	Pittsburgh Spray Booth-2031	2008 – moved in 2012	Variable	B-14C
J-11S	J-8E	Stenciling Booth 2039	2012	Variable	J-5C: Fabric filter
00K Mold Parts Cleanup – Plant 2					
K-1S	OS****	Parts Washer-8203	1978	NA	None
K-3S (9s)	K-1E (9e)	Parts Washer-8203	1978	56 gallons	None
K-4S	OS****	Parts Washer-8203	1978	NA	None
K-5S (14s)	K-2E (14e)	Solvent Recovery System-8203	2001	5 gal/hr	None
00Z GMLRS Rocket Motor Chamber Preparation – Plant 1					
Z-1S	Fugitive	Mandrel Release Coating Table	2017	N/A	None
Z-2S	Fugitive	Adapter Degreasing Table	2017	N/A	None
~~Z-3S~~	~~Z-3E~~	~~BR-127 Primer Booth~~	~~2017~~	~~2 gal/hr~~	~~Z-1C~~
~~Z-4S~~	~~Z-4E~~	~~Adapter/BR-127 Oven~~	~~2017~~	~~N/A~~	~~None~~
Z-5S	Fugitive	Interior Degreasing Exhaust & Drying	2017	N/A	None

Emission Unit ID	Emission Point ID	Emission Unit Description	Year Installed	Design Capacity	Control Device
Z-7S	Z-7E	Chemlok/Bondliner Mixing Hood	2017	N/A	None
Z-8S	Z-8E	Chemlok/Bondliner Application Booth	2017	1 gal/hr	Z-2C
Z-9S	Z-9E	Chemlok~~/bondliner Application Booth~~ Drying Station	2017	N/A	Z-5C
Z-10S	Fugitive	Insulator Prep Exhaust	2017	N/A	None
Z-11S	Z-11E	Oven for Insulator Drying	2017	N/A	None
Z-12S	Z-12E	Chemlok/Bondliner Mixing Hood	2017	N/A	None
Z-13S	Z-13E	Chemlok/Bondliner Application Booth	2017	1 gal/hr	Z-3C
Z-14S	Z-14E	Bondliner Drying Station	2017	N/A	None
Z-15S	Z-15E	Case Machining	2017	2 units/hr	Z-4C
Z-16S	Fugitive	End Closure Adapter Wiping Station	2017	N/A	None
00Z GMLRS Rocket Motor Manufacture – Plant 3, Building 3040					
P3-1S	P3-1E	Heptane Wash Tank	2018	80 gallons	None
P3-2S	P3-2E	Heptane Wash Tank	2018	80 gallons	None
P3-3S	P3-3E	IPA Wash Tank	2018	80 gallons	None
P3-4S	Fugitive	Ignite/Nozzle Assembly Work Area	2018	N/A	None
P3-5S	N/A	Final Assembly Work Area	2018	N/A	None
P3-6S	N/A	Disassembly Work Area	2018	N/A	None
00Z GMLRS Rocket Motor Manufacture – Plant 3, Building 3030A					
P3-7S	P3-7E	Process Heater Unit #7	2018	0.5 MMBtu/hr	None
P3-8S	P3-8E	Process Heater Unit #8	2018	0.5 MMBtu/hr	None
P3-9S	P3-9E	Process Heater Unit #9	2018	0.5 MMBtu/hr	None
00Z GMLRS Rocket Motor Manufacture – Plant 3, Building 3030					
P3-10S	N/A	Mixer	2018	300 gallons	C1 & Vac. Pump

Control Devices

Control Device ID	Emission Point ID	Control Device Description	Year Installed / Modified	Design Capacity	Comments
1-1C	1-3E	Dust Control Filter	1981	75-97.5% (PM-RDX)	
1-2C	1-4E	Cryogenic Recovery for sparging operation	1988	80% (Methylene chloride)	
1-10C	1-13E	Cryogenic Recovery for sparging operation	2015	91% (Methylene chloride)	
1-3C	VI*	Carbon bed for material transfer hood	1993	unknown	
1-4C	1-7E	Dust Control Filter	1993	99.9% (PM-RDX)	
1-5C	1-9E	Dust Control Filter (HEPA)	1994	99.9%+ (Pb)	
1-6C	1-12E	Dust Control Filter (HEPA)	1994	99.9%+ (Pb)	
1-7C	1-10/11E	Condenser	1995	unknown	
1-8C	1-2E	Condenser	1981	unknown	
1-9C	1-6E	Condenser	2001	90% (IPA/water)	
2-1C	VI*	Cyclone dust collector grit blaster	1999	unknown	
2-5C	2-11E	Fabric filters for bondliner booth	1999	90% (PM)	
2-6C	2-11E	Fabric filters for bondliner booth	1999	90% (PM)	
2-7C (54c)	2-9E	Fabric filter for paint booth	1980	90% (PM)	
2-8C	2-15E	Fabric filter for paint booth	2010	90% (PM)	
6-1C	6-2E	Fabric filter for paint booth	1995	90% (PM)	
6-2C	6-4E	Fabric filter for paint booth	1995	90% (PM)	
6-3C	6-5E	Fabric filter for paint booth	1995	90% (PM)	
6-4C	6-6E	Fabric filter for paint booth	1995	90% (PM)	
6-5C	6-7E	Fabric filter for paint booth	1995	90% (PM)	
6-6C	6-8E	Fabric filter for Teflon spray booth	1997	90% (PM)	
E-1C	VI*	Mikro-D Pulsaire dust collector for AP	1978	99.9% (PM)	
E-2C	VI*	Mikro-D Pulsaire dust collector for AP	1978	99.9% (PM)	
F-1C	F-1E	Fabric filters for bondliner booth	1978	unknown	
F-2C	F-3E	Fabric filters for paint booth	1994	unknown	
F-3C	F-5E	Fabric filters for paint booth	1978	unknown	
F-4C	F-6E	Cyclone dust collector for grit blaster	1978	99.9% (PM)	F-5C
F-5C	F-9E	Fabric filters for bondliner booth	1978	unknown	
F-6C	F-11E	Demister for alodine process	1978	unknown	

Control Device ID	Emission Point ID	Control Device Description	Year Installed / Modified	Design Capacity	Comments
F-7C	F-12E	Fabric filters for paint booth	1988	unknown	
F-8C	F-13E	Fabric filter for paint booth	1980	unknown	
F-9C	F-14E	Cyclone dust collector for grit blaster	1988	99.9% (PM)	
F-10C	F-16E	Fabric filters bondliner booth	1988	90% (PM)	
F-11C	F-18E	Fabric filters for paint booth	1988	90% (PM)	
G-1C	G-2E	Fabric filter for solid ingredient feed hopper	1968	unknown	
J-1C	J-2E	Fabric filter for bondliner booth	1980	90% (PM)	
J-2C	J-4E	Fabric filters for paint booth	2000	90% (PM)	
J-3C	J-5E	Fabric filters for paint booth	2000	90% (PM)	
J-4C	J-7E	Fabric filter for Stencilling Conveyor	2000	90% (PM)	
J-5C	J-8E	Fabric filter for Stenciling Booth 2039	2012	90% (PM)	
Z-1C	Z-3E	Global Finishing Solutions Wave Filter	2017	90% (PM)	
Z-2C	Z-8E	Global Finishing Solutions Wave Filter	2017	90% (PM)	
Z-3C	Z-13E	Global Finishing Solutions Wave Filter	2017	90% (PM)	
Z-4C	Z-14E	Aget Manufacturing Company Model: 30SN100-PL-SP Dry Cyclone Collector with 13.5 oz. Napped Polypropylene Sateen Fabric Filter with Cab-O-Sil preload powder	~~2017~~ 2017	~~80% (PM)~~ 99.9~~3~~% (PM)	
Z-5C	Z-9E	Global Finishing Solutions Wave Filter	2017	90% (PM)	
C1	VI*	Ruwac wet separator	2018	99.9%	
Vac. Pump	VI*	Vacuum Pump	2018	> 95% (VOC)	

(1) A second methylene chloride emission control system (1-10C, 1-13E) was added in 2015.
* VI stands for "Vents inside of building"
** NDV – Stands for "No direct vent"
*** NE – Stands for "No emissions"
**** OS – Stands for "Out of service"

1.2. Active R13, R14, and R19 Permits

The underlying authority for any conditions from R13, R14, and/or R19 permits contained in this operating permit is cited using the original permit number (e.g. R13-1234). The current applicable version of such permit(s) is listed below.

Permit Number	Date of Issuance
R13-1455A	07/18/2001
R13-0898C	05/27/2016
R13-1694B	11/17/2003
R13-2037A	07/26/2001
R13-2246A	10/14/03
R13-1782A	07/19/2001
R13-1798B	02/17/2011
R13-0401B	05/23/2001
R13-1047B	03/04/2002
R13-3334B~~A~~	November 17, 2023 ~~09/02/2020~~
R13-3408	10/12/2018
R13-3534A	January 19, 2024 ~~January 7, 2022~~

2.0 General Conditions

2.1. Definitions

2.1.1. All references to the "West Virginia Air Pollution Control Act" or the "Air Pollution Control Act" mean those provisions contained in W.Va. Code §§ 22-5-1 to 22-5-18.

2.1.2. The "Clean Air Act" means those provisions contained in 42 U.S.C. §§ 7401 to 7671q, and regulations promulgated thereunder.

2.1.3. "Secretary" means the Secretary of the Department of Environmental Protection or such other person to whom the Secretary has delegated authority or duties pursuant to W.Va. Code §§ 22-1-6 or 22-1-8 (45CSR§30-2.12.). The Director of the Division of Air Quality is the Secretary's designated representative for the purposes of this permit.

2.1.4. Unless otherwise specified in a permit condition or underlying rule or regulation, all references to a "rolling yearly total" shall mean the sum of the monthly data, values or parameters being measured, monitored, or recorded, at any given time for the previous twelve (12) consecutive calendar months.

2.2. Acronyms

CAAA	Clean Air Act Amendments	**NSPS**	New Source Performance Standards
CBI	Confidential Business Information	**PM**	Particulate Matter
CEM	Continuous Emission Monitor	**PM_{10}**	Particulate Matter less than 10µm in diameter
CES	Certified Emission Statement	**pph**	Pounds per Hour
C.F.R. *or* CFR	Code of Federal Regulations	**ppm**	Parts per Million
CO	Carbon Monoxide	**PSD**	Prevention of Significant Deterioration
C.S.R. *or* CSR	Codes of State Rules	**psi**	Pounds per Square Inch
DAQ	Division of Air Quality	**SIC**	Standard Industrial Classification
DEP	Department of Environmental Protection	**SIP**	State Implementation Plan
FOIA	Freedom of Information Act	**SO_2**	Sulfur Dioxide
HAP	Hazardous Air Pollutant	**TAP**	Toxic Air Pollutant
HON	Hazardous Organic NESHAP	**TPY**	Tons per Year
HP	Horsepower	**TRS**	Total Reduced Sulfur
lbs/hr *or* lb/hr	Pounds per Hour	**TSP**	Total Suspended Particulate
LDAR	Leak Detection and Repair	**USEPA**	United States Environmental Protection Agency
m	Thousand	**UTM**	Universal Transverse Mercator
MACT	Maximum Achievable Control Technology	**VEE**	Visual Emissions Evaluation
mm	Million	**VOC**	Volatile Organic Compounds
mmBtu/hr	Million British Thermal Units per Hour		
$mmft^3$/hr *or* mmcf/hr	Million Cubic Feet Burned per Hour		
NA *or* N/A	Not Applicable		
NAAQS	National Ambient Air Quality Standards		
NESHAPS	National Emissions Standards for Hazardous Air Pollutants		
NO_x	Nitrogen Oxides		

2.3. Permit Expiration and Renewal

2.3.1. Permit duration. This permit is issued for a fixed term of five (5) years and shall expire on the date specified on the cover of this permit, except as provided in 45CSR§30-6.3.b. and 45CSR§30-6.3.c.
[45CSR§30-5.1.b.]

2.3.2. A permit renewal application is timely if it is submitted at least six (6) months prior to the date of permit expiration.
[45CSR§30-4.1.a.3.]

2.3.3. Permit expiration terminates the source's right to operate unless a timely and complete renewal application has been submitted consistent with 45CSR§30-6.2. and 45CSR§30-4.1.a.3.
[45CSR§30-6.3.b.]

2.3.4. If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.
[45CSR§30-6.3.c.]

2.4. Permit Actions

2.4.1. This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
[45CSR§30-5.1.f.3.]

2.5. Reopening for Cause

2.5.1. This permit shall be reopened and revised under any of the following circumstances:

a. Additional applicable requirements under the Clean Air Act or the Secretary's legislative rules become applicable to a major source with a remaining permit term of three (3) or more years. Such a reopening shall be completed not later than eighteen (18) months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 45CSR§§30-6.6.a.1.A. or B.

b. Additional requirements (including excess emissions requirements) become applicable to an affected source under Title IV of the Clean Air Act (Acid Deposition Control) or other legislative rules of the Secretary. Upon approval by U.S. EPA, excess emissions offset plans shall be incorporated into the permit.

c. The Secretary or U.S. EPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

d. The Secretary or U.S. EPA determines that the permit must be revised or revoked and reissued to assure compliance with the applicable requirements.

[45CSR§30-6.6.a.]

2.6. Administrative Permit Amendments

2.6.1. The permittee may request an administrative permit amendment as defined in and according to the procedures specified in 45CSR§30-6.4.
[45CSR§30-6.4.]

2.7. Minor Permit Modifications

2.7.1. The permittee may request a minor permit modification as defined in and according to the procedures specified in 45CSR§30-6.5.a.
[45CSR§30-6.5.a.]

2.8. Significant Permit Modification

2.8.1. The permittee may request a significant permit modification, in accordance with 45CSR§30-6.5.b., for permit modifications that do not qualify for minor permit modifications or as administrative amendments.
[45CSR§30-6.5.b.]

2.9. Emissions Trading

2.9.1. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading, and other similar programs or processes for changes that are provided for in the permit and that are in accordance with all applicable requirements.
[45CSR§30-5.1.h.]

2.10. Off-Permit Changes

2.10.1. Except as provided below, a facility may make any change in its operations or emissions that is not addressed nor prohibited in its permit and which is not considered to be construction nor modification under any rule promulgated by the Secretary without obtaining an amendment or modification of its permit. Such changes shall be subject to the following requirements and restrictions:

a. The change must meet all applicable requirements and may not violate any existing permit term or condition.

b. The permittee must provide a written notice of the change to the Secretary and to U.S. EPA within two (2) business days following the date of the change. Such written notice shall describe each such change, including the date, any change in emissions, pollutants emitted, and any applicable requirement that would apply as a result of the change.

c. The change shall not qualify for the permit shield.

d. The permittee shall keep records describing all changes made at the source that result in emissions of regulated air pollutants, but not otherwise regulated under the permit, and the emissions resulting from those changes.

e. No permittee may make any change subject to any requirement under Title IV of the Clean Air Act (Acid Deposition Control) pursuant to the provisions of 45CSR§30-5.9.

f. No permittee may make any changes which would require preconstruction review under any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) pursuant to the provisions of 45CSR§30-5.9.

[45CSR§30-5.9.]

2.11. Operational Flexibility

2.11.1. The permittee may make changes within the facility as provided by § 502(b)(10) of the Clean Air Act. Such operational flexibility shall be provided in the permit in conformance with the permit application and applicable requirements. No such changes shall be a modification under any rule or any provision of Title I of the Clean Air Act (including 45CSR14 and 45CSR19) promulgated by the Secretary in accordance with Title I of the Clean Air Act and the change shall not result in a level of emissions exceeding the emissions allowable under the permit.
[45CSR§30-5.8]

2.11.2. Before making a change under 45CSR§30-5.8., the permittee shall provide advance written notice to the Secretary and to U.S. EPA, describing the change to be made, the date on which the change will occur, any changes in emissions, and any permit terms and conditions that are affected. The permittee shall thereafter maintain a copy of the notice with the permit, and the Secretary shall place a copy with the permit in the public file. The written notice shall be provided to the Secretary and U.S. EPA at least seven (7) days prior to the date that the change is to be made, except that this period may be shortened or eliminated as necessary for a change that must be implemented more quickly to address unanticipated conditions posing a significant health, safety, or environmental hazard. If less than seven (7) days notice is provided because of a need to respond more quickly to such unanticipated conditions, the permittee shall provide notice to the Secretary and U.S. EPA as soon as possible after learning of the need to make the change.
[45CSR§30-5.8.a.]

2.11.3. The permit shield shall not apply to changes made under 45CSR§30-5.8., except those provided for in 45CSR§30-5.8.d. However, the protection of the permit shield will continue to apply to operations and emissions that are not affected by the change, provided that the permittee complies with the terms and conditions of the permit applicable to such operations and emissions. The permit shield may be reinstated for emissions and operations affected by the change:

a. If subsequent changes cause the facility's operations and emissions to revert to those authorized in the permit and the permittee resumes compliance with the terms and conditions of the permit, or

b. If the permittee obtains final approval of a significant modification to the permit to incorporate the change in the permit.

[45CSR§30-5.8.c.]

2.11.4. "Section 502(b)(10) changes" are changes that contravene an express permit term. Such changes do not include changes that would violate applicable requirements or contravene enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
[45CSR§30-2.39]

2.12. Reasonably Anticipated Operating Scenarios

2.12.1. The following are terms and conditions for reasonably anticipated operating scenarios identified in this permit.

a. Contemporaneously with making a change from one operating scenario to another, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating and to document the change in reports submitted pursuant to the terms of this permit and 45CSR30.

b. The permit shield shall extend to all terms and conditions under each such operating scenario; and

c. The terms and conditions of each such alternative scenario shall meet all applicable requirements and the requirements of 45CSR30.

[45CSR§30-5.1.i.]

2.13. Duty to Comply

2.13.1. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the West Virginia Code and the Clean Air Act and is grounds for enforcement action by the Secretary or USEPA; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.
[45CSR§30-5.1.f.1.]

2.14. Inspection and Entry

2.14.1. The permittee shall allow any authorized representative of the Secretary, upon the presentation of credentials and other documents as may be required by law, to perform the following:

a. At all reasonable times (including all times in which the facility is in operation) enter upon the permittee's premises where a 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 that must be kept under the conditions of this permit;

c. Inspect at reasonable times (including all times in which the facility is in operation) any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;

d. Sample or monitor at reasonable times substances or parameters to determine compliance with the permit or applicable requirements or ascertain the amounts and types of air pollutants discharged.
[45CSR§30-5.3.b.]

2.15. Schedule of Compliance

2.15.1. For sources subject to a compliance schedule, certified progress reports shall be submitted consistent with the applicable schedule of compliance set forth in this permit and 45CSR§30-4.3.h., but at least every six (6) months, and no greater than once a month, and shall include the following:

a. Dates for achieving the activities, milestones, or compliance required in the schedule of compliance, and dates when such activities, milestones or compliance were achieved; and

b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventative or corrective measure adopted.

[45CSR§30-5.3.d.]

2.16. Need to Halt or Reduce Activity not a Defense

2.16.1. 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 in order to maintain compliance with the conditions of this permit. However, nothing in this paragraph shall be construed as precluding consideration of a need to halt or reduce activity as a mitigating factor in determining penalties for noncompliance if the health, safety, or environmental impacts of halting or reducing operations would be more serious than the impacts of continued operations.

[45CSR§30-5.1.f.2.]

2.17. Reserved ~~Emergency~~

~~2.17.1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.~~

~~[45CSR§30-5.7.a.]~~

~~2.17.2. Effect of any emergency. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology based emission limitations if the conditions of 45CSR§30-5.7.c. are met.~~

~~[45CSR§30-5.7.b.]~~

~~2.17.3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:~~

~~a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;~~

~~b. The permitted facility was at the time being properly operated;~~

~~c. During the period of the emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and~~

~~d. Subject to the requirements of 45CSR§30-5.1.c.3.C.1, the permittee submitted notice of the emergency to the Secretary within one (1) working day of the time when emission limitations were exceeded due to the emergency and made a request for variance, and as applicable rules provide. This notice, report, and variance request fulfills the requirement of 45CSR§30-5.1.c.3.B. This notice must contain a detailed description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.~~

~~**[45CSR§30-5.7.c.]**~~

~~2.17.4. In any enforcement proceeding, the permittee seeking to establish the occurrence of an emergency has the burden of proof.~~
~~**[45CSR§30-5.7.d.]**~~

~~2.17.5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.~~
~~**[45CSR§30-5.7.e.]**~~

2.18. Federally-Enforceable Requirements

2.18.1. All terms and conditions in this permit, including any provisions designed to limit a source's potential to emit and excepting those provisions that are specifically designated in the permit as "State-enforceable only", are enforceable by the Secretary, USEPA, and citizens under the Clean Air Act.
[45CSR§30-5.2.a.]

2.18.2. Those provisions specifically designated in the permit as “State-enforceable only” shall become “Federally-enforceable” requirements upon SIP approval by the USEPA.

2.19. Duty to Provide Information

2.19.1. The permittee shall furnish to the Secretary within a reasonable time any information the Secretary 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 shall also furnish to the Secretary copies of records required to be kept by the permittee. For information claimed to be confidential, the permittee shall furnish such records to the Secretary along with a claim of confidentiality in accordance with 45CSR31. If confidential information is to be sent to USEPA, the permittee shall directly provide such information to USEPA along with a claim of confidentiality in accordance with 40 C.F.R. Part 2.
[45CSR§30-5.1.f.5.]

2.20. Duty to Supplement and Correct Information

2.20.1. Upon becoming aware of a failure to submit any relevant facts or a submittal of incorrect information in any permit application, the permittee shall promptly submit to the Secretary such supplemental facts or corrected information.
[45CSR§30-4.2.]

2.21. Permit Shield

2.21.1. Compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance provided that such applicable requirements are included and are specifically identified in this permit or the Secretary has determined that other requirements specifically identified are not applicable to the source and this permit includes such a determination or a concise summary thereof. **[45CSR§30-5.6.a.]**

2.21.2. Nothing in this permit shall alter or affect the following:

a. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance; or

b. The applicable requirements of the Code of West Virginia and Title IV of the Clean Air Act (Acid Deposition Control), consistent with § 408 (a) of the Clean Air Act.

c. The authority of the Administrator of U.S. EPA to require information under § 114 of the Clean Air Act or to issue emergency orders under § 303 of the Clean Air Act.

[45CSR§30-5.6.c.]

2.22. Credible Evidence

2.22.1. Nothing in this permit shall alter or affect the ability of any person to establish compliance with, or a violation of, any applicable requirement through the use of credible evidence to the extent authorized by law. Nothing in this permit shall be construed to waive any defenses otherwise available to the permittee including but not limited to any challenge to the credible evidence rule in the context of any future proceeding. **[45CSR§30-5.3.e.3.B. and 45CSR38]**

2.23. Severability

2.23.1. The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid by a court of competent jurisdiction, the remaining permit terms and conditions or their application to other circumstances shall remain in full force and effect. **[45CSR§30-5.1.e.]**

2.24. Property Rights

2.24.1. This permit does not convey any property rights of any sort or any exclusive privilege. **[45CSR§30-5.1.f.4]**

2.25. Acid Deposition Control

2.25.1. Emissions shall not exceed any allowances that the source lawfully holds under Title IV of the Clean Air Act (Acid Deposition Control) or rules of the Secretary promulgated thereunder.

a. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid deposition control program, provided that such increases do not require a permit revision under any other applicable requirement.

b. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

c. Any such allowance shall be accounted for according to the procedures established in rules promulgated under Title IV of the Clean Air Act.

[45CSR§30-5.1.d.]

2.25.2. Where applicable requirements of the Clean Air Act are more stringent than any applicable requirement of regulations promulgated under Title IV of the Clean Air Act (Acid Deposition Control), both provisions shall be incorporated into the permit and shall be enforceable by the Secretary and U. S. EPA.
[45CSR§30-5.1.a.2.]

3.0 Facility-Wide Requirements

3.1. Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40 C.F.R. §61.145(b) and 45CSR34]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]

3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2]

3.1.6. **Emission inventory.** The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14)]

3.1.7. **Ozone-depleting substances.** For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 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 40 C.F.R. § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.

[40 C.F.R. 82, Subpart F]

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

3.1.9. The permitted facility (Sources ID 2-11S, 2-19S, 2-20S, F-5S, F-7S, F-20S, F-25S, 6-4S, 6-6S, 6-7S, 6-8S, 6-9S, J-7S, J-8S, J-10S, J-11S, 2-18S, Z-3S, Z-8S, Z-9S, and Z-13S) shall comply with all the applicable standard provisions of the 40CFR63 Subpart GG National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Sections 4.0 through 8.0 and Section 12 of this Permit, is demonstrated:

§ 63.744 Standards: Cleaning operations.

(a) Housekeeping measures. Each owner or operator of a new or existing cleaning operation subject to this subpart shall comply with the requirements in these paragraphs unless the cleaning solvent used is identified in Table 1 of this section or meets the definition of "Non-HAP material" in 63.742. The requirements of this section do not apply to spent cleaning solvents, and solvent-laden applicators that are subject to and handled and stored in compliance with 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC).

(1) Place used solvent-laden cloth, paper, or any other absorbent applicators used for cleaning in bags or other closed containers. Ensure that these bags and containers are kept closed at all times except when depositing or removing these materials from the container. Use bags and containers of such design so as to contain the vapors of the cleaning solvent. Cotton-tipped swabs used for very small cleaning operations are exempt from this requirement.

(2) Store fresh and spent cleaning solvents, except semi-aqueous solvent cleaners, used in aerospace cleaning operations in closed containers.

(3) Conduct the handling and transfer of cleaning solvents 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.

(b)Hand-wipe cleaning. Each owner or operator of a new or existing hand-wipe cleaning operation (excluding cleaning of spray gun equipment performed in accordance with paragraph (c) of this section) subject to this subpart shall use cleaning solvents that meet one of the requirements specified in paragraphs (b)(1), (b)(2), and (b)(3) of this section. Cleaning solvent solutions that contain HAP and VOC below the de minimis levels specified in § 63.741(f) are exempt from the requirements in paragraphs (b)(1), (b)(2), and (b)(3) of this section.

(1) Meet one of the composition requirements in Table 1 of this section;

(2) Have a composite vapor pressure of 45 mm Hg (24.1 in. H_2O) or less at 20 °C (68 °F); or

(3) Demonstrate that the volume of hand-wipe solvents used in cleaning operations has been reduced by at least 60% from a baseline adjusted for production. The baseline shall be established as part of

an approved alternative plan administered by the State. Demonstrate that the volume of hand-wipe cleaning solvents used in cleaning operations has been reduced by at least 60 percent from a baseline adjusted for production. The baseline shall be calculated using data from 1996 and 1997, or as otherwise agreed upon by the Administrator or delegated State Authority. The baseline shall be approved by the Administrator or delegated State Authority and shall be included as part of the facility's title V or part 70 permit.

(c) Spray gun cleaning. 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 coatings or any other materials that require the spray guns to be cleaned shall use one or more of the techniques, or their equivalent, specified in paragraphs (c)(1) through (c)(4) of this section. Spray gun cleaning operations using cleaning solvent solutions that contain HAP and VOC below the de minimis levels specified in § 63.741(f) are exempt from the requirements in paragraphs (c)(1) through (c)(4) of this section.

(1) (i) Enclosed system. Clean the spray gun in an enclosed system that is closed at all times except when inserting or removing the spray gun. Cleaning shall consist of forcing solvent through the gun.

(ii) If leaks are found during the monthly inspection required in § 63.751(a), repairs shall be made as soon as practicable, but no later than 15 days after the leak was found. If the leak is not repaired by the 15th day after detection, the cleaning solvent shall be removed, and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued.

(2) Nonatomized cleaning. Clean the spray gun by placing cleaning solvent in the pressure pot and forcing it through the gun with the atomizing cap in place. No atomizing air is to be used. Direct the cleaning solvent from the spray gun into a vat, drum, or other waste container that is closed when not in use.

(3) Disassembled spray gun cleaning. Disassemble the spray gun and clean the components by hand in a vat, which shall remain closed at all times except when in use. Alternatively, soak the components in a vat, which shall remain closed during the soaking period and when not inserting or removing components.

(4) Atomizing cleaning. Clean the spray gun by forcing the cleaning solvent through the gun and direct the resulting atomized spray into a waste container that is fitted with a device designed to capture the atomized cleaning solvent emissions.

(5) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems that can be programmed to spray into a closed container, shall be exempt from the requirements of paragraph (c) of this section.

(e) Exempt cleaning operations. The following cleaning operations are exempt from the requirements of paragraph (b) of this section:

(1) Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;

(2) Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);

(3) Cleaning and surface activation prior to adhesive bonding;

(4) Cleaning of electronic parts and assemblies containing electronic parts;

(5) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;

(6) Cleaning of fuel cells, fuel tanks, and confined spaces;

(7) Surface cleaning of solar cells, coated optics, and thermal control surfaces;

(8) Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used in the interior of the aircraft;

(9) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components;

(10) Cleaning of aircraft transparencies, polycarbonate, or glass substrates;

(11) Cleaning and cleaning solvent usage associated with research and development, quality control, and laboratory testing;

(12) Cleaning operations, using nonflamable liquids, conducted within five feet of energized electrical systems. Energized electrical systems means any AC or DC electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells and tail sections; and

(13) Cleaning operations identified as essential uses under the Montreal Protocol for which the Administrator has allocated essential use allowances or exemptions in 40 CFR 82.4.

Table 1 Composition Requirements for Approved Cleaning Solvents

Cleaning solvent type	Composition requirements
Aqueous.....	Cleaning solvents in which water is the primary ingredient (≥ 80 percent of must be water). Detergents, surfactants, and bioenzyme mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g., high boiling point alcohols), builders, inhibitors, emulsifiers, pH buffers, and antifoaming agents. Aqueous solutions must have a flash point greater than 93 °C (200° F) (as reported by the manufacturer), and the solution must be miscible with water.
Hydrocarbon-based.....	Cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20 °C (3.75 in. H_2O and 68 °F). These cleaners also contain no HAP.

§63.745 Standards: Primer, topcoat, and specialty coating application operations.

(a) Each owner or operator of a new or existing primer, topcoat, or specialty coating application operation subject to this subpart shall comply with the requirements specified in paragraph (c) of this section for those coatings that are uncontrolled (no control device is used to reduce organic HAP emissions from the operation), and in paragraph (d) of this section for those coatings that are controlled (organic HAP emissions from the operation are reduced by the use of a control device). Aerospace equipment that is

no longer operational, intended for public display, and not easily capable of being moved is exempt from the requirements of this section.

(b) Each owner or operator shall conduct the handling and transfer of primers, topcoats, and specialty coatings to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

(c) *Uncontrolled coatings—organic HAP and VOC content levels*. Each owner or operator shall comply with the organic HAP and VOC content limits specified in paragraphs (c)(1) through (6) of this section for those coatings that are uncontrolled.

(5) Organic HAP emissions from specialty coatings shall be limited to an organic HAP content level of no more than the HAP content limit specified in Table 1 of this section for each applicable specialty coating type.

(6) VOC emissions from specialty coatings shall be limited to a VOC content level of no more than the VOC content limit specified in Table 1 of this section for each applicable specialty coating type.

(d) *Controlled coatings—control system requirements.* Each control system shall reduce the operation's organic HAP and VOC emissions to the atmosphere by 81% or greater, taking into account capture and destruction or removal efficiencies, as determined using the procedures in §63.750(g) when a carbon adsorber is used and in §63.750(h) when a control device other than a carbon adsorber is used.

§ 63.748 Standards: Handling and storage of waste.

(a) The owner or operator of each facility subject to this subpart that produces a waste that contains organic HAP from aerospace primer, topcoat, specialty coating, chemical milling maskant, or chemical depainting operations must be handled and stored as specified in paragraph (a)(1) or (a)(2) of this section. The requirements of paragraphs (a)(1) and (a)(2) of this section do not apply to spent wastes that contain organic HAP that are subject to and handled and stored in compliance with 40 CFR parts 262 through 268 (including the air emission control requirements in 40 CFR part 265, subpart CC).

(1) 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.

(2) Store all waste that contains organic HAP in closed containers.

[45CSR34, 40 C.F.R. 63, Subpart GG; 45CSR13, R13-2037, B.7; 45CSR13, R13-3334, 4.1.3 ~~7~~, 4.1.4, 4.1.5; 45CSR13, R13-3334, 4.1.3, 4.1.4, 4.1.5]

3.1.10. The pertinent sections of 45CSR7 applicable to this facility include, but are not limited to, the following:

No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7. **[45CSR§7-3.1]**

The provisions of 45CSR§7-3.1 shall not apply to smoke and/or particulate matter emitted from any process source operation which is less than forty (40) percent opacity for any period or periods aggregating no more than five (5) minutes in any sixty (60) minute period. **[45CSR§7-3.2]**

No person shall cause, suffer, allow or permit visible emissions from any storage structure(s) associated with any manufacturing process(es) that pursuant to 45CSR§7-5.1 is required to have a full enclosure and be equipped with a particulate matter control device.
[45CSR§7-3.7]

No person shall cause, suffer, allow or permit particulate matter to be vented into the open air from any type source operation or duplicate source operation, or from all air pollution control equipment installed on any type source operation or duplicate source operation in excess of the quantity specified under the appropriate source operation type in Table 45-7A found at the end of 45CSR7.
[45CSR§7-4.1]

Any stack serving any process source operation or air pollution control equipment on any process source operation shall contain flow straightening devices or a vertical run of sufficient length to establish flow patterns consistent with acceptable stack sampling procedures.
[45CSR§7-4.12]

No person shall cause, suffer, allow or permit any manufacturing process or storage structure generating fugitive particulate matter to operate that is not equipped with a system, which may include, but not be limited to, process equipment design, control equipment design or operation and maintenance procedures, to minimize the emissions of fugitive particulate matter. To minimize means such system shall be installed, maintained and operated to ensure the lowest fugitive particulate matter emissions reasonably achievable.
[45CSR§7-5.1]

The owner or operator of a plant shall maintain particulate matter control of the plant premises, and plant owned, leased or controlled access roads, by paving, application of asphalt, chemical dust suppressants or other suitable dust control measures. Good operating practices shall be implemented and when necessary particulate matter suppressants shall be applied in relation to stockpiling and general material handling to minimize particulate matter generation and atmospheric entrainment.
[45CSR§7-5.2]

At such reasonable times as the Director may designate, the operator of any manufacturing process source operation may be required to conduct or have conducted stack tests to determine the particulate matter loading in exhaust gases. Such tests shall be conducted in such manner as the Director may specify and be filed on forms and in a manner acceptable to the Director. The Director, or his duly authorized representative, may at his option witness or conduct such stack tests. Should the Director exercise his option to conduct such tests, the operator will provide all the necessary sampling connections and sampling ports to be located in such manner as the Director may require, power for test equipment, and the required safety equipment such as scaffolding, railings and ladders to comply with generally accepted good safety practices.
[45CSR§7-8.1]

The Director, or his duly authorized representative, may conduct such other tests as he or she may deem necessary to evaluate air pollution emissions.
[45CSR§7-8.2]

[45CSR13, R13-0401, B.6; R13-1047, B.4; R13-1455, B.5; R13-1694, B.5; R13-1782, B.6; R13-1798, B.6; R13-2037, B.5; R13-2246, B.2; R13-3334, 4.1.2 ~~8~~; R13-3534, 4.1.2 ~~4~~]

3.1.11. The pertinent sections of 45CSR13 applicable to this facility include, but are not limited to, the following:
§45-13-6.1
At the time a stationary source is alleged to be in compliance with an applicable emission standard and

at reasonable times to be determined by the Director thereafter, appropriate tests consisting of visual determinations or conventional in-stack measurements or such other tests the Director may specify shall be conducted to determine compliance.
[45CSR13, R13-0401, B.7; R13-1047, B.4; R13-1455, B.6; R13-1694, B.6; R13-1782, B.7; R13-1798, B.7; R13-2037, B.6 & R13-2246, B.6]

3.2. Monitoring Requirements

3.2.1. Compliance with Section 3 of 45CSR7 (Requirement 3.1.10 of this Permit) shall be determined by conducting visual emission observations in accordance with Method 22 of 40 CFR 60, Appendix A for the Emission 1-3E, 1-7E, F-6E, F-11E, F-14E subject to 45CSR7, and units emitting directly into the open air from points other than stack outlet (including visible fugitive dust emissions that leave the plant site boundaries).

Visual emission observations shall be conducted monthly during periods of facility operation to determine if the unit has visible emissions using procedures outlined in 40CFR60 Appendix A, Method 22.

If sources of visible emissions are identified, the permittee shall conduct an Opacity Evaluation as outlined in 45CSR§7A-2.1.a, b, within 24 hour period unless the permittee can demonstrate a valid reason that the time frame should be extended. A 45CSR§7A-2.1.a, b evaluation shall not be required if the visible emission condition is corrected in a timely manner and the units are operated at normal operating conditions with no visible emissions being observed.

Anytime when not in compliance with the opacity limit per 45CSR§7-3.1 for any emission point, reporting as per Requirement 3.5.11 shall be initiated, and for this emission point, Method 22 checks shall revert to a weekly frequency for a minimum of 4 consecutive weeks. If in compliance, then monthly Method 22 checks shall be conducted.

Compliance with this Requirement will assure compliance with requirement 3.3.4.f.
[45CSR§30-5.1.c]

3.2.2. Compliance with Section 3 of 45CSR7 (Requirement 3.1.10 of this Permit) for paint booths and related equipment (Emission Points 2-9E, 2-10E, 2-11E, 2-15E, F-1E, F-3E, F-5E, F-9E, F-12E, F-13E, F-16E, F-18E, G-2E, 6-2E, 6-4E, 6-5E, 6-6E, 6-7E, 6-8E, J-2E, J-4E, J-5E, J-7E and J-8E) shall be determined by conducting fabric filter checks prior to each use of the equipment. These checks shall include review to ensure filters are properly fitted to the unit, that no holes exist, and that the filters are not overloaded. Any changes made to filters during the checks or any filter replacements shall be recorded. (See attachment D as a sample form).
[45CSR§30-5.1.c, 45CSR13, R13-1798, A.7]

3.2.3. Compliance with Section 3 of 45CSR7 (Requirement 3.1.10 of this Permit) for handling areas (Emission Points 1-9E and 1-12E) shall be determined by use of properly maintained HEPA filters (as per Requirement 4.4.5), and utilizing manometers to ensure proper operation of the filters prior to each use of equipment. Permittee shall keep records of manometer checks and any necessary corrective actions (including filter replacements).
[45CSR§30-5.1.c]

3.2.4. The permitted facility (Sources ID 2-11S, 2-19S, 2-20S, F-5S, F-7S, F-20S, F-25S, 6-4S, 6-6S, 6-7S, 6-8S, 6-9S, J-7S, J-8S, J-10S, J-11S, 2-18S, Z-3S, Z-8S, Z-9S, and Z-13S) shall comply with all the applicable standard provisions of the 40CFR63 Subpart GG National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Sections 4.0. through 8.0. and Section 12 of this Permit, is demonstrated:

§ 63.751 Monitoring requirements.

(a) Enclosed spray gun cleaners. Each owner or operator using an enclosed spray gun cleaner under § 63.744(c)(1) (Section 3.1.9. of this Permit) shall visually inspect the seals and all other potential sources of leaks associated with each enclosed gun spray cleaner system at least once per month. Each inspection shall occur while the system is in operation.

[45CSR34, 40 C.F.R. 63, Subpart GG; 45CSR13, R13-2037, B.7~~; 45CSR13, R13-3334, 4.2.4.~~]

3.3. Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.

b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit.

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:

1. The permit or rule evaluated, with the citation number and language.

2. The result of the test for each permit or rule condition.

3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code §§ 22-5-4(a)(14-15) and 45CSR13]

3.3.2. A test protocol (as per Requirement 3.3.1.c.) shall include detailing on the proposed test methods, the date and the time the proposed testing is to take place, as well as identifying the sampling locations and other relevant information.
[45CSR13, R13-1455, B.8; R13-1694, B.8; R13-0401, B.9; R13-1798, B.9; R13-1782, B.9; R13-2037, B.9]

3.3.3. Test results shall be submitted to the Secretary no more than sixty (60) days after the date the testing takes place.
[45CSR13, R13-1455, B.8; R13-1694, B.8; R13-0401, B.9; R13-1798, B.9; R13-1782, B.9; R13-2037, B.9]

3.3.4. Tests that are required by the Director to determine compliance with the emission limitations set forth in this permit shall be conducted in accordance with the methods as set forth below. The Director may require a different test method or approve an alternative method in light of any new technology advancements that may occur. Compliance testing shall be conducted at 100% of the peak load unless otherwise specified by the Director.

a. Tests to determine compliance with PM emission limits shall be conducted in accordance with Method 5, 5A, 5B, 5C, 5D, 5E, 5F, 5G, or 5H as set forth in 40 CFR 60, Appendix A.

b. Tests to determine compliance with SO_2 emission limits shall be conducted in accordance with Method 6, 6A, 6B, or 6C as set forth in 40 CFR 60, Appendix A.

c. Tests to determine compliance with CO emission limits shall be conducted in accordance with Method 10, 10A, or 10B as set forth in 40 CFR 60, Appendix A.

d. Tests to determine compliance with NO_x emission limits shall be conducted in accordance with Method 7, 7A, 7B, 7C, 7D, or 7E as set forth in 40 CFR 60, Appendix A.

e. Tests to determine compliance with VOC emission limits shall be conducted in accordance with Method 25, or 25A as set forth in 40 CFR 60, Appendix A.

f. Tests to determine compliance with Opacity of emissions shall be conducted in accordance with Method 9 as set forth in 40 CFR 60, Appendix A.

g. Tests to determine compliance with HAP emission limits shall be conducted in accordance with 40 CFR 63.

[45CSR13, R13-1455, B.7; R13-1694, B.7; R13-0401, B.8; R13-1798, B.8; R13-1782, B.8; R13-2037, B.8]

3.4. Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit and time of sampling or measurements;

b. The date(s) analyses were performed;

c. The company or entity that performed the analyses;

d. The analytical techniques or methods used;

e. The results of the analyses; and

f. The operating conditions existing at the time of sampling or measurement.
[45CSR§30-5.1.c.2.A; 45CSR13, R13-0898, 4.4.1; R13-3334, 4.4.1; R13-3408, 4.4.1]

3.4.2. **Retention of records.** The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. 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 the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.
[45CSR§30-5.1.c.2.B.]

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§30-5.1.c. State-Enforceable only.]

3.4.4. A record of each visible emission observation and opacity evaluation per Requirement 3.2.1., and also of monitoring required under conditions 3.2.2. and 3.2.3., shall be maintained on site for and shall be made available to the Director or his/her duly authorized representative upon request. Said records shall include, the date, time, name of emission unit, the applicable visible emission requirement, the results of the check, what action(s), if any, was/were taken, and the name of the observer.
[45CSR§30-5.1.c.]

3.4.5. The permitted facility (as indicated in Requirement 3.1.9) shall comply with all the applicable recordkeeping provisions of the 40CFR63 Subpart GG National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Sections 4.0 through 8.0 and Section 12 of this Permit, is demonstrated:

§ 63.752 Recordkeeping requirements.

b) Cleaning operation. Each owner or operator of a new or existing cleaning operation subject to this subpart shall record the information specified in paragraphs (b)(1) through (b)(5) of this section, as appropriate.

(1) The name, vapor pressure, and documentation showing the organic HAP constituents of each cleaning solvent used for affected cleaning operations at the facility.

(2) For each cleaning solvent used in hand-wipe cleaning operations that complies with the composition requirements specified in § 63.744(b)(1) (Section 3.1.9 of this Permit) or for semi-aqueous cleaning solvents used for flush cleaning operations:

(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.

(3) For each cleaning solvent used in hand-wipe cleaning operations that does not comply with the composition requirements in § 63.744(b)(1) (Section 3.1.9 of this Permit), but does comply with the vapor pressure requirement in § 63.744(b)(2) (Section 3.1.9 of this Permit):

(i) The name of each cleaning solvent used;

(ii) The composite vapor pressure of each cleaning solvent used;

(iii) All vapor pressure test results, if appropriate, data, and calculations used to determine the composite vapor pressure of each cleaning solvent; and

(iv) The amount (in gallons) of each cleaning solvent used each month at each operation.

(4) For each cleaning solvent used for the exempt hand-wipe cleaning operations specified in § 63.744(e)(Section 3.1.9 of this Permit), that does not conform to the vapor pressure or composition requirements of § 63.744(b) (Section 3.1.9 of this Permit):

(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) (Section 3.1.9 of this Permit), to which the cleaning operation applies.

(5) A record of all leaks from enclosed spray gun cleaners identified pursuant to § 63.751(a) (Section 3.2.4 of this Permit) that includes for each leak found:

(i) Source identification;

(ii) Date leak was discovered; and

(iii) Date leak was repaired.

[45CSR34, 40 C.F.R. 63, Subpart GG; and 45CSR13, R13-2037, B.7; 45CSR13, R13-3334, 4.4.4; 45CSR13, R13-3534, 4.4.4]

3.4.6. Reserved.

3.4.7. To demonstrate compliance with the Requirement 3.1.10 (45CSR§7-5.1) the company shall keep records of maintenance and operations of fugitive dust control systems for the Emission Point 1-2E, 1-3E, 2-15E, 6-8E (Spray Booth), F-1E, F-3E, F-11E, F-12E, F-13E, G-2E, J-4E, J-5E, J-7E, J-8E, VI (Control Device ID 2-1C, E-1C, E-2C).

[45CSR§30-5.1.c]

3.5. Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
[45CSR§§30-4.4. *and* 5.1.c.3.D.]

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31. **[45CSR§30-5.1.c.3.E.]**

3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:

Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

US EPA:

Section Chief
U. S. Environmental Protection Agency, Region III
Enforcement and Compliance Assurance Division
Air, RCRA and Toxics Branch ~~Section~~ (3ED21)
~~1650 Arch Street~~ Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, PA 19103-~~2029~~ 2852

DAQ Compliance and Enforcement[1]:
DEPAirQualityReports@wv.gov

[1]For all self-monitoring reports (MACT, GACT, NSPS, etc.), stack tests and protocols, Notice of Compliance Status reports, Initial Notifications, etc.

3.5.4. ~~**Certified emissions statement**~~ **Fees.** The permittee shall ~~submit a certified emissions statement and~~ pay fees on an annual basis in accordance with 45CSR§30-8 ~~the submittal requirements of the Division of Air Quality~~. **[45CSR§30-8.]**

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses:

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
R3_APD_Permits@epa.gov

[45CSR§30-5.3.e.]

3.5.6. **Semi-annual monitoring reports.** The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

3.5.7. **Reserved.** ~~**Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.~~

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:

~~1.~~ Reserved. ~~Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.~~

2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or email ~~telefax~~. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.

3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.

4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken.

[45CSR§30-5.1.c.3.C.]

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.
[45CSR§30-5.1.c.3.B.]

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

3.5.10. The permitted facility (as indicated in Requirement 3.1.9) shall comply with all the applicable reporting provisions of the 40CFR63 Subpart GG National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Sections 4.0 through 8.0 and Section 12 of this Permit, is demonstrated:

§ 63.753 Reporting requirements.

(b) Cleaning operation. Each owner or operator of a cleaning operation subject to this subpart shall submit the following information:

(1) Semiannual reports occurring every 6 months from the date of the notification of compliance status that identify:

(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 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in § 63.744(b)(1) (Section 3.1.9 of this Permit);

(iii) Any instance where a noncompliant spray gun cleaning method is used;

(iv) Any instance where a leaking enclosed spray gun cleaner remains unrepaired and in use for more than 15 days; and

(v) 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.

[45CSR34, 40 C.F.R. 63, Subpart GG; 45CSR13, R13-2037, B.7; 45CSR13, R13-2037, 4.5.2.; 45CSR13, R13-3334, 4.5.2; 45CSR13, R13-3534, 4.5.2]

3.5.11. Upon observing any visible emissions during an Opacity Evaluation as per Requirement 3.2.1 in excess of twenty percent (20%) opacity (but less than forty percent (40%) opacity) for any period or periods aggregating more than five (5) minutes in any sixty (60) minute period, or upon observing any visible emissions in excess of forty percent (40%) opacity, the Company shall submit a written report (including day and time of the observation, observation results, and corrective actions taken (if any)), certified by a responsible official, to the Director of the Division of Air Quality within ten (10) days after taking said reading.
[45CSR§30-5.1.c.]

3.6. Compliance Plan

3.6.1. None.

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.

(a) 45CSR21– Regulation to Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds. The facility is not located in a county that is currently subject to 45CSR21, and is therefore currently exempt from this regulation.

(b) 40CFR63, Subpart PPP – National Emission Standards for Polyether Polyol Production. The facility manufactures Terathane Polyethylene Glycol Block Copolymer (TPEG), which is a Polyether Polyol. However, the operation is exempted from this MACT because there are no HAPs used or generated during the manufacturing operation.

(c) 40CFR63, Subpart GGGGG – National Emission Standards for Site Remediation. The facility currently has two sites under remediation for groundwater contamination. These sites are both CERCLA ("Superfund") sites and are thus exempt from the MACT requirements. The facility also has a third site, commonly referred to as Plant 2, which is currently being investigated under the RCRA corrective action program, that could potentially require some form of active groundwater remediation or treatment within the next five to ten years. This site would also be exempted since it is being managed under a RCRA corrective action.

(d) 40CFR63, Subpart WWWW – National Emission Standards for Reinforced Plastic Composites Manufacturing. The facility manufactures composite based rocket motor chambers and aircraft components. However, the facility is exempt from this MACT because none of the resin or fiber systems used, contain HAPs.

4.0 Ingredient Preparation Requirements (Plant 1 (Group 001) and Plant 2 (Group 00E))

4.1. Limitations and Standards

4.1.1. Maximum Cyclotrimethylene Trinitramine (RDX) and Cyclotetramethylene Tetranitramine (HMX) production from sources 1-3S, 1-8S and 1-9S in Buildings 262 and 374 shall not exceed 3668 tons/year. Compliance with the production limit shall be determined using a rolling yearly total. A rolling yearly total shall mean the sum of the production of (RDX) and (HMX) at any given time for the previous twelve (12) consecutive calendar months.
[45CSR13, R13-1455, A.1]

4.1.2. Emissions of particulate matter from the filter vent, Emission Point ID 1-7E, used to control emission from the fluid energy, shall not exceed one (1) lb/hr of particulate matter (RDX and HMX).

Emission Point ID	Pollutant	Hourly Emissions (Lb/Hr)
1-7E RDX Grinding Mill-374	PM (Cyclotrimethylene Trinitramine (RDX) and Cyclotetramethylene Tetranitramine (HMX))	1

[45CSR13, R13-1455, A.2]

4.1.3. Emissions of VOC from the blender/dryer condenser vent, Emission Point ID 1-6E, shall not exceed 0.73 lbm/hr.

Emission Point ID	Pollutant	Hourly Emissions (Lb/Hr)
1-6E Blender/Dryer Condenser Vacuum Pump-374	VOC	0.73

[45CSR13, R13-1455, A.3]

4.1.4. The fluid energy mill, permitted under R13-0621 (Source 1-3S), shall be utilized for production only when the fluid energy mill permitted, under R13-1455 (Source 1-9S), is not operating.
[45CSR13, R13-1455, A.4]

4.1.5. Emissions of particulate matter from Emission Point ID 1-9E and 1-12E, the discharge vents of the filter units used to control emissions from the handling and weighing area, shall not exceed 1.0 lb/hr of lead citrate or lead sesquioxide per emission point and shall be controlled at all times using the Dust Control Filter Systems (ID# 1-5C and 1-6C).

Emission Point ID	Pollutant	Hourly Emissions (Lb/Hr)

1-9E	Lead Citrate or Lead Sesquioxide (PM)	1
1-12E	Lead Citrate or Lead Sesquioxide (PM)	1

[45CSR13, R13-1694, A.1]

4.1.6. Emissions of Heptane (VOC) from Emission Point ID 1-10E, shall not exceed 2.0 lb/hr.

Emission Point ID	Pollutant	Hourly Emissions (Lb/Hr)
1-10E Mix Bowl-384	Heptane (VOC)	2

[45CSR13, R13-1694, A.2]

4.1.7. After all liquid VOC has been evaporated from the mix bowl, Emission Point 1-10E shall be valved shut and Emission Point 1-11E (the condenser) is opened. The mix bowl shall then be evacuated to remove the VOC vapors in the free volume of the mix bowl and associated plumbing and the VOC vapors shall pass through the condenser. Emissions of VOC from Emission Point ID 1-11E (the condenser) shall not exceed 2.0 lb/hr.

Emission Point ID	Pollutant	Hourly Emissions (Lb/Hr)
1-11E Condenser 1-7C	VOC	2

[45CSR13, R13-1694, A.3]

4.1.8. The VOC evaporation process from the mix bowl, source 1-14S, shall operate a maximum of 2,080 hr/yr.
[45CSR13, R13-1694, A.4]

4.1.9. A maximum of 500 pounds/batch of lead salt paste utilizing 250 pounds/batch of lead citrate or lead sesquioxide shall be charged per batch.
[45CSR13, R13-1694, A.5]

4.1.10. To determine compliance with Requirement 4.1.5, the permittee shall be subject to announced and unannounced enforcement and compliance inspections. These inspections shall be performed by the Director or his/her duly authorized representative.
[45CSR13, R13-1694, B.1]

4.1.11. Liquid Nitrate Ester Solution Sparging operations shall be in accordance with the following:

a. The methylene chloride emission control system (consisting of two cryogenic recovery systems), referenced in Mr. G. H. Moody's letter of December 19, 1986 (see Attachment 1), shall be in operation during sparging operations in the Liquid Nitrate Ester Solution Facility (Emission Point 1-4E or 1-13E, Control Device ID 1-2C or 1-10C - Cryogenic Recovery System at building 352) at all times, excepting only periods of emergency repairs for the control equipment and unanticipated control equipment failure for reasons beyond the reasonable control of the permittee, and should achieve a minimum recovery of 80% of the VOC released by the sparging operation;

b. In the event that the control equipment is inoperable, the production unit shall be shut down as expeditiously as possible. Recognizing the potentially reactive nature of the production units products, however, in-process material may continue to be processed;

c. The permittee shall not begin operation of the production unit when the control equipment is not in operation without being granted a variance by the Director;

d. Additionally, only one cryogenic recovery system may be run in recovery mode at any time. Any concurrent use would be limited to use of one unit in defrost mode and one unit in recovery mode; and

e. For all periods in which control equipment or measures are inoperable or malfunctioning, the permittee shall not operate the related production equipment unless the Company is granted a variance pursuant to 45CSR§27-12.1.

[45CSR13, R13-0898, 4.1.1]

4.1.12. The aggregate annual methylene chloride emission limit from sparging operations, as controlled by 1-2C and 1-10C, and as emitted through vent ID# 1-4E and 1-13E, is 3,990 pounds per a rolling twelve month period. **[45CSR13, R13-0898, 4.1.2]**

4.1.13. (1) The Gustafson Grinder System, Source E-1S, located in Building 2003, shall be operated with the cyclone collector and dust collector systems at all times.
(2) Production shall not exceed 1,456 tons per year.

[45CSR13, R13-0401, A.6]

4.1.14. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 of R13-0898 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary. **[45CSR§13-5.11., 45CSR13, R13-0898, 4.1.3]**

4.2. Monitoring Requirements

4.2.1. None.

4.3. Testing Requirements

4.3.1. To determine compliance with the emission limitation as set forth in Requirements 4.1.2, 4.1.3, 4.1.5, 4.1.6 and 4.1.7 above, test(s) shall be conducted in accordance with Requirements 3.3.1 and 3.3.2 contained herein. **[45CSR§30-5.1.c, 45CSR13, R13-1455, B.2, 45CSR13, R13-1694, B.3]**

4.3.2. Upon the Director's request, the permittee shall submit to the Director a detailed plan and test protocol for approval of methods to demonstrate compliance with the emission limits set forth in Requirement 4.1.12. The Director reserves the right to require the application of any specific valid test or emissions monitoring methods for the determination of TAP emissions from this source. **[45CSR13, R13-0898, 4.3.1]**

4.4. Recordkeeping Requirements

4.4.1. For the purpose of determining compliance with the maximum production limit set forth in Requirement 4.1.1, and also with emission limits set forth in Requirements 4.1.2, 4.1.3 and 4.1.5, the applicant shall maintain a monthly record of the amount of production of Cyclotrimethylene Trininitramine (RDX) and Cyclotetramethylene Tetranitramine (HMX), and total monthly production of both (RDX and HMX) in tons, and also add the monthly production to get a yearly total production in a manner similar to Attachment A of the Permit R13-1455A, and also calculate pounds of VOC emitted, from each emission point, to the atmosphere on a monthly basis. Such calculations for Emission Point 1-6E shall be based upon accurate determinations or tests to establish condenser efficiency. Said records shall be maintained on site for a period of at least five (5) years and upon request of the Director or his/her duly authorized representative shall be certified and made available to the Division of Air Quality.
[45CSR13, R13-1455, B.1 and 45CSR§30-5.1.c]

4.4.2. For the purpose of determining compliance with the conditions set forth in Requirements 4.1.4, the permittee shall maintain records of the operating times on a daily basis (start time and end time) of source 1-3S and source 1-9S, in a manner similar to Attachment B of the Permit R13-1455A.
[45CSR13, R13-1455, B.3]

4.4.3. For the purpose of determining compliance with the provisions set forth in Requirements 4.1.6, 4.1.7, 4.1.8 and 4.1.9 above, the permittee shall maintain a record which at a minimum contains the following information (as per Attachment A of the Permit R13-1694A):

a) date and the hours operated each day,

b) the quantity weighed of lead citrate or lead sesquioxide each day in the handling area,

c) the pounds of VOC emitted, from each emission point, to the atmosphere each day. Such determination shall be based upon accurate determinations or tests to establish condenser efficiency.

Said record shall be maintained on site for a period of at least five years and shall be certified and made available to the Director or his/her duly authorized representative upon request.
[45CSR13, R13-1694, B.2]

4.4.4. To determine compliance with the production limits set forth Requirement 4.1.13, the permittee shall keep records of the amount of production on a rolling yearly total. A rolling yearly total shall mean the amount of production at any given time for the previous twelve (12) consecutive calendar months. This information, shall be recorded in a manner that, at a minimum, contains the same information as Attachment B of the Permit R13-0401B (Production of Gustafson Grinder System in Building 2003): monthly records of Gustafson Grinder System rolling yearly production (in tons per year), and shall be kept on site for a period of five years and certified records shall be made available for inspection by the Director or a duly authorized representative of the Director upon request.
[45CSR13, R13-0401, B.4]

4.4.5. To demonstrate compliance with the Requirements 4.1.2, 4.1.5 and 4.1.13 the permittee shall conduct an annual preventative maintenance inspection/cleaning/replacement/refurbishment of the bags, filters, bag connection, and dust hoppers, as appropriate, of the baghouses and HEPA Filter Systems at each emission point specified, in order to ensure proper operation of the control devices. Records shall be maintained on site stating the date and time of each control device annual preventative maintenance activity, the results and all corrective actions taken.
[45CSR§30-5.1.c]

4.4.6. To demonstrate compliance with the Requirement 4.1.12 the permittee shall maintain records of the amounts of methylene chloride sparged per batch as well as the quantity of methylene chloride recovered and

drummed for reuse. These records shall be used to determine losses of methylene chloride. Compliance with the annual emission limit shall be demonstrated using a rolling yearly total. Rolling yearly total means the sum of methylene chloride emissions generated by the sparging operations over the previous twelve (12) consecutive calendar months. Records shall be maintained on site and shall be certified and made available to the Director or his/her duly authorized representative upon request.
[45CSR13, R13-0898, 4.2.2]

4.4.7. To demonstrate compliance with the Requirements 4.1.11, the permittee shall maintain records of the sparging operations and Cryogenic Recovery system operation and maintenance.
[45CSR13, R13-0898, 4.2.1]

4.4.8. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0 of R13-0898, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, R13-0898, 4.4.2]

4.4.9. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0 of R13-0898, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, R13-0898, 4.4.3]

4.5. Reporting Requirements

4.5.1. Upon the discovery of any Toxic Air Pollutant (as defined under 45CSR27) not addressed in this Permit and the emissions of which is not known as of the issuance date, the permittee shall notify the Director in writing within fifteen (15) days of such discovery. Unless the Director determines these emissions to be insignificant, the permittee shall submit a compliance program for control of such emissions within sixty (60) days of the date of notification. Upon a determination by the Director that the proposed compliance program represents BAT, the Director shall, in his or her discretion, consider such program for a consent order and shall determine the conditions to be met for approval and entry of such consent order.
[45CSR13, R13-0898, 4.5.1]

4.6. Compliance Plan

4.6.1. None.

5.0 Chamber Preparation Requirements (Plant 1 (Group 002) and Plant 2 (Group 00F))

5.1. Limitations and Standards

5.1.1. The emissions, from Emission Point 2-9E, to the atmosphere shall not exceed the following emission rates:

Emission Point ID	Pollutant	Emission Rate	
		lb/hr	lb/yr
2-9E Walk-In Spray Booth-167	Particulate Matter (PM)	0.408	41.09
	Volatile Organic Compound (VOC)	9.27	1120.2
	Hazardous Air Pollutant (HAP)	3.16	450.19

[45CSR13, R13-2037, A.1]

5.1.2. Control Device 2-7C, to be utilized for the purpose of controlling particulate matter emissions from Emission Point 2-9E, shall consist of a Research Products Corp. Series 3000 RP Paint Arrestors Filter, or other filter of comparable control efficiency.
[45CSR13, R13-2037, A.2]

5.1.3. For the purpose of determining compliance with Requirement 5.1.2 above, the permittee will be subject to announced and unannounced compliance and enforcement inspection by the Director or his/her duly authorized representative. If at any time the permittee fails to comply with the conditions as set forth in Requirement 5.1.2 above, the permittee shall notify the Director or his/her duly authorized representative of such non-compliance and may be subject to civil and/or criminal penalties for each violation.
[45CSR13, R13-2037, B.3]

5.1.4. Particulate Matter (PM_{10}) and Volatile Organic Compound (VOC) emissions from the rocket motor chamber preparation process, Building 420, shall not exceed the hourly and annual limitations specified below:

Emission Point I.D.	Source Vented through this Point	Maximum PM10 Emission Limitation		Maximum VOC Emission Limitation	
		(lb/hr)	(lb/yr)	(lb/hr)	(lb/yr)
2-10E Fume Hood for CBL-420	Exhaust Hood (2-12S) - for ingredient mixing of casebond liner mixtures and housing dip coating components for interior tooling for Hellfire motors.	Neg.	Neg.	0.67 (2)	450 (2)
2-11E Case Bond Liner Spray Booths-420	Common duct for spray booths applying casebond liner mixtures: - Booth 2-13S - 1st casebond liner mixture to be applied: Neoprene rubber based lacquer - Booth 2-14S - 2nd casebond liner mixture to be applied: Formvar or Butvar resin lacquer	0.012 (1)	14.6 (1)	3.7 (3)	7750 (3)
2-12E Drying Oven - 420	Neoprene and Formvar or Butvar Drying Oven (2-15S)	0	0	0.19 (4)	53.3 (4)
Total		0.012	14.6	4.6	8253

(1) Emissions after controls. Controlled particulate emissions are calculated based on 40% overspray and a 90% control device removal efficiency. The control device is a filter bank of 6 disposable polyester fiber filters.

(2) VOC emissions from exhaust hood 2-12S are based on the following assumptions:
- Two percent (2%) by weight of the volatile ingredients for the making of casebond liner stock solution and lacquers is lost through the hood during weigh out and mixing operations
- Forty-five percent (45%) by weight of the volatile ingredients from the dip coating of Hellfire rods is lost through the hood exhaust. Five percent (5%) by weight is lost through the oven. The remaining 50% is collected for waste disposal.
- One hundred percent (100%) by weight of the MEK used for nozzle and insulator bonding is lost through the exhaust hood.

(3) VOC emissions from the two (2) spray booths are based on the following assumptions:
- Spray Booths 2-13S (Neoprene) and 2-14S (Butvar) -Twenty five percent (25%) by weight of the n-propyl bromide used for cleanup is emitted. The remaining material will be collected for reuse or waste disposal.
- Spray Booth 2-14S (Formvar) - Fifty percent (50%) by weight of the Toluene/Ethanol (60/40) used for cleanup of formvar spray equipment is emitted. The remaining material will be collected for reuse or waste disposal.

(4) Five percent (5%) by weight of the volatile ingredients from the dip coating of Hellfire rods is lost through the oven.

[45CSR13, R13-2246, A.1]

5.1.5. Emissions to the atmosphere from the Case Bond Liner Booth (Sparrow Line), source F-12S, through emission point F-9E, located in Building 2014, shall be limited as follows:

Emission Point ID	Pollutant	Emission Limit	
		lb/hr	ton/yr
F-9E Case Bondliner Paint Booth (Intermediate Line) - 2014	VOC	6.0	0.5
	HAP	2.0	0.5
	PM	No Hourly Limit	0.1

[45CSR13, R13-0401, A.4.]

5.1.6. Emissions to the atmosphere from the Sparrow Vertical Paint Booth, source F-7S, through emission point F-5E, located in Building 2014, shall be limited as follows:

Emission Point ID	Pollutant	Emission Limit	
		lb/hr	ton/yr
F-5E Vertical Spray Booth - Paint (Intermediate Line) - 2014	VOC	6.0	1.0
	HAP	2.0	1.0
	PM	No Hourly Limit	0.1

[45CSR13, R13-0401, A.7]

5.1.7. Emissions from the permitted facilities shall not exceed the following limitations:

Emission Point ID	Pollutant	Emission Rate
		lb/hr
F-14E - Abrasive Blaster	Particulate Matter	0.1

Emission Point ID	Pollutant	Emission Rate	
		lb/hr	TPY
F-16E - Internal Spray Booth	Volatile Organic Compounds (VOC)	3.00	0.20
	Particulate Matter (PM)	0.10	0.10

Potential HAPs which may be included in bondliner ingredients include: dimethyl formamide, ethyl benzene, formaldehyde, hexane, methanol, methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), methylene diphenyl diisocyanate (MDI), toluene, toluene diisocyanate (TDI), trichlorobenzene-1,2,4, xylene, and chromium or lead compounds. No specific VOC-HAP shall be emitted in a quantity greater than 2.0 lb/hr.

Emission Point	Pollutant	Emission Rate	
		lb/hr	TPY
F-18E - Paint Spray Booth	Volatile Organic Compounds (VOC)	3.00	0.50
	Particulate Matter (PM)	0.10	0.10

Potential HAPs which may be included in paint ingredients include: dimethyl formamide, ethyl benzene, formaldehyde, hexane, methanol, methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), methylene diphenyl diisocyanate (MDI), toluene, toluene diisocyanate (TDI), trichlorobenzene-1,2,4, xylene, and chromium or lead compounds. No single HAP species shall be emitted in a quantity greater than 2.0 lb/hr. If other HAPs are used, notification to the Division of Air Quality shall be made within 30 days.

Emission Point	Pollutant	Emission Rate	
		lb/hr	TPY
F-17E - Paint Dry Room	Volatile Organic Compounds (VOC)	0.3	0.05
	Particulate Matter (PM)	0.01	0.01

Potential HAPs which may be included in paint ingredients include: dimethyl formamide, ethyl benzene, formaldehyde, hexane, methanol, methyl ethyl ketone (MEK), methyl isobutyl ketone (MIBK), methylene diphenyl diisocyanate (MDI), toluene, toluene diisocyanate (TDI), trichlorobenzene-1,2,4, xylene, and chromium or lead compounds. No single HAP species shall be emitted in a quantity greater than 2.0 lb/hr. If other HAPs are used, notification to the Division of Air Quality shall be made within 30 days.
[45CSR13, R13-1047, A.1]

5.2. Monitoring Requirements

5.2.1. None.

5.3. Testing Requirements

5.3.1. To determine compliance with the emission limitation as set forth in Requirement 5.1.1 above, test(s) shall be conducted in accordance with Requirements 3.3.1 and 3.3.2 contained herein.
[45CSR§30-5.1.c & 45CSR13, R13-2037, B.2]

5.4. Recordkeeping Requirements

5.4.1. For the purpose of determining compliance with emission limitations set forth in Requirements 5.1.1 (Emission Point 2-9E), 5.1.5 (Emission Point F-9E), 5.1.6 (Emission Point F-5E), 5.1.7 (Emission Points F-16E and F-18E) above, the permittee shall maintain monthly and yearly records. Compliance with the hourly emission rates shall be determined using the average hourly emission rate for each month. Compliance with the annual emission rates shall be determined using a rolling yearly total. A rolling yearly total shall mean the total emission rates emitted at any given time for the previous twelve (12) consecutive calendar months. Said records shall be maintained in a manner similar to: 1) Attachment A of the Permit R13-2037A (Monthly Usage/ VOC Emissions/ PM Emissions Report) and shall include types and amounts of coating materials sprayed each month (in gallons), hours of operation, VOC content (in lbs VOC/gal), VOC emissions (in lbs and in lbs/hr) per each coating, PM content (in lbs PM/gal), PM emissions (in lbs and lbs/hr) per each coating, and total of VOC and PM emissions (in lbs and in lbs/hr) for all coatings, 2) Attachment C of the Permit R13-2037A (Annual VOC Emissions/ PM Emissions Report) and shall include records of VOC and PM emissions (in lbs) on a monthly basis and total annual VOC and PM emissions, and 3) Attachment E of the Permit R13-2037A (Annual HAP emissions Report) and shall include records of VOC HAPs and PM HAPs annual emissions (in lbs/yr) and a sum of VOC HAPs and PM HAPs annual emissions. Said records shall be maintained on site by the permittee for a period of at least five (5) years. Said records shall be made available and certified upon request of the Director or his or her duly authorized representative.
[45CSR13, R13-2037, B.1, R13-0401, B.3, R13-1047, B.1 and 45CSR§30-5.1.c]

5.4.2. For the purpose of determining compliance with the PM_{10} limitations set forth in Requirements 5.1.4. (Emission Point 2-11E) the company shall maintain a filter replacement logsheet for the casebond filter bank. For the purpose of determining compliance with the PM limitations set forth in Requirements 5.1.1. (Emission Point 2-9E), 5.1.5. (Emission Point F-9E), 5.1.6. (Emission Point F-5E) and 5.1.7. (Emission Point F-16E and F-18E) the company shall maintain a filter replacement logsheet for the filter bank. An example logsheet is given in Attachment 1of the Permit R13-2246A (Filter Replacement Logsheet) and it includes filter change-out date and comments (about old/new filters, etc.). This logsheet shall be maintained on site for a period of five (5) years. Certified copies of the logsheet shall be made available to the Director or his duly-authorized representative upon request.
[45CSR13, R13-2246, B.3 and 45CSR§30-5.1.c]

5.4.3. For the purpose of determining compliance with the PM_{10} and VOC limitations set forth in Requirement 5.1.4., the company shall maintain daily coating usage records on spray booths 2-13S and 2-14S which collectively emit through emission point 2-11E. Daily and year-to-date (YTD) VOC emissions shall be calculated on a monthly basis using these records. Because PM_{10} emissions after controls are relatively small, these emissions shall be calculated only once a year. Example logsheets are given in Attachment 2 of the Permit R13-2246A (Daily Spray Booth Logsheets) and for each booth include the following: date, program/contract, start time, end time, number of units sprayed, hours operated, grams sprayed per unit, total daily usage (in lb/day), peak hourly usage (in lb/hr), year-to-date usage (in lbs). These logsheets shall be maintained on site for a period of five (5) years. Certified copies of the logsheets shall be made available to the Director or his duly-authorized representative upon request.
[45CSR13, R13-2246, B.4]

5.4.4. For the purpose of determining compliance with the emission limitations set forth in Requirement 5.1.4, the company shall maintain a daily record of batch production. These records shall be used to calculate exhaust hood (Emission Point 2-10E) and drying oven (Emission Point 2-12E) VOC emissions. Because the VOC emissions are relatively small, these emissions shall be calculated only once a year. Example logsheets (Daily and YTD Batch Count Sheets) are given in Attachment 3 of the Permit R13-2246A, and include for each Hellfire Cases, Hellfire Rods (Mixing), Hellfire Rods (Dip Coating), Predator Cases, SFW Cases and TOW-2 Cases the following information: record date, number of batches daily and number of batches year-to-date for Formvar or Butvar Stock Solution (FSS/ BSS), Neoprene Stock Solution (NSS), Phenolic Resin Stock Solution (PRS), Formar or Butvar Lacquer (FL/BL), Neoprene Lacquer (NL), MEK for wipe cleaning

nozzles (MEK), Spray Gun Cleanup with NPB and/or Spray Gun Cleanup with Toluene/Ethanol (60/40). These logsheet shall be maintained on site for a period of five (5) years. Certified copies of the logsheets shall be made available to the Director or his duly-authorized representative upon request.
[45CSR13, R13-2246, B.5]

5.4.5. As per Requirement 5.4.1 and 5.4.3 above, VOC and/or HAP emission calculations shall be performed based on coating usage records and material safety data sheets information, assuming that 100 percent of all VOCs (both non-HAP and HAP) are emitted to the atmosphere.
[45CSR§30-5.1.c]

5.4.6. To demonstrate compliance with the Emission Point F-17E VOC emission limit set forth in Requirement 5.1.7, the permittee shall perform monthly calculations based on coating usage records (as per Requirement 5.4.1) for the coating booth F-23S (Emission Point F-16E) and paint spray booth F-25S (Emission Point F-18E).
[45CSR§30-5.1.c]

5.4.7. To demonstrate compliance with the Emission Point F-14E PM emission limit set forth in Requirement 5.1.7, and also to reduce PM emissions from the Emission Point F-6E, the permittee shall conduct an annual preventative maintenance inspection / cleaning / replacement / refurbishment of the bags, bag connection, and dust hoppers, as appropriate, of the baghouses at each emission point specified, in order to ensure proper operation of the Cyclone Dust Collectors F-4C and F-9C. Records shall be maintained on site stating the date and time of each baghouse's annual preventative maintenance activity, the results of the annual preventative maintenance activity, and all corrective actions taken.
[45CSR§30-5.1.c]

5.5. Reporting Requirements

5.5.1. None.

5.6. Compliance Plan

5.6.1. None.

6.0 Loading/Inspection/Final Assembly Requirements (Plant 1 (Group 006) and Plant 2 (Group 00J))

6.1. Limitations and Standards

6.1.1. Emissions to the atmosphere from each paint spray booth shall not exceed the following emission rates:

Source ID	Emission Point ID	VOC Emission Rates		Particulate Matter Emission Rates	
		lb/hr	TPY	lb/hr	TPY
6-4S Paint Spray Booth	6-2E	1	2.01	0.1	0.1

Area	Emission Point ID	VOC Emission Rates		Particulate Matter Emission Rates		Hazardous Air Pollutants	
		lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
Paint Spray Booth [6-6S]	6-4E	3.00	4.35	3.00	0.10	1.90	2.00
Paint Spray Booth [6-7S]	6-5E						
Paint Spray Booth [6-8S]	6-6E						
Paint Spray Booth [6-9S]	6-7E						

For the purpose of this Permit, VOCs shall have the meaning of "any organic compound which participates in atmospheric photochemical reactions", that is, any organic compound other than those the EPA Administration has designated as having negligible photochemical reactivity. Negligible photochemical reactive materials include: methane, ethane, methyl chloroform, methylene chloride, and some freons.
[45CSR13, R13-1782, A.1 and 45CSR13, R13-1798, A.1]

6.1.2 The minimum particulate collection efficiency of the filters used in the spray booth exhaust stack shall be 90% (Control Device ID 6-1C, 6-2C, 6-3C, 6-4C, 6-5C - Emission Points 6-2E, 6-4E, 6-5E, 6-6E, 6-7E).
[45CSR13, R13-1782, A.2 and 45CSR13, R13-1798, A.3]

6.1.3 Coatings to be utilized shall comply with 45CSR27.
No coating or solvent containing any hazardous air pollutant, as defined by West Virginia Legislative Rule 45CSR13, Section 15.1 and listed in Table 45-13A or any toxic air pollutant (TAP), as defined by West Virginia Legislative Rule 45CSR27, Section 2.10, shall be used without prior approval of the Director of the Division of Air Quality.
[45CSR13, R13-1782, A.3 and 45CSR13, R13-1798, A.4 and 5]

6.1.4 For the purpose of determining compliance with the minimum efficiency limit as set forth in Requirement 6.1.2. the permittee may be required by the Director or his/her duly authorized representative to provide any information deemed necessary to obtain the particulate collection efficiency of the filters used in the spray booth exhaust stack.
[45CSR13, R13-1782, B.3 and 45CSR13, R13-1798, B.3]

6.1.5 For the purpose of determining compliance with Requirement 6.1.3, the permittee will be subject to announced and unannounced compliance and enforcement inspection by the Director or his/her duly authorized representative. If at any time the permittee fails to comply with the limits as set forth in 45CSR27 - Table A, the permittee shall notify the Director of such accedence and may be required at the Director's request to employ a BAT (Best Available Technology) plan to all chemical processing units emitting toxic air pollutants.
[45CSR13, R13-1782, B.4 and 45CSR13, R13-1798, B.4]

6.1.6 Emissions to the atmosphere from the Interior Coating Spray Line, Source J-4S, through Emission Point J-2E, located in Building 2011, shall be limited as follows:

Emission Point ID	Pollutant	Emission Limit	
		lb/hr	ton/yr
J-2E Interior Coating Spray Line - 2011	VOC	6	0.5
	HAP	2	0.5
	PM	No Hourly Limit	0.1

[45CSR13, R13-0401, A.5]

6.1.7 The following are the known HAPs to be emitted from the source:

Antimony Compounds
Chromium Compounds
Ethyl Benzene
Formaldehyde
Glycol Ethers
Hexane
Isocyanates (HDI, MDI, TDI)
Lead Compounds
Methanol
MIBK
Phenol
Styrene
Toluene
Xylene

Use of any surface coating containing any constituent identified in Section 112(b) of the 1990 Clean Air Act Amendments as a HAP and not listed above shall be in accordance with the following:

a. The permittee shall notify the Director in writing of the surface coating to be used and the HAP(s) contained therein within thirty (30) days of the initial use of the surface coating. Additionally, an MSDS sheet for the surface coating shall be supplied at this time to the Director.

b. An estimate of emissions associated with the use of the surface coating shall be determined and incorporated into the record keeping requirements contained herein.

c. Compliance with the annual emission limits shall be determined using rolling yearly totals.

For the purposes of this permit, surface coatings shall be defined as a material applied onto, or impregnated into, a substrate for protective, decorative, or functional purposes. For the purpose of this permit, coatings shall be defined as stains, thinners, solvents, sealers, varnishes, paints, primers, catalysts, acrylics, lacquers, or any substance involved in spray booth operations, cleaning, or maintenance.

[45CSR13, R13-1798, A.2]

6.1.8 The maximum number of painted units is 480 units per year. Compliance with the annual usage shall be determined using a twelve (12) month rolling total. A twelve (12) month rolling total shall mean the sum of units painted at any given time for the previous twelve (12) consecutive months.
[45CSR13, R13-1798, A.6]

6.2. Monitoring Requirements

6.2.1. None.

6.3. Testing Requirements

6.3.1. To determine compliance with the emission limitations as set forth in Requirement 6.1.1 above test(s) shall be conducted in accordance with Requirements 3.3.1 and 3.3.2 contained herein.
[45CSR13, R13-1782, B.2 and 45CSR13, R13-1798, B.2]

6.4. Recordkeeping Requirements

6.4.1. For the purpose of determining compliance with emission limitations set forth in Requirement 6.1.1 (Emission Points 6-4E, 6-5E, 6-6E and 6-7E and VOC emission limits for Emission Point ID 6-2E) the company shall maintain daily, monthly, and yearly records. Compliance with the emission limits shall be determined using a rolling yearly total. A rolling yearly total shall mean the sum of each pollutant emitted at any given time for the previous twelve (12) consecutive calender months. Records shall be maintained in a manner as provided in Attachment A, B and C of this permit. Said records shall be maintained on site by the permittee for a period of at least five (5) years. Said records shall be made available and certified upon request of the Director or his or her duly authorized representative.
[45CSR13, R13-1782, B.1 and 45CSR13, R13-1798, B.1]

6.4.2. To determine compliance with the emission limits set forth in Requirement 6.1.6 (Emission Point J-2E), the permittee shall keep records of the hourly and annually emission rates. Compliance with the hourly emission rates shall be determined using the average hourly emission rate for each month. Compliance with the annual emission rates shall be determined using a rolling yearly total. A rolling yearly total shall mean the total emission rates emitted at any given time for the previous twelve (12) consecutive calender months. This information shall be kept on site for a period of five years and certified records shall be made available for inspection by the Director or a duly authorized representative of the Director upon request.
[45CSR13, R13-0401, B.3]

6.4.3. As per Requirement 6.4.1 and 6.4.2 above, VOC and/or HAP emission calculations shall be performed based on coating usage records and material safety data sheets information, assuming that 100 percent of all VOCs (both non-HAP and HAP) are emitted to the atmosphere).
[45CSR§30-5.1.c]

6.4.4. For the purpose of determining compliance with the PM_{10} limitations set forth in Requirements 6.1.1 (Emission Points 6-2E, 6-4E, 6-5E, 6-6E and 6-7E) and 6.1.6 (Emission Point J-2E) the company shall maintain a filter replacement logsheet for the Fabric Filters (filter change-out date and comments about old/new filters, etc.). An example logsheet is given in Attachment 1 to the Permit R13-2246A.
[45CSR§30-5.1.c]

6.5. Reporting Requirements

6.5.1. None.

6.6. Compliance Plan

6.5.1. None.

7.0 Mold Parts Cleanup Requirements (Plant 1 (Group 007) and Plant 2 (Group 00K))

7.1. Limitations and Standards

7.1.1. Heptane usage from the Mold Parts Wash Tanks, sources 10s (7-1S) and 11s (7-2S), in Building 151 and the Mold Parts Wash Tank, source 9s (K-3S), in building 8203, shall be limited to a combined total of 25,000 pounds per year (4,381.3 gallons).
[45CSR13, R13-0401, A.1]

7.1.2. The total combined heptane (VOC) emissions from sources 7-1S, 7-2S, and K-3S shall not exceed 12.5 tons per year.

Source ID	Emission Point ID	Heptane (VOC) Emission Limit, tons/yr
7-1S Parts Washer-151	7-1E	12.5
7-2S Parts Washer-151	7-2E	
K-3S Parts Washers-8203	K-1E	

[45CSR13, R13-0401, A.2]

7.1.3. The permittee may install the solvent recovery system, source K-5S in either Building 8203 or Building 151.
[45CSR13, R13-0401, A.3]

7.2. Monitoring Requirements

7.2.1. None.

7.3. Testing Requirements

7.3.1. None.

7.4. Recordkeeping Requirements

7.4.1. To determine compliance with heptane usage limits set forth in Requirement 7.1.1, the permittee shall keep records of the amount of heptane used using a rolling yearly total. A rolling yearly total shall mean the sum of the usage of heptane at any given time for the previous twelve (12) consecutive calender months. This information, shall be recorded in a manner that, at a minimum, contains the same information as Attachment A of the Permit R13-0401B (Heptane Usage in Buildings 151 and 8203): on a monthly basis record a yearly total of heptane usage for building 151 and for building 8203 (in gallons), and shall be kept on site for a period of five years and certified records shall be made available for inspection by the Director or a duly authorized representative of the Director upon request.
[45CSR13, R13-0401, B.1]

7.4.2. To determine compliance with the heptane (VOC) emission limit set forth in Requirement 7.1.2, a calculation shall be made utilizing the information required by Requirement 7.4.1 and information contained in the

material safety data sheet for heptane, assuming that 100 percent of all heptane used is emitted to the atmosphere. This information, shall be kept on site for a period of five years and certified records shall be made available for inspection by the Director or a duly authorized representative of the Director upon request. **[45CSR13, R13-0401, B.2]**

7.5. Reporting Requirements

7.5.1. None.

7.6. Compliance Plan

7.6.1. None.

8.0 GMLRS Rocket Motor Chamber Preparation Requirements – Plant 1 [emission point ID(s): Z-3E, Z-4E, Z-7E, Z-8E, Z-9E, Z-11E, Z-12E, Z-13E, Z-14E, Z-15E]

8.1. Limitations and Standards

8.1.1. ~~The permittee is permitted to operate the rocket motor chamber preparation process, Building 256 in accordance with the Emission Limitations and Standards as specified below:~~

~~Emission Point I.D. No.~~	~~Maximum PM_{10} Emission Limitation~~		~~Maximum VOC Emission Limitation~~		~~HAP Emission Limitation~~	
	~~Lb/hr~~	~~Ton/year~~	~~Lb/hr~~	~~Ton/year~~	~~Lb/hr~~	~~Ton/year~~
~~Z-1E~~	~~N/A~~	~~N/A~~	~~4.06~~	~~1.58~~	~~N/A~~	~~N/A~~
~~Z-2E~~	~~N/A~~	~~N/A~~	~~3.73~~	~~0.97~~	~~N/A~~	~~N/A~~
~~Z-3E~~	~~0.02~~	~~0.01~~	~~3.53~~	~~0.92~~	~~0.04~~	~~0.01~~
~~Z-4E~~	~~N/A~~	~~N/A~~	~~0.19~~	~~0.05~~	~~0.01~~	~~0.01~~
~~Z-5E~~	~~N/A~~	~~N/A~~	~~9.87~~	~~2.44~~	~~N/A~~	~~N/A~~
~~Z-7E~~	~~N/A~~	~~N/A~~	~~0.65~~	~~0.21~~	~~0.87~~	~~0.12~~
~~Z-8E~~	~~0.03~~	~~0.01~~	~~4.0~~	~~3.63~~	~~3.50~~	~~1.81~~
~~Z-9E~~	~~0.03~~	~~0.01~~	~~4.0~~	~~3.63~~	~~3.50~~	~~1.81~~
~~Z-10E~~	~~N/A~~	~~N/A~~	~~9.38~~	~~2.44~~	~~N/A~~	~~N/A~~
~~Z-11E~~	~~N/A~~	~~N/A~~	~~0.49~~	~~0.13~~	~~N/A~~	~~N/A~~
~~Z-12E~~	~~N/A~~	~~N/A~~	~~0.65~~	~~0.21~~	~~0.87~~	~~0.12~~
~~Z-13E~~	~~0.03~~	~~0.01~~	~~4.0~~	~~3.63~~	~~3.50~~	~~1.81~~
~~Z-15E~~	~~0.04*~~	~~0.122*~~	~~N/A~~	~~N/A~~	~~N/A~~	~~N/A~~
~~Z-16E~~	~~N/A~~	~~N/A~~	~~2.5~~	~~0.64~~	~~N/A~~	~~N/A~~

~~* Compliance with this emission limit demonstrates compliance with 45 CSR§7-4.1~~

VOCs and volatile HAP emissions from manufacturing of composite rocket motor casing in Building 256 shall not exceed 31.59 tons of VOCs per year with a daily VOC emission rate not to be exceeded of 243.1 lb per operating day; and total HAPs shall not exceed 5.84 tons of HAP per year. The permittee is permitted to operate the rocket motor casing line in Building 256 at the ABL in accordance with the following limitations as specified below:

(a) The permittee shall not exceed the following usage/losses limits by material for the denoted emission source except for application booths and mixing hoods. For application booth Z-8S, and Z13S, the permittee may apply either of the noted material (specialty coatings) in either application booth given that compliance with the daily and annual limits are maintained for the respective materials (Chemlok and/or Bondliner (BL)). For the mixing hoods (Z-7S and Z-12S), the permittee may switch of the denoted coatings between the two hoods given that both compounds are not mixed in the same hood as the same time and that the compliance with the daily and annual limits are maintained for the respective materials (Chemlok and/or Bondliner (BL)). Compliance with the annual limits in the following table shall be demonstrated using a 12-month rolling total basis.

Table 8.1.1.a. Material Usage/Losses Limits

Emission Source	Emission Point	Material	Usage/Loses Limits	
			Daily Limit (gal/day)	Annual Limit (gal/yr)
Z-1S	Fugitive	Frekote 700-NC	5	1,257
Z-2S	Fugitive	IPA	2	488
		MEK	1	244
Z-5S	Z-5E	IPA	8	1,853
Z-6S	Z-6E	IPA	2	98
Z-7S	Z-7E	Chemlok 205	2	49
		Chemlok 234	4	61
Z-8S	Z-8E	Chemlok 205	4	580
		Chemlok 234	2	630
		MEK	2	325
		Toluene	1	325
Z-9S	Z-9E	Chemlok 205	1	31
		Chemlok 234	1	33
Z-10S	Z-10E	IPA	8	1,853
Z-11S	Z-11E	IPA	1	98
Z-12S	Z-12E	BL-004	1	47
Z-13S	Z-13E	BL-004	4	784

Table 8.1.1.a. Material Usage/Losses Limits				
Emission Source	Emission Point	Material	Usage/Loses Limits	
			Daily Limit (gal/day)	Annual Limit (gal/yr)
Z-14S	Z-14E	BL-004	1	41
Z-16S	Fugitive	IPA	2	488

(b) The all coatings applied are to be compliant with the VOC and HAP content limitation of Subpart GG of 40 CFR 63 and requirements for Condition 8.1.4 as applicable.

(c) All cleaning operations and activities associated with this manufacturing operation are compliant with the requirements of Condition 8.1.3 as applicable.

(d) This permit does not restrict or limit the use of acetone.

[45CSR13, R13-3334, 4.1.1.]

8.1.2. PM, PM_{10} and PM HAP emissions from the application of primer or specialty coatings for the manufacturing of composite rocket motor casing in Building 256 shall not exceed 0.09 lb/operating day and 0.50 TPY. For purposes of limiting the facility's emissions to the above-mentioned limits, the following conditions are established:

a. When primer or specialty coatings are being applied, each application booth (Z-8S, Z-13S) in which the coating is being applied in shall be operated in a manner that filter PM from the overspray of the coating is effectively captured by the filter media for the respective application booth. The filter media used in each application booth shall have a minimum filterable PM collection rating of 90% or greater. The permittee shall replace the filter media in accordance with the manufacturer's specifications.
[45CSR§7-5.1]

b. Compliance with the annual limitation of this condition will be satisfied by compliance with the requirements of this condition and compliance with the primer and specialty coating usage limitation of Condition 8.1.1 of this permit.

c. The drying station identified as Z-9S shall be equipped with an exhaust system that effectively captures the exhaust from the drying station and routes this stream to control device Z-5C before being released to the atmosphere at all times when components are in the drying station. Control device Z-5C shall be equipped with a filtration media that has a minimum collection efficiency of 90% or greater of filterable PM.
[45CSR§7-5.1.]

d. Exhaust of each case machining operation shall be captured and routed to the control device Z-4C before being released to the atmosphere at all time when any of the machining operations is in use. Control Device Z-4C shall be installed and maintained so as to achieve a minimum of 80% efficiency for filterable PM. The permittee shall replace the afterfilter media of this control device in accordance with the manufacturer's specifications.
[45CSR§7-5.1.]

e. PM emissions from the case machining operations shall not exceed 0.09 lb/hr.

f. Emission points Z-8E, Z-9E, Z-13E, Z-15E shall not exhibit visible emissions in excess of 20% opacit on a 6-minute average basis.

[45CSR7-3.1]

~~The facility may only use the coatings as described in the permit application.~~

[45CSR13, R13-3334, 4.1.2.]

8.1.3. The permittee shall comply with all applicable standards from the Cleaning Operation section of 40 CFR 63 Subpart GG – National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Section 8.0 of this permit is demonstrated:

§ 63.744 Standards: Cleaning operations

(a) Housekeeping measures. The permittee shall comply with the requirements in the subparagraphs (a)(1) through (a)(3) unless the cleaning solvent used is identified in Table 8.1.3.a or contains HAP and VOC below the de minimis levels specified in 40 CFR §63.741(f).

Table 8.1.3.a. - Composition Requirements for Approved Cleaning Solvents

Cleaning solvent type	Composition requirements
Aqueous	Cleaning solvents in which water is the primary ingredient (≥80 percent of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzyme mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g., high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, pH buffers, and antifoaming agents. Aqueous solutions must have a flash point greater than 93 °C (200 °F) (as reported by the manufacturer), and the solution must be miscible with water.
Hydrocarbon-based	Cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20 °C (3.75 in. H2O and 68 °F). These cleaners also contain no HAP.

(1) Place cleaning solvent-laden cloth, paper, or any other absorbent applicators used for cleaning in bags or other closed containers upon completing their use. Ensure that these bags and containers are kept closed at all times except when depositing or removing these materials from the container. Use bags and containers of such design so as to contain the vapors of the cleaning solvent. Cotton-tipped swabs used for very small cleaning operations are exempt from this requirement.

(2) Store fresh and spent cleaning solvents, except semi-aqueous solvent cleaners, used in aerospace cleaning operations in closed containers.

(3) Conduct the handling and transfer of cleaning solvents 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.

(b) Hand-wipe cleaning. The permittee (excluding cleaning of spray gun equipment performed in accordance with paragraph (c) of this condition) shall use cleaning solvents that meet one of the requirements specified in the following paragraphs (b)(1), (b)(2), and (b)(3). Cleaning solvent solutions that contain HAP and VOC below the de minimis levels specified in §63.741(f) are exempt from the requirements in paragraphs (b)(1), (b)(2), and (b)(3) of this condition (excluding cleaning of spray gun equipment performed in accordance with the following paragraph (c) of this condition).

(1) Meet one of the composition requirements in Table 1 of this section (Table 8.1.3.a);

(2) Have a composite vapor pressure of 45 mm Hg (24.1 in. H_2O) or less at 20 °C (68 °F); or

(3) Demonstrate that the volume of hand-wipe solvents used in cleaning operations has been reduced by at least 60% from a baseline adjusted for production. The baseline shall be established as part of an approved alternative plan administered by the State. Demonstrate that the volume of hand-wipe cleaning solvents used in cleaning operations has been reduced by at least 60 percent from a baseline adjusted for production. The baseline shall be calculated using data from 1996 and 1997, or as otherwise agreed upon by the Administrator or delegated State Authority. The baseline shall be approved by the Administrator or delegated State Authority and shall be included as part of the facility's title V or part 70 permit.

(c) Spray gun cleaning. The permittee subject to this subpart in which spray guns are used for the application of coatings or any other materials that require the spray guns to be cleaned shall use one or more of the techniques, or their equivalent, specified in the following paragraphs (c)(1) through (c)(4). Spray gun cleaning operations using cleaning solvent solutions that contain HAP and VOC below the de minimis levels specified in §63.741(f) are exempt from the requirements in paragraphs (c)(1) through (c)(4) of this condition.

(1)(i) Enclosed system. Clean the spray gun in an enclosed system that is closed at all times except when inserting or removing the spray gun. Cleaning shall consist of forcing solvent through the gun.

(1)(ii) If leaks are found during the monthly inspection required in §63.751(a), repairs shall be made as soon as practicable, but no later than 15 days after the leak was found. If the leak is not repaired by the 15th day after detection, the cleaning solvent shall be removed, and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued.

(2) Nonatomized cleaning. Clean the spray gun by placing cleaning solvent in the pressure pot and forcing it through the gun with the atomizing cap in place. No atomizing air is to be used. Direct the cleaning solvent from the spray gun into a vat, drum, or other waste container that is closed when not in use.

(3) Disassembled spray gun cleaning. Disassemble the spray gun and clean the components by hand in a vat, which shall remain closed at all times except when in use. Alternatively, soak the components in a vat, which shall remain closed during the soaking period and when not inserting or removing components.

(4) Atomizing cleaning. Clean the spray gun by forcing the cleaning solvent through the gun and direct the resulting atomized spray into a waste container that is fitted with a device designed to capture the atomized cleaning solvent emissions.

(5) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems that can be programmed to spray into a closed container, shall be exempt from the requirements of paragraph (c) of this section.

(e) Exempt cleaning operations. The following cleaning operations are exempt from the requirements of paragraph (b) of this condition:

(1) Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;

(2) Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);

(3) Cleaning and surface activation prior to adhesive bonding;

(4) Cleaning of electronic parts and assemblies containing electronic parts;

(5) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;

(6) Cleaning of fuel cells, fuel tanks, and confined spaces;

(7) Surface cleaning of solar cells, coated optics, and thermal control surfaces;

(8) Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used in the interior of the aircraft;

(9) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components;

(10) Cleaning of aircraft transparencies, polycarbonate, or glass substrates;

(11) Cleaning and cleaning solvent usage associated with research and development, quality control, and laboratory testing;

(12) Cleaning operations, using non flammable liquids, conducted within five feet of energized electrical systems. Energized electrical systems means any AC or DC electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells and tail sections; and

(13) Cleaning operations identified as essential uses under the Montreal Protocol for which the Administrator has allocated essential use allowances or exemptions in 40 CFR 82.4.

~~For the purpose of determining compliance with the emission limitations set forth in Section 8.1.1, the facility shall maintain a daily record of batch production and shall record this production for condition 8.1.4 (a) (k). The maximum lots per year shall not exceed 260 mandrel units (1 unit equal 24 casings).~~

[45CSR13, R13-3334, 4.1.3; 40CFR§§63.744(a)(1) through (3), (b), (c), and (e); 45CSR34]

8.1.4. The permittee shall comply with all applicable standards from the primer, topcoat, and specially coating application operations section of 40 CFR 63 Subpart GG – National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Section 8.0 of this permit is demonstrated:

§63.745 Standards: Primer, topcoat, and specialty coating application operations.

(a) The permittee subpart shall comply with the requirements specified in paragraph (c) of this condition

for those coatings that are uncontrolled (no control device is used to reduce organic HAP emissions from the operation).

(b) The permittee shall conduct the handling and transfer of primers, topcoats, and specialty coatings to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

(c) *Uncontrolled coatings—organic HAP and VOC content levels*. The permittee shall comply with the organic HAP and VOC content limits specified in the following paragraphs (c)(5) and (c)(6) of this condition for those coatings that are uncontrolled.

(c)(5) Organic HAP emissions from specialty coatings shall be limited to an organic HAP content level of no more than the HAP content limit specified in Table 1-Specialty Coating-HAP and VOC Content Limits of 40 CFR §63.745 for each applicable specialty coating type.

(c)(6) VOC emissions from specialty coatings shall be limited to a VOC content level of no more than the VOC content limit specified in Table 1-Specialty Coating-HAP and VOC Content Limits of 40 CFR §63.745 for each applicable specialty coating type.

~~For purposes of demonstrating compliance with the Emission Limitations and Standards of Section 8.1.1, the permittee shall operate as follows:~~

~~a. The maximum number of mandrel units to be coated in a day is 24 units (1 Lot) at emission unit Z-1S. The maximum daily mold release agent (Frekote 700-NC) used at the Mandrel Release Coating Application Table shall not exceed 12.18 lb/day.~~

~~b. The maximum number of units to be processed per day at emission unit Z-2S is 48 units. The maximum usage of IPA to be used shall not exceed 4.94 lb/day and 2.52 lb/day of methyl ethyl ketone (MEK).~~

~~c. The maximum number of units to be processed/sprayed per day at emission unit Z-3S is 48 units. The maximum usage of Corrosion Inhibiting Primer (BR-127) to be used shall not exceed 7.06 lb/day. The maximum units to be charged to the oven (Z-4S) shall not exceed 48 units/day.~~

~~d. The maximum number of units to be processed per day at emission unit Z-5S is 24 units. The maximum usage of IPA to be used shall not exceed 18.76 lb/day. The maximum units to be dryed at the degreasing drying station (Z-6S) shall not exceed 24 units/day.~~

~~e. The maximum number of units to be processed/sprayed per day at emission unit Z-7S is 24 units. The maximum usage of Chemlok 205/MEK mix and Chemlok 234/Toluene mix, and Bondliner (BL-004) shall not exceed 3.75 gallons/day, 4.69 gallons/day, and 3.61 gallons/day respectively.~~

~~f. The maximum number of units to be processed/sprayed per day at emission unit Z-8S is 24 units. The maximum usage of Chemlok 205/MEK mix, Chemlok 234/Toluene mix, and Bondliner (BL-004) shall not exceed 3.46 lb/hr, 3.84 lb/hr, and 4.89 lb/hr respectively. Cleanup operations at emission unit Z-8S shall not exceed 2 gallons/day of MEK and 2 gallons/day of Toluene. The maximum units to be dryed at the Application Booth (Z-8S) shall not exceed 24 units/day.~~

~~g. The maximum number of units to be processed per day at emission unit Z-9S is 24 units. The maximum usage of Chemlok 205/MEK mix, Chemlok 234/Toluene mix, and Bondliner (BL-004) shall not exceed 3.46 lb/hr, 3.84 lb/hr, and 4.89 lb/hr respectively. Cleanup operations at emission unit Z-9S shall not exceed 2 gallons/day of MEK and 2 gallons/day of Toluene. The maximum units to be dryed at the Application Booth (Z-9S) shall not exceed 24 units/day.~~

~~h. The maximum number of units to be processed/sprayed per day at emission unit Z-12S is 24 units. The maximum usage of Chemlok 205/MEK mix, Chemlok 234/Toluene mix, and Bondliner (BL-004) shall not exceed 3.75 gallons/day, 4.69 gallons/day, and 3.61 gallons/day respectively.~~

~~i. The maximum number of units to be processed/sprayed per day at emission unit Z-13S is 24 units. The maximum usage of Chemlok 205/MEK mix, Chemlok 234/Toluene mix, and Bondliner (BL-004) shall not exceed 3.46 lb/hr, 3.84 lb/hr, and 4.89 lb/hr respectively. Cleanup operations at emission unit Z-13S shall not exceed 2 gallons/day of MEK and 2 gallons/day of Toluene. The maximum units to be dryed at the Chemlok drying station (Z-13S) shall not exceed 24 units/day.~~

~~j. The maximum number of units to be processed/machined per day at emission unit Z-15S is 2 cases/hr. The yearly maximum for this emission unit is 6,240 cases/year (260 lots/year).~~

~~k. The maximum number of units to be processed per day at emission unit Z-16S is 48 units. The maximum usage of IPA to be used shall not exceed 4.94 lb/day.~~

[45CSR13, R13-3334, 4.1.4; 40CFR§§63.745(a), (b), (c)(5), and (c)(6); 45CSR34]

8.1.5. In the event that the manufacturing of composite rocket motor casing in Building 256 produces a waste that contains HAP, the permittee 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; except as provided in 40 CFR §63.741(e). The permittee shall use closed containers to store all waste that contains organic HAP at the facility.

~~Control Devices [Z-1C, Z-2C, Z-3C, and Z-5C] (GFS Single Stage Wave Filters as specified in the permit application) and [Z-4C] (Dry Cyclone Collector and Polypropylene Sateen Fabric Filter) shall be in use at any time the spray booths or the machining equipment are in use.~~
[40CFR§63.748(a), (a)(1) and (a)(2); 45CSR34; 45CSR13, R13-3334, 4.1.5.]

~~8.1.6. The particulate filters used in the paint spray booth and identified as control device Z-1C, Z-2C, Z-3C, and Z-5C shall be installed and maintained so as to achieve a minimum of 90% efficiency in the control of PM emissions from the Primer and Application Spray Booths. The filters are to be equipped with a manometer to measure the pressure drop across the filter bank to determine when the filters need to be replaced as needed as part of scheduled routine maintenance. The control device Z-4C shall be installed and maintained so as to achieve a minimum of 80% efficiency at the cyclone, and 99.93% efficiency at the fabric filter.~~
~~[45CSR§7-5.1.; 45CSR13, R13-3334, 4.1.6.]~~

8.1.~~6~~7. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.11. 45CSR13, R13-3334, 4.1.~~6~~9.]

8.2. Monitoring Requirements

8.2.1. The permittee for paint booths and related equipment (Emission Points Z-8E, Z-9E, and Z-13E) shall conduct fabric filter checks prior to each use of the equipment. These checks shall include review to ensure filters are properly fitted to the unit, that no holes exist, and that the filters are not overloaded. Any changes made to

filters during the checks or any filter replacements shall be recorded. Records of such inspections and maintenance performed as result of any inspection shall be maintained in accordance with Condition 3.4.2 of this permit.

~~The permittee shall perform the following monitoring requirements:~~

~~a. Compliance with Section 3 of 45CSR7 (Requirement 3.1.10 of this Permit) for paint booths and related equipment (Emission Points Z-3E, Z-8E, Z-9E, and Z-13E) shall be determined by conducting fabric filter checks prior to each use of the equipment. These checks shall include review to ensure filters are properly fitted to the unit, that no holes exist, and that the filters are not overloaded. Any changes made to filters during the checks or any filter replacements shall be recorded.~~

~~b. Compliance with Section 3 of 45CSR7 (Requirement 3.1.10 of this Permit) for the machining center (Emission Point Z-15E) shall be determined by continuous monitoring of the pressure drop across the filter. The monitor shall be equipped with an alarm that shall sound if the pressure drop is inadequate. Upon receiving an alarm, the equipment must shut down until the filters are cleaned or replaced. Preventative maintenance shall be performed and recorded on the manometer and alarm at least annually.~~

[45CSR13, R13-3334, 4.2.1.]

8.2.2. For the purpose of determining compliance with the PM limitations set forth in Condition 8.1.2, the permittee shall maintain a daily record of the either manometer reading or other differential pressure instrument across the filter element or control device for Emission Points Z-8E, Z-9E, and Z-13E, and Z-15E. Should a daily reading indicate filter media or other maintenance is required to restore proper operation of the respective control device, the permittee shall take a second reading once the element(s) has been replaced or when the requirement maintenance is complete. The permittee shall calibrate the manometer or other differential pressure instrument at least once every calendar year in accordance with the instrument manufacturer's procedures and specifications. Such records shall be maintained in accordance with Condition 3.4.2 of this permit.

~~For the purpose of determining compliance with the PM_{10} limitations set forth in Section 8.1, the facility shall maintain a filter replacement logsheet for the filter banks for Emission Points Z-3E, Z-8E, Z-9E, and Z-13E. These logsheets shall be maintained on site for a period of five (5) years. Certified copies of the logsheets shall be made available to the Director or his duly authorized representative upon request.~~
[45CSR13, R13-3334, 4.2.2.]

8.2.3. For the purpose of determining compliance with the PM limitations set forth in Condition 8.1.2, the permittee shall maintain a continuous parameter monitoring system that monitors the differential pressure across Control Device Z-15E. Such a system shall continuously measure the differential pressure (pressure drop across) Control Device Z-15E. This system shall provide a visual and audible alarm to all operators in the case machining area. The permittee shall calibrate the manometer or other differential pressure instrument of this system at least once every calendar year in accordance with the instrument manufacturer's procedures and specifications. The permittee shall perform preventative maintenance and conduct a verification check on the continuously monitoring system at least once per calendar. Records all instances that the system alarm activated, corrective action taken for the instance, and maintenance performed on the system shall be maintained in accordance with Condition 3.4.2 of this permit.

~~For the purpose of determining compliance with the PM_{10} and VOC limitations set forth in Section 8.1, the facility shall maintain daily usage records at the primer and application spray booths. Daily and year-to-date (YTD) VOC emissions shall be calculated on a monthly basis using these records. Because PM_{10} emissions after controls are relatively small, these emissions shall be calculated only once a year. Example logsheets~~

~~are given in Attachment 1-12 of Permit R13-3334. These logsheets shall be maintained on site for a period of five (5) years. Certified copies of the logsheets shall be made available to the Director or his duly authorized representative upon request.~~
[45CSR13, R13-3334, 4.2.3.]

8.2.4. For the purpose of determining compliance with the VOC and HAP emission limits set forth in Condition 8.1.1 the permittee shall maintain daily records of usage/losses of materials identified in Table 8.1.1.a of this permit by emission source for each operating day. By no later than the 15th of preceding month, the permittee shall determine the 12-month rolling total of the material usages/losses of each emission point in Table 8.1.1.a. Such records shall be maintained in accordance with Condition 3.4.2 of this permit.

[45CSR13, R13-3334, 4.2.4]

8.3. Testing Requirements

8.3.1. Reserved

8.4. Recordkeeping Requirements

8.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, R13-3334, 4.4.2]

8.4.2. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, R13-3334, 4.4.3]

8.4.3. The permitted facility shall comply with all the applicable recordkeeping provisions of the 40 CFR 63 Subpart GG National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Section 4.4. of this permit, is demonstrated:

§ 63.752 Recordkeeping requirements.

(b) Cleaning operation. Each owner or operator of a new or existing cleaning operation subject to this subpart shall record the information specified in paragraphs (b)(1) through (b)(5) of this section, as appropriate.

(1) The name, vapor pressure, and documentation showing the organic HAP constituents of each cleaning solvent used for affected cleaning operations at the facility.

(2) 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:

(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.

(3) For each cleaning solvent used in hand-wipe cleaning operations that does not comply with the composition requirements in §63.744(b)(1), but does comply with the vapor pressure requirement in §63.744(b)(2):

(i) The name of each cleaning solvent used;

(ii) The composite vapor pressure of each cleaning solvent used;

(iii) All vapor pressure test results, if appropriate, data, and calculations used to determine the composite vapor pressure of each cleaning solvent; and

(iv) The amount (in gallons) of each cleaning solvent used each month at each operation.

(4) 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):

(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 applies.

(5) A record of all leaks from enclosed spray gun cleaners identified pursuant to §63.751(a) that includes for each leak found:

(i) Source id/entification;

(ii) Date leak was discovered; and

(iii) Date leak was repaired.

~~To demonstrate compliance with the Requirement 8.1.6 (45CSR§7-5.1) the company shall keep records of maintenance and operations of fugitive dust control systems.~~
[45CSR13, R13-3334, 4.4.~~45~~; 40CFR63.752(b); 45CSR34]

8.5. Reporting Requirements

8.5.1. Any exceedance ~~violation~~(s) of the allowable visible emission requirement for any emission source discovered during observation using 45CSR§7A must be reported in writing to the Director of the Division of Air Quality as soon as practicable, but within ten (10) calendar days, of the occurrence and shall include, at a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.
[45CSR13, R13-3334, 4.5.1]

8.5.2. The permitted facility shall comply with all applicable reporting provisions of 40 CFR 63 Subpart GG - National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Section 8.0 of this Permit, is demonstrated:

§ 63.753 Reporting requirements.

(b) Cleaning operation. Each owner or operator of a cleaning operation subject to this subpart shall submit the following information:

(1) Semiannual reports occurring every 6 months from the date of the notification of compliance status that identify:

(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 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in §63.744(b)(1) (Section 8.1.3 of this Permit);

(iii) Any instance where a noncompliant spray gun cleaning method is used;

(iv) Any instance where a leaking enclosed spray gun cleaner remains unrepaired and in use for more than 15 days; and

(v) 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.

[45CSR13, R13-3334, 4.5.2]

8.6. Compliance Plan

8.6.1. None

9.0. GMLRS Rocket Motor Manufacture Requirements – Plant 3, Bldg. 3040 (Emission Unit IDs P3-1S, P3-2S and P3-3S).

9.1. Limitations and Standards

9.1.1. The following limitations and requirements are specific to the wash tanks identified as P3-1S, P3-2S, and P3-3S.

a. Total VOC emissions from P3-1S, P3-2S, and P3-3S shall not exceed 20.88 tons per year.

b. Compliance with the above VOC limit is satisfied if the actual usage of heptane is equal to or less than 7,000 gallons and actual usage of isopropyl alcohol (IPA) is equal to or less than 1,856 gallons during any consecutive 12-month rolling period.

c. To minimize fugitive VOC emissions from these wash tanks, the permittee shall keep the tanks covered at all times when not in use. Such covers shall consist of a conductive plastic sheeting with a minimum thickness of 3/16 of an inch and extends past the opening of the vessel with no gaps in the opening.

d. The permittee shall only use heptane or isopropyl alcohol in the wash tanks.

[45CSR13, R13-3408, 4.1.1]

9.1.2. The following limitations and requirements are specific to the activities performed in Disassembly Work Areas.

a. VOC emissions due to the hand-wiping of components during the disassembly process step shall not exceed 6.49 tons per year.

b. Compliance with the above limit is satisfied when actual usage of isopropyl alcohol (IPA) is equal to or less than 750 gallons and actual usage of heptane is equal to or less than 1,406 gallons during any consecutive 12-month rolling period.

[45CSR13, R13-3408, 4.1.2]

9.1.3. The following limitations and requirements are specific to the activities performed in the Igniter/Nozzle Assembly and Final Assembly Work Areas.

a. VOC emissions due to the final assembly process step shall not exceed 2.17 tons per year.

b. Compliance with the above limit is satisfied when actual usage of isopropyl alcohol (IPA) is equal to or less than 4,331 gallons during any consecutive 12-month rolling period.

c. VOC emissions due to the application of packaging stenciling inks shall not exceed 1.06 tons per year.

d. HAP emissions due to the application of packaging stenciling inks shall not exceed 0.19 tons per year.

[45CSR13, R13-3408, 4.1.3]

9.2. Monitoring Requirements

9.2.1 The permittee shall monitor and record the actual usage of heptane and isopropyl alcohol used in each of the process areas; Wash Tanks, Disassembly Area, Igniter/Nozzle Assembly and Final Assembly Work Areas each calendar month and 12-month rolling total usage of each solvent for each area to demonstrate compliance with the VOC limits in Conditions 9.1.1, 9.1.2, and 9.1.3. Such records shall be maintained in accordance with Condition 3.4.2.
[45CSR13, R13-3408, 4.2.1]

9.2.2. The permittee shall determine, on a monthly basis, the VOC and total HAP emissions emitted due to application of stencil inks to packaging crates to demonstrate compliance with the VOC and HAP emission limits in items c. and d. of Condition 9.1.3. Such records shall include the amount of each coating applied, VOC content of each coating applied, and total HAP content of each coating applied during the corresponding month. All records shall be maintained in accordance with Condition 3.4.2.
[45CSR13, R13-3408, 4.2.2]

9.3. Testing Requirements

9.3.1. None

9.4. Recordkeeping Requirements

9.4.1. None

9.5. Reporting Requirements

9.5.1. None

9.6. Compliance plan

9.6.1. None

10.0. GMLRS Rocket Motor Manufacture Requirements– Plant 3, Bldg. 3030 (Emission Unit ID P3-10S).

10.1. Limitations and Standards

10.1.1. The following limitations and requirements are specific to the mixer identified as P3-10S.

a. The permittee shall install and operate a portable control device identified as C1 to capture fugitive PM while introducing aluminum powder to the mixer. This portable control device shall be maintained and operated in accordance with the manufacturer's written maintenance and operating procedures. **[45CSR§7-5.1]**

b. The vacuum pump for the mixer shall be equipped and maintained with a liquid seal to minimize emissions from the mixer.

c. The mixer, which includes the structure it is located within and the vent for the vacuum pump, shall not exhibit any visible emissions. The vacuum pump shall be maintained and operated in accordance with the manufacturer's written maintenance and operating procedures. **[45CSR§7-3.1]**

d. VOC emissions due to cleaning the mixer shall not exceed 1.57 tons per year.

e. Compliance with the VOC limit in item d. of this condition shall be satisfied through actual usage of QED cleaning solvent at 500 gallons or less during any consecutive 12-month period.

[45CSR13, R13-3408, 5.1.1]

10.1.2. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary. **[45CSR§13-5.10 and 45CSR13, R13-3408, 5.1.2]**

10.2. Monitoring Requirements

10.2.1. The permittee shall monitor and record the amount of solvent used each month to clean the mixer and maintain a 12-month rolling total of solvent consumed. Such records shall be maintained in accordance with Condition 3.4.2.

[45CSR13, R13-3408, 5.2.1]

10.3. Testing Requirements

10.3.1. None

10.4. Recordkeeping Requirements

10.4.1. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.
[45CSR13, R13-3408, 5.3.1]

10.4.2. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.

b. Steps taken to minimize emissions during the event.

c. The duration of the event.

d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.

f. Steps taken to correct the malfunction.

g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, R13-3408, 5.3.2]

10.4.3. The permittee shall record all instances that the portable control device identified as C1 was not operated during the charging of aluminum powder into the mixer. Such records shall include date, time, and reason the device was not operated. These records shall be maintained in accordance Condition 3.4.2.
[45CSR13, R13-3408, 5.3.3]

10.5. Reporting Requirements

10.5.1. None

10.6. Compliance plan

10.6.1. None

11.0. GMLRS Rocket Motor Manufacture Process Heaters Requirements– Plant 3, Bldg. 3030A (Emission Unit IDs: P3-7S, P3-8S, & P3-9S)

11.1. Limitations and Standards

11.1.1. The following conditions and requirements are specific to Process Heaters Nos. P3-7S, P3-8S, and P3-9S:

a. Each heater shall only be fired with pipeline quality natural gas. This condition satisfies compliance with the limitation of 45 CSR §2-3.1. **[45CSR§2A-3.1 and 45CSR13, R13-3408, 6.1.1.a]**

b. Each heater shall be designed or constructed with a maximum design heat input of 0.5 MMBtu/hr. Compliance with this limit for each heater shall be satisfied by limiting the annual consumption of natural gas to 4.38 MM cubic feet, measured on a 12-month rolling total. If the natural gas usage for all three units is metered through a common meter, then the 12-month rolling total shall not exceed 13.14 MM cubic feet. These heaters are excluded from the standards of 45CSR§2-4.1 and 45CSR§10-3.1.e due to this heat input limit.
[45CSR§2-11.1, 45CSR§10-10.1 and 45CSR13, R13-3408, 6.1.1.b]

11.1.2. The permittee shall conduct the initial tune-up and subsequent tune-ups for the heaters in accordance with the following timing and tune-up requirements:

a. The initial tune up for Heater Nos. P3-7S, P3-8S, and P3-9S shall be completed no later than 61 months after initial start-up of each affected unit respectively.
[45CSR34, 40CFR§§63.7510(g), §63.7495(a), §63.7490(b) and 45CSR13, R13-3408, 6.1.2.a]

b. Subsequent tune-ups for Heaters Nos. P3-7S, P3-8S, and P3-9S shall be completed no later than 61 months after the previous tune-up.
[45CSR34, 40CFR§63.7515(d), §63.7540(a)(12) and 45CSR13, R13-3408, 6.1.2.b]

c. Each tune-up shall consist of the following:

i. As applicable, inspect the burner, and clean or replace any components of the burner as necessary (permittee may delay the burner inspection until the next scheduled unit shutdown). At units where entry into a piece of process equipment or into a storage vessel is required to complete the tune-up inspections, inspections are required only during planned entries into the storage vessel or process equipment;

ii. Inspect the flame pattern, as applicable, and adjust the burner as necessary to optimize the flame pattern. The adjustment should be consistent with the manufacturer's specifications, if available;

iii. Inspect the system controlling the air-to-fuel ratio, as applicable, and ensure that it is correctly calibrated and functioning properly;

iv. Optimize total emissions of CO. This optimization should be consistent with the manufacturer's specifications, which includes the burner manufacturer's NO_x concentration specification;

v. Measure the concentrations in the effluent stream of CO in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.

[45CSR34, 40CFR§§63.7500(a)(1), 63.7505(a), 63.7540(a)(12), 63.7540(a)(10)(i) through (v), Table 3 (item 1) to Part 63 Subpart DDDDD—Work Practice Standards; 45CSR13, R13-3408, 6.1.2.c]

11.2. Monitoring Requirements

11.2.1. The permittee shall monitor and record the amount of natural gas consumed by each process heater individually or collectively through a common meter. Such records shall be maintained in accordance with Condition 3.4.2.
[45CSR13, R13-3408, 6.2.1]

11.3. Testing Requirements

11.3.1. None.

11.4. Recordkeeping Requirements

11.4.1. The permittee shall keep the following records in accordance with 40 CFR §63.7555. This includes but is not limited to the following information during the tune-up as required in Condition 11.1.2 and 40 CFR §63.7540:

a. The concentrations of CO in the effluent stream in parts per million by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler or process heater; and

b. A description of any corrective actions taken as a part of the tune-up.

[45CSR34, 40CFR§§63.7540 (a)(12), 63.7540(a)(10)(vi), 63.7555 and 45CSR13, R13-3408, 6.3.1]

11.5. Reporting Requirements

11.5.1. The permittee shall submit a "Notification of Compliance Status" for Process Heaters Nos. P3-7S, P3-8S, and P3-9S to the Director before the close of business on the sixtieth (60^{th}) day after completion of the initial compliance demonstration as required in Condition 11.1.2.a. Such "Notification of Compliance Status" shall be in accordance with 40 CFR §63.9(h)(2)(ii) and contain the information specified in 40 CFR §§63.7545(e)(1), and (8), which includes a statement the initial tune-up for each heater was completed:

(1) A description of the affected unit(s) including identification of which subcategories the unit is in, the design heat input capacity of the unit, a description of the add-on controls used on the unit to comply with this subpart, description of the fuel(s) burned, including whether the fuel(s) were a secondary material determined by you or the EPA through a petition process to be a non-waste under §241.3 of this chapter, whether the fuel(s) were a secondary material processed from discarded non-hazardous secondary materials within the meaning of §241.3 of this chapter, and justification for the selection of fuel(s) burned during the compliance demonstration.

(2) In addition to the information required in §63.9(h)(2), your notification of compliance status must include the following certification(s) of compliance, as applicable, and signed by a responsible official:

(i) "This facility completed the required initial tune-up for all of the boilers and process heaters covered by 40 CFR part 63 subpart DDDDD at this site according to the procedures in §63.7540(a)(10)(i) through (vi)."

[45CSR34, 40CFR§63.7545(e), (e)(1), (e)(8)(i) and 45CSR13, R13-3408, 6.4.1]

11.5.2. The permittee shall submit "5-year Compliance Reports" for Process Heaters Nos. P3-7S, P3-8S, and P3-9S electronically using CEDRI that is accessed through the EPA's Center Data Exchange (CDX) (www.epa.gov/cdx). Unless the EPA Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report, according to paragraph (h) of this section, by the date in Table 9 to this subpart and according to the requirements in paragraphs (b)(1) through (4) of this section. For units that are subject only to a requirement to conduct 5-year tune-up according to §63.7540(a)(12), and not subject to emission limits or Table 4 operating limits, you may submit only a 5-year compliance report as specified in paragraphs (b)(1) through (4) of this section, instead of a semi-annual compliance report.

(1) The first 5-year compliance report must cover the period beginning on the compliance date that is specified for each boiler or process heater in §63.7495 and ending on December 31 within 5 years after the compliance date that is specified for your source in §63.7495.

(2) The first 5-year compliance report must be postmarked or submitted no later than January 31.

(3) Each subsequent 5-year compliance report must cover the 5-year period from January 1 to December 31.

(4) Each subsequent 5-year compliance report must be postmarked or submitted no later than January 31.

(5) For each affected source that is subject to permitting regulations pursuant to part 70 or part 71 of this chapter, and if the permitting authority has established dates for submitting semiannual reports pursuant to 70.6(a)(3)(iii)(A) or 71.6(a)(3)(iii)(A), you may submit the first and subsequent compliance reports according to the dates the permitting authority has established in the permit instead of according to the dates in paragraphs (b)(1) through (4) of this section.

[45CSR34, 40CFR§§63.7550(b), (b)(1) through (b)(5) and (h)(3); 45CSR13, R13-3408, 6.4.2]

11.5.3. Compliance reports shall contain the information specified in 40 CFR §63.7550(c)(1) which are:

a. Permittee and facility name, and address;

b. Process unit information, emission limitations, and operating parameter limitations;

c. Date of report and beginning and ending dates of the reporting period;

d. Include the date of the most recent tune-up for each heater; and

e. Include the date of the most recent burner inspection if it was not done on a five-year frequency and was delayed until the next scheduled or unscheduled unit shutdown;

f. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.

The permittee shall maintain records of such reports in accordance with Condition 3.4.2.

[45CSR34, 40CFR§§63.7550(c)(1), (c)(5)(i) though (iii), (xiv), (xvii); 45CSR13, R13-3408, 6.4.2]

11.6. Compliance Plan

11.6.1. None.

12.0. Requirements for Crossdraft Paint Booths – B432 (2-19S) & B432 (2-20S)

12.1. Limitations and Standards

12.1.1. VOCs and volatile HAP emissions from manufacturing of the missile component system in Building 432 shall not exceed 3.00 tons of VOCs per year and total HAPs shall not exceed 2.11 tons of HAP per year. The permittee is permitted to operate this missile component manufacturing line in Building 432 at the ABL in accordance with the following limitations as specified below:

(a) The permittee shall not exceed the following usage limits by material for the denoted emission point. Compliance with the annual limits in the following table shall be demonstrated using a 12-month rolling total basis.

Table 12.1.1.a. Material Usage/Losses Limits

Emission Point	Material	Daily Usage (ounces/day)	Annual Usage (gal/yr)
2-16E	ZEP Industrial Alkaline Cleaner (BZ7407)	96	12
2-16E	Toluene	192	23
2-16E	PR-182 or PR-188	24	3
2-16E	PR-2001 B-2 or PR-1826 Class B	24	3
2-16E	MIL-C-8514 (Randolph or SW)	144	17
2-16E	TS12983 Primer	240	29
2-16E	Dowsil Q1-2650	48	6
2-16E	MIL-PRF-23377K (PPG or Chemsol)	144	17
2-16E	MIL-P-85285 #36375 - H	384	45
2-16E	MIL-P-85285 #33538 - H	96	12
2-16E	MIL-P-85285 #30117 - SW	96	12
2-16E	MIL-P-85285 #37038 - H	96	12
2-16E	MIL-P-85285 #38913 - C	96	2
2-16E	MIL-P-85285 #34230 - C	96	2
2-16E	MIL-P-85285 #35109 - C	96	2
2-17E	SS4155 Primer	48	6

Table 12.1.1.a. Material Usage/Losses Limits			
Emission Point	**Material**	**Daily Usage (ounces/day)**	**Annual Usage (gal/yr)**
2-17E	PR-9921	512	720
2-17E	Isopropyl Alcohol (IPA)	1,920	225

(b) The all coatings applied are to be compliant with the VOC and HAP content limitation of Subpart GG of 40 CFR 63 and requirements for Condition 12.1.4 as applicable.

(c) All cleaning operations and activities associated with this manufacturing operation are compliant with the requirements of Condition 12.1.3 as applicable.

~~The following limitations and requirements are specific to Crossdraft Paint Booth – B432 (2-19S):~~

~~a. The total VOC emissions from 2-19S shall not exceed 1,121 lb/yr.~~
~~b. The total PM emissions from 2-19S shall not exceed 23 lb/yr.~~
~~c. The total HAP emissions from 2-19S shall not exceed 92 lb/yr.~~
~~d. Crossdraft Paint Booth – B432 (2-19S) shall be equipped with 3-Stage Filtration (2-9C) which has a minimum PM capture and control efficiency of 95%.~~
~~e. The maximum amount of materials used per hour shall not exceed the following:~~
~~i. 102.5 ounces of IPA (12 units over 2 hours)~~
~~ii. 0.03 ounces of PR-182 or 188 Sealant Primer (12 units over 2 hours)~~
~~iii. 2.5 ounces of PR-2001 or PR-I826 Sealant (12 units over 2 hours)~~
~~iv. 8.6 ounces of MIL-C-8514 Primer (12 units over 2 hours)~~
~~v. 33.6 ounces of TS-12983 Primer (12 units over 2 hours) (total of 2 separate coats)~~
~~vi. 344 ounces of Gray MIL-PRF-85285 Urethane (12 units over 2 hours)~~
~~vii. 96 ounces of Brown MIL-PRF-85285 Urethane (12 units over 2 hours)~~
~~viii. 192 ounces of each Yellow and Black MIL-PRF-85285 Urethane (12 units over 1 hour)~~
~~ix. 96 ounces of each Red, Green, and Blue MIL-PRF-85285 Urethanes (12 units over 2 hours)~~

[45CSR13, R13-3534, 4.1.1]

12.1.2. PM, PM_{10} and PM HAP emissions from the application of primer or specialty coatings for the manufacturing of the missile component system in Building 432 shall not exceed 0.04 TPY. For purposes of limiting the facility's emissions to the above-mentioned limits, the following conditions are established:

a. When coatings are being applied or during sanding activities, each paint booth (2-19S, 2-20S) shall be operated in a manner that filterable PM from the overspray of the coating and PM (dust) from any sanding activities is effectively captured by the filter media for the respective application booth. The filter media used in each application booth shall have a minimum filterable PM collection rating of 95% or greater. The permittee shall replace the filter media in accordance with the manufacturer's specifications.
[45CSR§7-5.1.]

b. Compliance with the annual limitation of this condition will be satisfied by compliance with the requirements of this condition and compliance with the primer and specialty coating usage limitation of Condition 12.1.1 of this permit.

c. Emission points 2-16E and 2-17E shall not exhibit visible emissions in excess of 20% opacity on a 6-minute average basis.
[45CSR§7-3.1]

~~The following limitations and requirements are specific to Crossdraft Paint Booth – B432 (2-20S):~~

~~a. The total VOC emissions from 2-19S shall not exceed 958 lb/yr.~~
~~b. The total PM emissions from 2-19S shall not exceed 7 lb/yr.~~
~~c. The total HAP emissions from 2-19S shall not exceed 319 lb/yr.~~
~~d. Crossdraft Paint Booth – B432 (2-19S) shall be equipped with 3-Stage Filtration (2-10C) which has a minimum PM capture and control efficiency of 95%.~~
~~e. The maximum amount of materials used per hour shall not exceed the following:~~
~~i. 4.3 ounces of SS4155 primer (12 units over 2 hours)~~
~~ii. 258 ounces of PR–9921 sealant (12 units over 1 hour)(total of 2 separate coats)~~
~~iii. 70 ounces of PM generated from sanding (12 units over 1 hour)(total of 2 separate sanding operations)~~
~~iv. 203 ounces of IPA (12 units over 2 hours)(total of 2 separate wiping operations)~~

[45CSR13, R13-3534, 4.1.2]

12.1.3. The permittee shall comply with all applicable standards from the Cleaning Operation section of 40 CFR 63 Subpart GG – National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Section 12.0 of this permit is demonstrated:

§63.744 Standards: Cleaning operations

(a) Housekeeping measures. The permittee shall comply with the requirements in the subparagraphs (a)(1) through (a)(3) unless the cleaning solvent used is identified in Table 12.1.3.a or contains HAP and VOC below the de minimis levels specified in 40 CFR §63.741(f).

Table 12.1.3.a. - Composition Requirements for Approved Cleaning Solvents

Cleaning solvent type	Composition requirements
Aqueous	Cleaning solvents in which water is the primary ingredient (≥80 percent of cleaning solvent solution as applied must be water). Detergents, surfactants, and bioenzyme mixtures and nutrients may be combined with the water along with a variety of additives, such as organic solvents (e.g., high boiling point alcohols), builders, saponifiers, inhibitors, emulsifiers, pH buffers, and antifoaming agents. Aqueous solutions must have a flash point greater than 93 °C (200 °F) (as reported by the manufacturer), and the solution must be miscible with water.
Hydrocarbon-based	Cleaners that are composed of photochemically reactive hydrocarbons and/or oxygenated hydrocarbons and have a maximum vapor pressure of 7 mm Hg at 20 °C (3.75 in. H_2O and 68 °F). These cleaners also contain no HAP.

(1) Place cleaning solvent-laden cloth, paper, or any other absorbent applicators used for cleaning in bags or other closed containers upon completing their use. Ensure that these bags and containers are kept closed at all times except when depositing or removing these materials from the container. Use bags and containers of such design so as to contain the vapors of the cleaning solvent. Cotton-tipped swabs used for very small cleaning operations are exempt from this requirement.

(2) Store fresh and spent cleaning solvents, except semi-aqueous solvent cleaners, used in aerospace cleaning operations in closed containers.

(3) Conduct the handling and transfer of cleaning solvents 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.

(b) Hand-wipe cleaning. The permittee (excluding cleaning of spray gun equipment performed in accordance with paragraph (c) of this condition) shall use cleaning solvents that meet one of the requirements specified in the follow paragraphs (b)(1), (b)(2), and (b)(3). Cleaning solvent solutions that contain HAP and VOC below the de minimis levels specified in §63.741(f) are exempt from the requirements in paragraphs (b)(1), (b)(2), and (b)(3) of this condition (excluding cleaning of spray gun equipment performed in accordance with the following paragraph (c) of this condition).

(1) Meet one of the composition requirements in Table 1 of this section (Table 12.1.3.a);

(2) Have a composite vapor pressure of 45 mm Hg (24.1 in. H_2O) or less at 20 °C (68 °F); or

(3) Demonstrate that the volume of hand-wipe solvents used in cleaning operations has been reduced by at least 60% from a baseline adjusted for production. The baseline shall be established as part of an approved alternative plan administered by the State. Demonstrate that the volume of hand-wipe cleaning solvents used in cleaning operations has been reduced by at least 60 percent from a baseline adjusted for production. The baseline shall be calculated using data from 1996 and 1997, or as otherwise agreed upon by the Administrator or delegated State Authority. The baseline shall be approved by the Administrator or delegated State Authority and shall be included as part of the facility's title V or part 70 permit.

(c) Spray gun cleaning. The permittee subject to this subpart in which spray guns are used for the application of coatings or any other materials that require the spray guns to be cleaned shall use one or more of the techniques, or their equivalent, specified in the following paragraphs (c)(1) through (c)(4). Spray gun cleaning operations using cleaning solvent solutions that contain HAP and VOC below the de minimis levels specified in §63.741(f) are exempt from the requirements in paragraphs (c)(1) through (c)(4) of this condition.

(1)(i) Enclosed system. Clean the spray gun in an enclosed system that is closed at all times except when inserting or removing the spray gun. Cleaning shall consist of forcing solvent through the gun.

(1)(ii) If leaks are found during the monthly inspection required in §63.751(a), repairs shall be made as soon as practicable, but no later than 15 days after the leak was found. If the leak is not repaired by the 15th day after detection, the cleaning solvent shall be removed, and the enclosed cleaner shall be shut down until the leak is repaired or its use is permanently discontinued.

(2) Nonatomized cleaning. Clean the spray gun by placing cleaning solvent in the pressure pot and forcing it through the gun with the atomizing cap in place. No atomizing air is to be used. Direct the cleaning solvent from the spray gun into a vat, drum, or other waste container that is closed when not in use.

(3) Disassembled spray gun cleaning. Disassemble the spray gun and clean the components by hand in a vat, which shall remain closed at all times except when in use. Alternatively, soak the components in a vat, which shall remain closed during the soaking period and when not inserting or removing components.

(4) Atomizing cleaning. Clean the spray gun by forcing the cleaning solvent through the gun and direct the resulting atomized spray into a waste container that is fitted with a device designed to capture the atomized cleaning solvent emissions.

(5) Cleaning of the nozzle tips of automated spray equipment systems, except for robotic systems that can be programmed to spray into a closed container, shall be exempt from the requirements of paragraph (c) of this section.

(e) Exempt cleaning operations. The following cleaning operations are exempt from the requirements of paragraph (b) of this condition:

(1) Cleaning during the manufacture, assembly, installation, maintenance, or testing of components of breathing oxygen systems that are exposed to the breathing oxygen;

(2) Cleaning during the manufacture, assembly, installation, maintenance, or testing of parts, subassemblies, or assemblies that are exposed to strong oxidizers or reducers (e.g., nitrogen tetroxide, liquid oxygen, or hydrazine);

(3) Cleaning and surface activation prior to adhesive bonding;

(4) Cleaning of electronic parts and assemblies containing electronic parts;

(5) Cleaning of aircraft and ground support equipment fluid systems that are exposed to the fluid, including air-to-air heat exchangers and hydraulic fluid systems;

(6) Cleaning of fuel cells, fuel tanks, and confined spaces;

(7) Surface cleaning of solar cells, coated optics, and thermal control surfaces;

(8) Cleaning during fabrication, assembly, installation, and maintenance of upholstery, curtains, carpet, and other textile materials used in the interior of the aircraft;

(9) Cleaning of metallic and nonmetallic materials used in honeycomb cores during the manufacture or maintenance of these cores, and cleaning of the completed cores used in the manufacture of aerospace vehicles or components;

(10) Cleaning of aircraft transparencies, polycarbonate, or glass substrates;

(11) Cleaning and cleaning solvent usage associated with research and development, quality control, and laboratory testing;

(12) Cleaning operations, using non flammable liquids, conducted within five feet of energized electrical systems. Energized electrical systems means any AC or DC electrical circuit on an assembled aircraft once electrical power is connected, including interior passenger and cargo areas, wheel wells and tail sections; and

(13) Cleaning operations identified as essential uses under the Montreal Protocol for which the Administrator has allocated essential use allowances or exemptions in 40 CFR 82.4.

~~The permittee shall follow proper operating procedures for each Paint Booth (2-19S, 2-20S) that require manometers or gages be checked prior to use to ensure that the system is running at adequate draw.~~
[45CSR13, R13-3534, 4.1.3; 40CFR§63.744(a)(1) through (3), (b), (c), and (e); 45CSR34]

12.1.4. The permittee shall comply with all applicable standards from the primer, topcoat, and specially coating application operations section of 40 CFR 63 Subpart GG – National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Section 12.0 of this permit is demonstrated:

§63.745 Standards: Primer, topcoat, and specialty coating application operations.

(a) The permittee subpart shall comply with the requirements specified in paragraph (c) of this condition for those coatings that are uncontrolled (no control device is used to reduce organic HAP emissions from the operation).

(b) The permittee shall conduct the handling and transfer of primers, topcoats, and specialty coatings to or from containers, tanks, vats, vessels, and piping systems in such a manner that minimizes spills.

(c) *Uncontrolled coatings—organic HAP and VOC content levels*. The permittee shall comply with the organic HAP and VOC content limits specified in the following paragraphs (c)(5) and (c)(6) of this condition for those coatings that are uncontrolled.

(c)(5) Organic HAP emissions from specialty coatings shall be limited to an organic HAP content level of no more than the HAP content limit specified in Table 1-Specialty Coating-HAP and VOC Content Limits of 40 CFR §63.745 for each applicable specialty coating type.

(c)(6) VOC emissions from specialty coatings shall be limited to a VOC content level of no more than the VOC content limit specified in Table 1-Specialty Coating-HAP and VOC Content Limits of 40 CFR §63.745 for each applicable specialty coating type.

~~No person shall cause, suffer, allow or permit emission of smoke and/or particulate matter into the open air from any process source operation which is greater than twenty (20) percent opacity, except as noted in subsections 3.2, 3.3, 3.4, 3.5, 3.6, and 3.7 of 45CSR7.~~
[45CSR13, R13-3534, 4.1.4; 40CFR§63.745(a), (b), (c)(5), and (c)(6); 45CSR34]

12.1.5. In the event that the manufacturing of composite rocket motor casing in Building 256 produces a waste that contains HAP, the permittee 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; except as provided in 40 CFR §63.741(e). The permittee shall use closed containers to store all waste that contains organic HAP at the facility.
[45CSR13, R13-3534, 4.1.5 and 40CFR§§63.748(a), (a)(1) and (a)(2); 45CSR34]

12.1.6~~5~~. **Operation and Maintenance of Air Pollution Control Equipment.** The permittee shall, to the extent practicable, install, maintain, and operate all pollution control equipment listed in Section 1.0 and associated monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions, or comply with any more stringent limits set forth in this permit or as set forth by any State rule, Federal regulation, or alternative control plan approved by the Secretary.
[45CSR§13-5.10., 45CSR13, R13-3534, 4.1.6 ~~4.1.5~~]

12.2. Monitoring Requirements

12.2.1. The permittee for paint booths and related equipment (Emission Units 2-19S and 2-20S; Emission Points 2-16E and 2-17E) shall conduct fabric filter checks prior to each use of the equipment. These checks shall include review to ensure filters are properly fitted to the unit, that no holes exist, and that the filters are not overloaded. Any changes made to filters during the checks or any filter replacements shall be recorded. Records of such inspections and maintenance performed as result of any inspection shall be maintained in accordance with Condition 3.4.2 of this permit.

~~Each unit (2-19S, 20-S) equipped with 3-Stage Filtration (2-9C, 2-10C) shall monitor air filter pressure drop on a stage-by-stage basis. The filter housing shall allow multiple access tubes between each stage to monitor individual pressure drops.~~
[45CSR13, R13-3534, 4.2.1]

12.2.2. For the purpose of determining compliance with the PM limitations set forth in Condition 12.1.2, the permittee shall maintain a daily record of the either manometer reading or other differential pressure instrument across the filter element or control device for Emission Units 2-19S and 2-20S. Should a daily reading indicate filter media or other maintenance is required to restore proper operation of the respective control device, the permittee shall take a second reading once the element(s) has been replaced or when the requirement maintenance is complete. The permittee shall calibrate the manometer or other differential pressure instrument at least once every calendar year in accordance with the instrument manufacturer's procedures and specifications. Such records shall be maintained in accordance with Condition 3.4.2 of this permit.

~~Gages shall be installed to display the filter pressure and filters shall be replaced at appropriate pressure drops, ensuring compliance with emission standards in permit conditions 12.1.1 and 12.1.2.~~
[45CSR13, R13-3534, 4.2.2]

12.2.3. For the purpose of determining compliance with the VOC and HAP emission limits set forth in Condition 12.1.1 the permittee shall maintain daily records of usage of the materials identified in Table 12.1.1.a of this permit by emission source for each operating day. By no later than the 15th of preceding month, the permittee shall determine the 12-month rolling total of the material usages of each emission point in Table 12.1.1.a Such records shall be maintained in accordance with Condition 3.4.2 of this permit.

~~At such reasonable times as the Secretary may designate, the permittee shall conduct Method 9 emission observations for the purpose of demonstrating compliance with permit condition 12.1.4. Method 9 shall be conducted in accordance with 40 CFR 60 Appendix A.~~
[45CSR13, R13-3534, 4.2.3]

12.3. Testing Requirements

12.3.1. Reserved. ~~Compliance with the visible emission requirements of permit condition 12.1.4 shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 9 or by using measurements from continuous opacity monitoring systems approved by the Director. The Director may require the installation, calibration, maintenance and operation of continuous opacity monitoring systems and may establish policies for the evaluation of continuous opacity monitoring results and the determination of compliance with the visible emission requirements of permit condition 12.1.4. Continuous opacity monitors shall not be required on fuel burning units which employ wet scrubbing systems for emission control.~~
~~**[45CSR13, R13-3534, 4.3.1]**~~

12.4. Recordkeeping Requirements

~~12.4.1. The permittee shall maintain records of all monitoring data required by permit condition 12.2.3 documenting the date and time of each visible emission check, the emission point or equipment/source identification number, the name or means of identification of the observer, the results of the check(s), whether the visible emissions are normal for the process, and, if applicable, all corrective measures taken or planned. The permittee shall also record the general weather conditions (i.e. sunny, approximately 80°F, 6 – 10 mph NE wind) during the visual emission check(s). Should a visible emission observation be required to be performed per the requirements specified in Method 9, the data records of each observation shall be maintained per the~~

~~requirements of Method 9.~~
~~**[45CSR13, R13-3534, 4.4.1]**~~

~~12.4.2. The permittee shall check that Magnahelic gages on exhausts for 2-19S and 2-20S ensure adequate air flow each day prior to use. These checks shall be recorded as part of the daily filter check records.~~
~~**[45CSR13, R13-3534, 4.4.2]**~~

~~12.4.3. The permittee shall perform daily filter checks to ensure that filters are in place and in good condition prior to any spray operations in 2-19S and 2-20S. These checks shall be completed to ensure compliance with visible emission requirements.~~
~~**[45CSR13, R13-3534, 4.4.3]**~~

~~12.4.4. The permittee shall keep records of any maintenance performed on the exhaust systems for 2-19S and 2-20S.~~
~~**[45CSR13, R13-3534, 4.4.4]**~~

~~12.4.5. The permittee shall maintain the following records for 2-19S:~~

~~a. Daily records of the number of units wipe cleaned with IPA and processing times (Step 1).~~
~~b. Daily records of the number of units coated with PR Sealant and processing times (Step 3).~~
~~c. Daily records of the number of units coated with MIL-C-8514 Primer and processing times (Step 4).~~
~~d. Daily records of the number of units coated with first coat of TS12983 Primer and processing times (Step 5).~~
~~e. Daily records of the number of units coated with Dowsil Q1-2650 and processing times (Step 14).~~
~~f. Daily records of the number of units coated with second coat of TS12983 Primer and processing times (Step 15).~~
~~f. Daily records of the number of units coated with MIL-PRF-85285 Gray Urethane and processing times (Step 16).~~
~~g. Daily records of the number of units coated with MIL-PRF-85285 Yellow Urethane and processing times (Step 16A).~~
~~h. Daily records of the number of units coated with MIL-PRF-85285 Brown Urethane and processing times (Step 16B).~~
~~i. Daily records of the number of units coated with MIL-PRF-85285 Black Urethane and processing times (Step 16C).~~
~~j. Daily records of the number of units coated with MIL-PRF-85285 Red Urethane and processing times (Step 16D).~~
~~k. Daily records of the number of units coated with MIL-PRF-85285 Green Urethane and processing times (Step 16E).~~
~~l. Daily records of the number of units coated with MIL-PRF-85285 Blue Urethane and processing times (Step 16F).~~
~~All records shall be kept in accordance with permit condition 3.4.2.~~
~~**[45CSR13, R13-3534, 4.4.5]**~~

~~12.4.6. The permittee shall maintain the following records for 2-20S:~~

~~a. Daily records of the number of units coated with SS4155 Primer and processing times (Step 7).~~
~~b. Daily records of the number of units coated with first coat PR-9921 Sealant and processing times (Step 8).~~
~~c. Daily records of the number of units sanded after first sealant coat and processing times (Step 9).~~
~~d. Daily records of the number of units wipe cleaned with IPA after first sealing/sanding and processing times (Step 10).~~

~~e. Daily records of the number of units coated with second coat PR-9921 Sealant and processing times (Step 11).~~

~~f. Daily records of the number of units sanded after second sealant coat and processing times (Step 12).~~

~~g. Daily records of the number of units wipe cleaned with IPA after second sealing/sanding and processing times (Step 13).~~

~~All records shall be kept in accordance with permit condition 3.4.2.~~

~~**[45CSR13, R13-3534, 4.4.6]**~~

12.4.17. **Record of Monitoring.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit, and time of sampling or measurements;
b. The date(s) analyses were performed;
c. The company or entity that performed the analyses;
d. The analytical techniques or methods used;
e. The results of the analyses; and
f. The operating conditions existing at the time of sampling or measurement.

[45CSR13, R13-3534, 4.4.17]

12.4.28. **Record of Maintenance of Air Pollution Control Equipment.** For all pollution control equipment listed in Section 1.0, the permittee shall maintain accurate records of all required pollution control equipment inspection and/or preventative maintenance procedures.

[45CSR13, R13-3534, 4.4.28]

12.4.39. **Record of Malfunctions of Air Pollution Control Equipment.** For all air pollution control equipment listed in Section 1.0, the permittee shall maintain records of the occurrence and duration of any malfunction or operational shutdown of the air pollution control equipment during which excess emissions occur. For each such case, the following information shall be recorded:

a. The equipment involved.
b. Steps taken to minimize emissions during the event.
c. The duration of the event.
d. The estimated increase in emissions during the event.

For each such case associated with an equipment malfunction, the additional information shall also be recorded:

e. The cause of the malfunction.
f. Steps taken to correct the malfunction.
g. Any changes or modifications to equipment or procedures that would help prevent future recurrences of the malfunction.

[45CSR13, R13-3534, 4.4.39]

12.4.4. The permitted facility shall comply with all the applicable recordkeeping provisions of the 40CFR63 Subpart GG National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Section 12.4 of this permit, is demonstrated:

§ 63.752 Recordkeeping requirements.

(b) Cleaning operation. Each owner or operator of a new or existing cleaning operation subject to this subpart shall record the information specified in paragraphs (b)(1) through (b)(5) of this section, as appropriate.

(1) The name, vapor pressure, and documentation showing the organic HAP constituents of each cleaning solvent used for affected cleaning operations at the facility.

(2) 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:

(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.

(3) For each cleaning solvent used in hand-wipe cleaning operations that does not comply with the composition requirements in §63.744(b)(1), but does comply with the vapor pressure requirement in §63.744(b)(2):

(i) The name of each cleaning solvent used;

(ii) The composite vapor pressure of each cleaning solvent used;

(iii) All vapor pressure test results, if appropriate, data, and calculations used to determine the composite vapor pressure of each cleaning solvent; and

(iv) The amount (in gallons) of each cleaning solvent used each month at each operation.

(4) 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):

(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 applies.

(5) A record of all leaks from enclosed spray gun cleaners identified pursuant to §63.751(a) that includes for each leak found:

(i) Source;

(ii) Date leak was discovered; and

(iii) Date leak was repaired.

[45CSR13, R13-3534, 4.4.4 and 40CFR§63.752(b); 45CSR34]

12.5. Reporting Requirements

12.5.1. Any exceedance ~~deviation~~(s) of ~~from~~ the allowable visible emission requirement for any emission source discovered during observation~~s~~ using 45CSR§7A must ~~40CFR Part 60, Appendix A, Method 9 or 22~~ ~~shall~~ be reported in writing to the Director of the Division of Air Quality as soon as practicable, but ~~in any case~~ within ten (10) calendar days of the occurrence and shall include, at ~~least~~ a minimum, the following information: the results of the visible determination of opacity of emissions, the cause or suspected cause of the violation(s), and any corrective measures taken or planned.

[45CSR13, R13-3534, 4.5.1]

12.5.2. The permitted facility shall comply with all applicable reporting provisions of 40 CFR 63 Subpart GG - National Emission Standards for Aerospace Manufacturing and Rework Facilities, provided, however, that compliance with any more stringent limitations set forth under Requirements of Section 12.0 of this Permit, is demonstrated:

§ 63.753 Reporting requirements.

(b) Cleaning operation. Each owner or operator of a cleaning operation subject to this subpart shall submit the following information:

(1) Semiannual reports occurring every 6 months from the date of the notification of compliance status that identify:

(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 6 months and, as appropriate, their composite vapor pressure or notification that they comply with the composition requirements specified in §63.744(b)(1) (Section 12.1.3 of this Permit);

(iii) Any instance where a noncompliant spray gun cleaning method is used;

(iv) Any instance where a leaking enclosed spray gun cleaner remains unrepaired and in use for more than 15 days; and

(v) 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.

~~Emissions from all emission points associated with this permit will be included in the Annual Emissions Inventory submitted by April 1 of each year.~~

[45CSR13, R13-3534, 4.5.2; 40CFR§63.753(b); 45CSR34]

12.6. Compliance Plan

12.6.1. None.

ATTACHMENT 1

HERCULES

Hercules Incorporated
Aerospace Products Group
Allegany Ballistics Laboratory
P. O. Box 210
Rocket Center, WV 26726
(304) 726-5000

December 19, 1986

Director
West Virginia Air Pollution Control Commission
1558 Washington Street, East
Charleston, West Virginia 25311

Attention: Mr. Steve Anderson

Dear Sir:

Construction Permit Application No. 898

This letter confirms the discussions on December 18, 1986, between Messrs. Carl Beard II and Steve Anderson of the West Virginia Air Pollution Control Commission (WVAPCC) and Messrs. Ted Rissell and Dave McBride of Hercules Incorporated/Allegany Ballistics Laboratory (HI/ABL) concerning the construction permit for a nitrate ester sparge facility.

HI/ABL will provide an emission control system on the air effluent stream, containing methylene chloride, from the nitrate ester sparge facility as a part of the construction package. This system will be operational at the start of facility sparging operations. The system will utilize a low temperature refrigeration system to condense and recover volatile organic chemicals (VOC) from the effluent stream. A design operating temperature of -40°F. will be used for the condenser. A copy of literature from Edwards Engineering Corporation, a potential recovery system supplier, is attached. The system will be designed and sized to achieve a minimum recovery of 80% of the VOC released by the sparging operation.

This unit is recognized as constituting a technology development and, as such, Hercules/ABL understands that system testing and documentation after start-up will be required to demonstrate degree of VOC recovery actually achieved. We would plan to measure system performance by material balance. The quantity of methylene chloride stripped from the nitrate ester solutions and the quantity recovered will be measured by weighing on a routine basis during any prescribed demonstration period.

Ancillary process items relating to process safety are currently in study and design. While these items will be part of the total system, they will not influence the VOC recovery operation or efficiency.

Very truly yours,

G. H. Moody
Vice President and Resident Manager

DAMcBride:beh(1993B)
Attachment

ATTACHMENT A

Alliant Techsystems, Inc.
ATK Missile Subsystems & Controls Division
057-00011 R13-1798B and R13-1782A

MATERIAL USAGE

Date	Material Name /ID	# Units Painted	VOC	Solids	Total HAP	Amount Used	Time Used	Total VOC	Total PM	Total HAP
			Content (lb/gal)			(gals)	(Hrs)	Emissions (lb/hr)		
Monthly Totals										
(For 6-4E, 6-5E, 6-6E, 6-7E) **Permit Limit:-**								3.00	3.00	1.90
(For 6-2E) **Permit Limit:-**								1.0	0.1	

ATTACHMENT B

Alliant Techsystems, Inc.
ATK Missile Subsystems & Controls Division
057-00011

12-MONTH ROLLING AVERAGES

Month	Emissions for R13-1798B			Emissions for R13- 1782A		#Units Painted
	VOC (tpm)	PM (tpm)	HAP (tpm)	VOC (tpm)	PM (tpm)	(Monthly total)
1	January					
2	February					
3	March					
4	April					
5	May					
6	June					
7	July					
8	August					
9	September					
10	October					
11	November					
12	December					
13	January					
14	February					
12-month rolling averages (tpy):						
Permit Limit (tpy):	4.35	0.10	2.00	2.01	0.1	480 units

ATTACHMENT C

Alliant Techsystems, Inc.
ATK Missile Subsystems & Controls Division
057-00011 R13-1798B

Speciated HAP Emissions

Month: _____ Year: _____		
Hazardous Air Pollutant:	Monthly HAP Emissions :	Yearly* HAP Emissions (TPY):
Permit Limit is 2.00 TPY on an aggregate basis		
Antimony Compounds		
Chromium Compounds		
Ethylbenzene		
Formaldehyde		
Glycol Ethers		
n-Hexane		
HDI		
Lead Compounds		
MDI		
Methanol		
Methyl Isobutyl Ketone (MIBK)		
Phenol		
Styrene		
TDI		
Toluene		
Xylene		
Aggregate HAP Emissions		

*Calculated on Twelve (12) Month Rolling Total

ATTACHMENT D

Alliant Techsystems, Inc.
ATK Missile Subsystems & Controls Division
057-00011 R13-1798B

FILTER MAINTENANCE:

Date Filter Checked				Date Filter Changed	Filter ID Changed	Comments:
Filter Booth 6-2C	Filter Booth 6-3C	Filter Booth 6-4C	Filter Booth 6-5C			

Received
May 25, 2023
WV DEP/Div of Air Quality

Division of Air Quality Permit Application Submittal

Please find attached a permit application for : Northrop Grumman (Alliant Techsystems Operations - ABL Operations)
[Company Name; Facility Location]

- DAQ Facility ID (for existing facilities only): 057-00011
- Current 45CSR13 and 45CSR30 (Title V) permits associated with this process (for existing facilities only): R13-3334A

- Type of NSR Application (check all that apply):
  - ☐ Construction
  - ☑ Modification
  - ☐ Class I Administrative Update
  - ☐ Class II Administrative Update
  - ☐ Relocation
  - ☐ Temporary
  - ☐ Permit Determination

- Type of 45CSR30 (TITLE V) Revision (if any)**:
  - ☐ Title V Initial
  - ☐ Title V Renewal
  - ☐ Administrative Update
  - ☐ Minor Modification
  - ☑ Significant Modification
  - ☐ Off Permit Change

****If any box above is checked, include the Title V revision information as ATTACHMENT S to this application.**

- Payment Type:
  - ☑ Credit Card (Instructions to pay by credit card will be sent in the Application Status email.)
  - ☐ Check (Make checks payable to: WVDEP – Division of Air Quality)
    Mail checks to:
    WVDEP – DAQ – Permitting
    Attn: NSR Permitting Secretary
    601 57th Street, SE
    Charleston, WV 25304

Please wait until DAQ emails you the Facility ID Number and Permit Application Number. Please add these identifiers to your check or cover letter with your check.

- If the permit writer has any questions, please contact (all that apply):
  - ☐ Responsible Official/Authorized Representative
    - Name:
    - Email:
    - Phone Number:
  - ☑ Company Contact
    - Name: Sue Ellen Foor
    - Email: sueellen.foor@ngc.com
    - Phone Number: 304-726-5506 (office); 240-727-5581 (cell)
  - ☐ Consultant
    - Name:
    - Email:
    - Phone Number:

Northrop Grumman Corporation
Defense Systems Group
Alliant Techsystems Operations LLC
ABL Operations
210 State Route 956
Rocket Center. WV 26726

May 25, 2023

Laura Crowder, Director
WV Department of Environmental Protection
Division of Air Quality
601 – 57th Street
Charleston, WV 25304

Alliant Techsystems Operations LLC
Allegany Ballistics Laboratory
WVDAQ ID# 057-00011

SUBJECT: R13-3334A Modification Application

Dear Director Crowder:

Northrop Grumman – Allegany Ballistics Laboratory hereby submits the enclosed application for a Significant Modification to increase the potential emissions limits in R13-3334A by 20.7 tons/year. We believe the enclosed application contains the appropriate elements as indicated by the DAQ's checklist for the NSR (45CSR13) Application. Because none of the materials to be used have changed since the original application was submitted, the SDSs have not been included with the application package to reduce the size of the submission. The permit fee for the application will be $3000. The permit fee will be paid by MasterCard over the phone once a receipt is received. Should you have additional questions regarding this submittal please contact me at 304-726-5506 or sueellen.foor@ngc.com.

Sincerely,

Sue Ellen Foor

Sue Ellen Foor
Environmental Engineer
Alliant Techsystems Operations LLC
Allegany Ballistics Laboratory

cc: Chris Scanlan

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF AIR QUALITY

601 57th Street, SE
Charleston, WV 25304
(304) 926-0475
www.dep.wv.gov/daq

APPLICATION FOR NSR PERMIT AND TITLE V PERMIT REVISION (OPTIONAL)

PLEASE CHECK ALL THAT APPLY TO **NSR (45CSR13)** (IF KNOWN):

☐ **CONSTRUCTION** ☒ **MODIFICATION** ☐ **RELOCATION**
☐ **CLASS I ADMINISTRATIVE UPDATE** ☐ **TEMPORARY**
☐ **CLASS II ADMINISTRATIVE UPDATE** ☐ **AFTER-THE-FACT**

PLEASE CHECK TYPE OF **45CSR30 (TITLE V)** REVISION (IF ANY):

☐ **ADMINISTRATIVE AMENDMENT** ☐ **MINOR MODIFICATION**
☒ **SIGNIFICANT MODIFICATION**

IF ANY BOX ABOVE IS CHECKED, INCLUDE TITLE V REVISION INFORMATION AS **ATTACHMENT S** TO THIS APPLICATION

FOR TITLE V FACILITIES ONLY: Please refer to "Title V Revision Guidance" in order to determine your Title V Revision options (Appendix A, "Title V Permit Revision Flowchart") and ability to operate with the changes requested in this Permit Application.

Section I. General

1. Name of applicant *(as registered with the WV Secretary of State's Office):*
Alliant Techsystems Operations LLC

2. Federal Employer ID No. ***(FEIN):***
27 - 4026908

3. Name of facility *(if different from above):*
Northrop Grumman Defense Systems
Allegany Ballistics Laboratory (ABL)

4. The applicant is the:
☐ **OWNER** ☐ **OPERATOR** ☒ **BOTH**

5A. Applicant's mailing address:
Allegany Ballistics Laboratory
210 State Route 956
Rocket Center, WV 26726

5B. Facility's present physical address:
Same as mailing address

6. **West Virginia Business Registration.** Is the applicant a resident of the State of West Virginia? ☒ **YES** ☐ **NO**
- If **YES,** provide a copy of the **Certificate of Incorporation/Organization/Limited Partnership** (one page) including any name change amendments or other Business Registration Certificate as **Attachment A.**
- If **NO,** provide a copy of the **Certificate of Authority/Authority of L.L.C./Registration** (one page) including any name change amendments or other Business Certificate as **Attachment A.**

7. If applicant is a subsidiary corporation, please provide the name of parent corporation:

8. Does the applicant own, lease, have an option to buy or otherwise have control of the *proposed site?* ☒ **YES** ☐ **NO**
- If **YES,** please explain: Facility is leased from the Navy and operated by Northrop Grumman
- If **NO,** you are not eligible for a permit for this source.

9. Type of plant or facility (stationary source) to be constructed, **modified,** relocated, administratively updated or temporarily permitted (e.g., coal preparation plant, primary crusher, etc.): Adding a new facility for winding composite rocket motor cases and applying adhesive systems and insulators to the interior of the cases prior to loading them with propellant.

10. North American Industry Classification System **(NAICS)** code for the facility:
336415

11A. DAQ Plant ID No. (for existing facilities only):
057-00011

11B. List all current 45CSR13 and 45CSR30 (Title V) permit numbers associated with this process (for existing facilities only):
R30-05700011-2019 Part 1 (for this process only).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

12A.

- For **Modifications, Administrative Updates** or **Temporary permits** at an existing facility, please provide directions to the *present location* of the facility from the nearest state road;
- For **Construction** or **Relocation permits,** please provide directions to the *proposed new site location* from the nearest state road. Include a **MAP** as **Attachment B**.

Turn left off of WV State Route 956 onto plant access road just after crossing bridge into West Virginia.

12.B. New site address (if applicable):	12C. Nearest city or town: Short Gap, WV	12D. County: Mineral
12.E. UTM Northing (KM): 686.5	12F. UTM Easting (KM): 4381.2	12G. UTM Zone: 17

13. Briefly describe the proposed change(s) at the facility:
Install a new filament winding and chamber preparation facility for a new rocket motor program. The operations will include spray booths, exhaust hoods, and a machining operation.

14A. Provide the date of anticipated installation or change: – If this is an **After-The-Fact** permit application, provide the date upon which the proposed change did happen:	14B. Date of anticipated Start-Up if a permit is granted: 09/01/2023

14C. Provide a **Schedule** of the planned **Installation** of/**Change** to and **Start-Up** of each of the units proposed in this permit application as **Attachment C** (if more than one unit is involved).

15. Provide maximum projected **Operating Schedule** of activity/activities outlined in this application:
Hours Per Day 24 Days Per Week 7 Weeks Per Year 52

16. Is demolition or physical renovation at an existing facility involved? ☒ **YES** ☐ **NO**

17. **Risk Management Plans.** If this facility is subject to 112(r) of the 1990 CAAA, or will become subject due to proposed changes (for applicability help see www.epa.gov/ceppo), submit your **Risk Management Plan (RMP)** to U. S. EPA Region III.

18. **Regulatory Discussion.** List all Federal and State air pollution control regulations that you believe are applicable to the proposed process *(if known).* A list of possible applicable requirements is also included in Attachment S of this application (Title V Permit Revision Information). Discuss applicability and proposed demonstration(s) of compliance *(if known).* Provide this information as **Attachment D.**

Section II. Additional attachments and supporting documents.

19. Include a check payable to WVDEP – Division of Air Quality with the appropriate **application fee** (per 45CSR22 and 45CSR13).

20. Include a **Table of Contents** as the first page of your application package.

21. Provide a **Plot Plan,** e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is or is to be located as **Attachment E** (Refer to ***Plot Plan Guidance***) .

– Indicate the location of the nearest occupied structure (e.g. church, school, business, residence).

22. Provide a **Detailed Process Flow Diagram(s)** showing each proposed or modified emissions unit, emission point and control device as **Attachment F.**

23. Provide a **Process Description** as **Attachment G.**

– Also describe and quantify to the extent possible all changes made to the facility since the last permit review (if applicable).

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

24. Provide **Material Safety Data Sheets (MSDS)** for all materials processed, used or produced as **Attachment H.**

– For chemical processes, provide a MSDS for each compound emitted to the air. All SDSs were supplied in the original permit application for R13-3334. There have been no changes.

25. Fill out the **Emission Units Table** and provide it as **Attachment I.**

26. Fill out the **Emission Points Data Summary Sheet (Table 1 and Table 2)** and provide it as **Attachment J.**

27. Fill out the **Fugitive Emissions Data Summary Sheet** and provide it as **Attachment K.**

28. Check all applicable **Emissions Unit Data Sheets** listed below:

☐ Bulk Liquid Transfer Operations	☐ Haul Road Emissions	☐ Quarry
☐ Chemical Processes	☐ Hot Mix Asphalt Plant	☐ Solid Materials Sizing, Handling and Storage Facilities
☐ Concrete Batch Plant	☐ Incinerator	☐ Storage Tanks
☐ Grey Iron and Steel Foundry	☐ Indirect Heat Exchanger	

☒ General Emission Unit, specify Spray booths, exhaust hoods

Fill out and provide the **Emissions Unit Data Sheet(s)** as **Attachment L.**

29. Check all applicable **Air Pollution Control Device Sheets** listed below:

☐ Absorption Systems	☒ Baghouse	☐ Flare
☐ Adsorption Systems	☐ Condenser	☒ Mechanical Collector
☐ Afterburner	☐ Electrostatic Precipitator	☐ Wet Collecting System

☐ Other Collectors, specify

Fill out and provide the **Air Pollution Control Device Sheet(s)** as **Attachment M.**

30. Provide all **Supporting Emissions Calculations** as **Attachment N,** or attach the calculations directly to the forms listed in Items 28 through 31.

31. **Monitoring, Recordkeeping, Reporting and Testing Plans.** Attach proposed monitoring, recordkeeping, reporting and testing plans in order to demonstrate compliance with the proposed emissions limits and operating parameters in this permit application. Provide this information as **Attachment O.**

➢ Please be aware that all permits must be practically enforceable whether or not the applicant chooses to propose such measures. Additionally, the DAQ may not be able to accept all measures proposed by the applicant. If none of these plans are proposed by the applicant, DAQ will develop such plans and include them in the permit.

32. **Public Notice.** At the time that the application is submitted, place a **Class I Legal Advertisement** in a newspaper of general circulation in the area where the source is or will be located (See 45CSR§13-8.3 through 45CSR§13-8.5 and ***Example Legal Advertisement*** for details). Please submit the **Affidavit of Publication** as **Attachment P** immediately upon receipt.

33. **Business Confidentiality Claims.** Does this application include confidential information (per 45CSR31)?

☐ **YES** ☒ **NO**

➢ If **YES,** identify each segment of information on each page that is submitted as confidential and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's ***"Precautionary Notice – Claims of Confidentiality"*** guidance found in the ***General Instructions*** as **Attachment Q.**

Section III. Certification of Information

34. **Authority/Delegation of Authority.** Only required when someone other than the responsible official signs the application. Check applicable **Authority Form** below:

☐ Authority of Corporation or Other Business Entity	☐ Authority of Partnership
☐ Authority of Governmental Agency	☐ Authority of Limited Partnership

Submit completed and signed **Authority Form** as **Attachment R.**

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

35A.. **Certification of Information.** To certify this permit application, a Responsible Official (per 45CSR§13-2.22 and 45CSR§30-2.28) or Authorized Representative shall check the appropriate box and sign below.

Certification of Truth, Accuracy, and Completeness

I, the undersigned ☒ **Responsible Official** / ☐ **Authorized Representative,** hereby certify that all information contained in this application and any supporting documents appended hereto, is true, accurate, and complete based on information and belief after reasonable inquiry I further agree to assume responsibility for the construction, modification and/or relocation and operation of the stationary source described herein in accordance with this application and any amendments thereto, as well as the Department of Environmental Protection, Division of Air Quality permit issued in accordance with this application, along with all applicable rules and regulations of the West Virginia Division of Air Quality and W.Va. Code § 22-5-1 et seq. (State Air Pollution Control Act). If the business or agency changes its Responsible Official or Authorized Representative, the Director of the Division of Air Quality will be notified in writing within 30 days of the official change.

Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

SIGNATURE _____ *(Please use blue ink)* DATE: 5/24/2023 *(Please use blue ink)*

35B. Printed name of signee: Bill Hixon		35C. Title: Director of ABL Operations
35D. E-mail: bill.hixon@ngc.com	36E. Phone: 304-726-5558	36F. FAX: 304-726-5183
36A. Printed name of contact person (if different from above): Sue Ellen Foor		36B. Title: Env. Engineer
36C. E-mail: sueellen.foor@ngc.com	36D. Phone: 304-726-5506 : 240-727-5581 (cell)	36E. FAX: 304-726-5562

PLEASE CHECK ALL APPLICABLE ATTACHMENTS INCLUDED WITH THIS PERMIT APPLICATION:

- ☒ **Attachment A: Business Certificate**
- ☒ **Attachment B: Map(s)**
- ☒ **Attachment C: Installation and Start Up Schedule**
- ☒ **Attachment D: Regulatory Discussion**
- ☒ **Attachment E: Plot Plan**
- ☒ **Attachment F: Detailed Process Flow Diagram(s)**
- ☒ **Attachment G: Process Description**
- ☒ **Attachment H: Material Safety Data Sheets (MSDS)**
- ☒ **Attachment I: Emission Units Table**
- ☒ **Attachment J: Emission Points Data Summary Sheet**
- ☒ **Attachment K: Fugitive Emissions Data Summary Sheet**
- ☒ **Attachment L: Emissions Unit Data Sheet(s)**
- ☒ **Attachment M: Air Pollution Control Device Sheet(s)**
- ☒ **Attachment N: Supporting Emissions Calculations**
- ☒ **Attachment O: Monitoring/Recordkeeping/Reporting/Testing Plans**
- ☒ **Attachment P: Public Notice**
- ☐ **Attachment Q: Business Confidential Claims**
- ☐ **Attachment R: Authority Forms**
- ☒ **Attachment S: Title V Permit Revision Information**
- ☒ **Application Fee**

Please mail an original and three (3) copies of the complete permit application with the signature(s) to the DAQ, Permitting Section, at the address listed on the first page of this application. Please DO NOT fax permit applications.

FOR AGENCY USE ONLY – IF THIS IS A TITLE V SOURCE:

- ☐ *Forward 1 copy of the application to the Title V Permitting Group and:*
- ☐ *For Title V Administrative Amendments:*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit,*
- ☐ *For Title V Minor Modifications:*
  - ☐ *Title V permit writer should send appropriate notification to EPA and affected states within 5 days of receipt,*
  - ☐ *NSR permit writer should notify Title V permit writer of draft permit.*
- ☐ *For Title V Significant Modifications processed in parallel with NSR Permit revision:*
  - ☐ *NSR permit writer should notify a Title V permit writer of draft permit,*
  - ☐ *Public notice should reference both 45CSR13 and Title V permits,*
  - ☐ *EPA has 45 day review period of a draft permit.*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

WEST VIRGINIA
STATE TAX DEPARTMENT

BUSINESS REGISTRATION CERTIFICATE

ISSUED TO:
ALLIANT TECHSYSTEMS OPERATIONS LLC
210 STATE ROUTE 956
KEYSER, WV 26726-9219

BUSINESS REGISTRATION ACCOUNT NUMBER: **2247-4467**

This certificate is issued on: 06/1/2011

This certificate is issued by
the West Virginia State Tax Commissioner
in accordance with Chapter 11, Article 12, of the West Virginia Code

The person or organization identified on this certificate is registered to conduct business in the State of West Virginia at the location above.

This certificate is not transferrable and must be displayed at the location for which issued.

This certificate shall be permanent until cessation of the business for which the certificate of registration was granted or until it is suspended, revoked or cancelled by the Tax Commissioner.

Change in name or change of location shall be considered a cessation of the business and a new certificate shall be required.

TRAVELING/STREET VENDORS: Must carry a copy of this certificate in every vehicle operated by them. CONTRACTORS, DRILLING OPERATORS, TIMBER/LOGGING OPERATIONS: Must have a copy of this certificate displayed at every job site within West Virginia.

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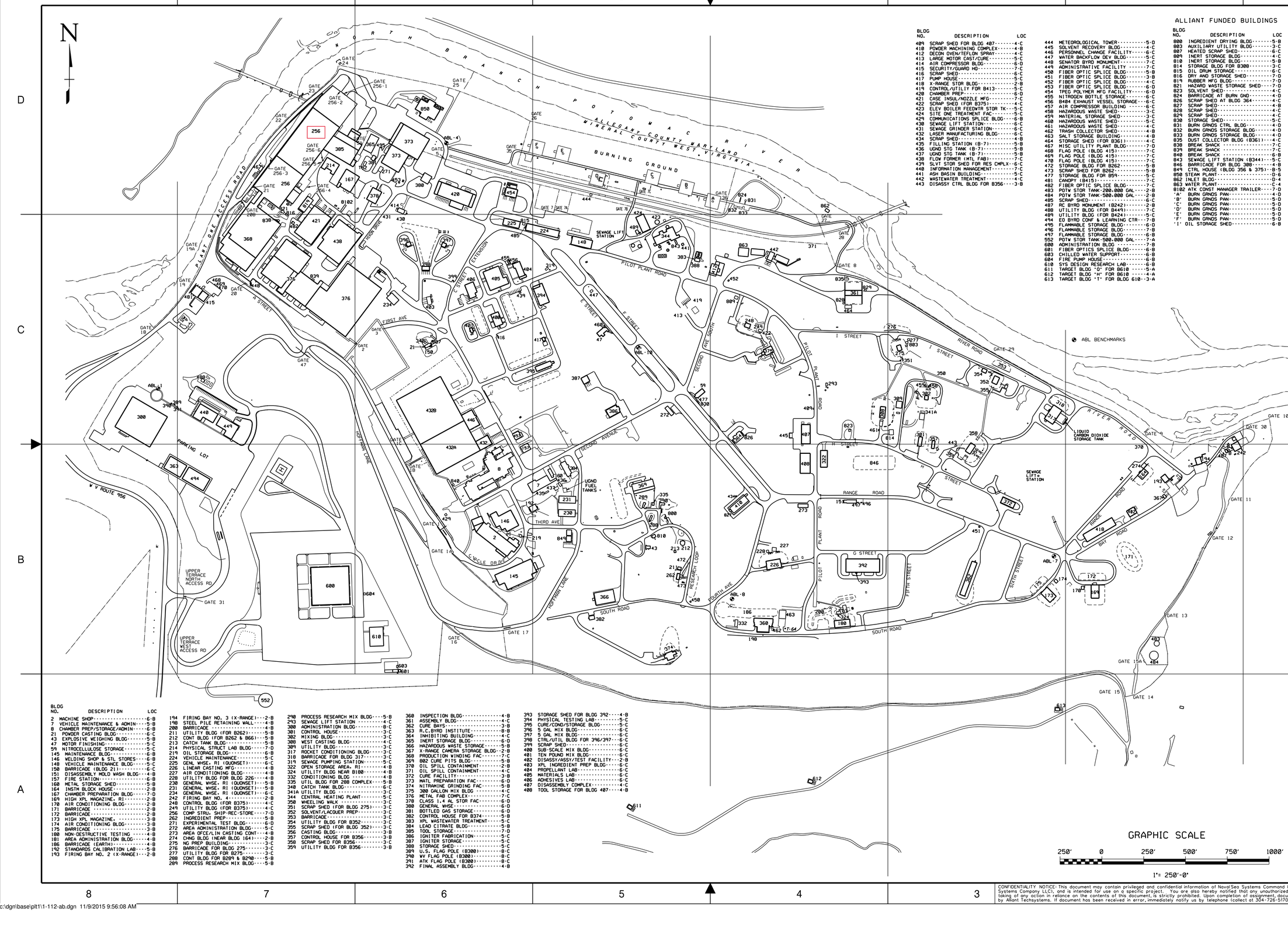

ALLIANT FUNDED BUILDINGS

BLDG NO.	DESCRIPTION	LOC
800	INGREDIENT DRYING BLDG	5-B
803	AUXILIARY UTILITY BLDG	3-C
807	HEATED SCRAP SHED	6-C
809	INERT STORAGE BLDG	4-C
810	INERT STORAGE BLDG	5-B
814	STORAGE BLDG FOR B308	3-C
815	OIL DRUM STORAGE	6-C
816	DRY AND STORAGE SHED	7-D
819	RUBBER MFG BLDG	7-D
821	HAZARD WASTE STORAGE SHED	7-D
823	SOLVENT SHED	4-C
824	BARRICADE AT BURN GND	4-D
826	SCRAP SHED AT BLDG 364	4-C
827	SCRAP SHED	4-B
828	SCRAP SHED	4-C
829	SCRAP SHED	4-C
830	STORAGE SHED	5-C
831	BURN GRNDS CTRL BLDG	4-D
832	BURN GRNDS STORAGE BLDG	4-D
833	BURN GRNDS STORAGE BLDG	4-D
835	DUST COLLECTOR BLDG (B361)	4-C
838	BREAK SHACK	7-C
839	BREAK SHACK	7-C
840	BREAK SHACK	6-B
843	SEWAGE LIFT STATION (B344)	5-C
846	BARRICADE FOR BLDG 300	4-B
849	CTRL HOUSE (BLDG 356 & 375)	B-5
850	STEAM PLANT	D-6
862	INLET BLDG	D-4
863	WATER PLANT	C-4
8102	ATK CONST MANAGER TRAILER	7-D
'A'	BURN GRNDS PAN	4-D
'B'	BURN GRNDS PAN	5-D
'C'	BURN GRNDS PAN	5-D
'D'	BURN GRNDS PAN	5-D
'E'	BURN GRNDS PAN	5-D
'F'	BURN GRNDS PAN	5-D
'I'	OIL STORAGE SHED	6-B

BLDG NO.	DESCRIPTION	LOC
409	SCRAP SHED FOR BLDG 407	4-C
410	POWDER MACHINING COMPLEX	4-B
412	DECON OVEN/TEFLON SPRAY	4-C
413	LARGE MOTOR CAST/CURE	5-C
414	AIR COMPRESSOR BLDG	6-D
415	SECURITY/GUARD HQ	7-C
416	SCRAP SHED	6-C
417	PUMP HOUSE	6-C
418	X-RANGE STOR BLDG	2-B
419	CONTROL/UTILITY FOR B413	5-C
420	CHAMBER PREP	6-D
421	CASE INSUL/NOZZLE MFG	7-C
422	SCRAP SHED (FOR B375)	4-C
423	ELEV BOILER FEEDWTR STOR TK	5-C
424	SITE ONE TREATMENT FAC	5-C
429	COMMUNICATIONS SPLICE BLDG	6-B
430	SEWAGE LIFT STATION	6-C
431	SEWAGE GRINDER STATION	6-C
432	LASER MANUFACTURING BLDG	6-C
434	SCRAP SHED	4-B
435	FILLING STATION (B-7)	5-B
436	UGND STG TANK (B-7)	5-B
437	UGND STG TANK (B-7)	5-B
438	FLOW FORMER (MTL FAB)	7-C
439	SLVT STOR SHED FOR RES CMPLX	6-C
440	INFORMATION MANAGEMENT	7-C
441	ASH BASIN BUILDING	5-C
442	WASTEWATER TREATMENT	4-C
443	DISASSY CTRL BLDG FOR B356	3-B
444	METEOROLOGICAL TOWER	5-D
445	SOLVENT RECOVERY BLDG	4-C
446	PERSONNEL CHANGE FACILITY	6-C
447	WATER BACKFLOW DEV BLDG	5-C
448	SENATOR BYRD MONUMENT	7-C
449	ADMINISTRATIVE FACILITY	7-C
450	FIBER OPTIC SPLICE BLDG	5-B
451	FIBER OPTIC SPLICE BLDG	3-B
452	FIBER OPTIC SPLICE BLDG	4-C
453	FIBER OPTIC SPLICE BLDG	6-D
454	TPEG POLYMER MFG FACILITY	6-D
455	NITROGEN BOTTLE STORAGE	6-C
456	B404 EXHAUST VESSEL STORAGE	6-C
457	AIR COMPRESSOR BUILDING	6-C
458	HAZARDOUS WASTE SHED	3-C
459	MATERIAL STORAGE SHED	3-C
460	HAZARDOUS WASTE SHED	5-C
461	HAZARDOUS WASTE SHED	4-C
462	TRASH COLLECTOR SHED	4-B
463	SALT STORAGE BUILDING	4-B
464	STORAGE SHED (FOR B361)	4-C
467	MISC UTILITY PLANT BLDG	7-D
468	FLAG POLE (BLDG 415)	7-C
469	FLAG POLE (BLDG 415)	7-C
470	FLAG POLE (BLDG 415)	7-C
472	STORAGE BLDG FOR B262	5-B
473	SCRAP SHED FOR B262	5-B
477	STORAGE BLDG FOR B59	5-C
481	CANOPY (B415)	7-C
482	FIBER OPTIC SPLICE BLDG	7-C
483	POTW STOR TANK-200,000 GAL	2-B
484	POTW STOR TANK-500,000 GAL	2-B
485	SCRAP SHED	6-C
487	RC BYRD MONUMENT (B242)	2-B
488	UTILITY BLDG (FOR B449)	6-B
489	UTILITY BLDG (FOR B424)	5-C
494	ED BYRD CONF & LEARNING CTR	7-B
495	FLAMMABLE STORAGE BLDG	6-D
496	FLAMMABLE STORAGE BLDG	7-B
497	FLAMMABLE STORAGE BLDG	6-B
552	POTW STOR TANK-500,000 GAL	7-A
600	ADMINISTRATION BLDG	7-B
601	FIBER OPTICS SPLICE BLDG	6-B
603	CHILLED WATER SUPPORT	6-B
604	FIRE PUMP HOUSE	6-B
610	SYS DESIGN RESEARCH LAB	6-B
611	TARGET BLDG 'D' FOR B610	5-A
612	TARGET BLDG 'H' FOR B610	4-A
613	TARGET BLDG 'I' FOR BLDG 610	3-A

BLDG NO.	DESCRIPTION	LOC
2	MACHINE SHOP	6-B
7	VEHICLE MAINTENANCE & ADMIN	5-B
8	CHAMBER PREP/STORAGE/ADMIN	6-B
21	POWDER CASTING BLDG	6-C
43	EXPLOSIVE WEIGHING BLDG	5-B
47	MOTOR FINISHING	5-C
59	NITROCELLULOSE STORAGE	5-C
145	MAINTENANCE BLDG	6-B
146	WELDING SHOP & STL STORES	6-B
148	VEHICLE MAINTENANCE BLDG	5-C
150	BARRICADE (BLDG 21)	6-C
151	DISASSEMBLY MOLD WASH BLDG	4-B
157	FIRE STATION	6-B
160	METAL STORAGE SHED	5-B
164	INSTM BLOCK HOUSE	2-B
167	CHAMBER PREPARATION BLDG	7-D
169	HIGH XPL MAGAZINE, RI	2-B
170	AIR CONDITIONING BLDG	2-B
171	BARRICADE	2-B
172	BARRICADE	2-B
173	HIGH XPL MAGAZINE	3-B
174	AIR CONDITIONING BLDG	3-B
175	BARRICADE	3-B
180	NON-DESTRUCTIVE TESTING	4-B
181	AREA ADMINISTRATION BLDG	4-B
186	BARRICADE (EARTH)	4-B
192	STANDARDS CALIBRATION LAB	5-B
193	FIRING BAY NO. 2 (X-RANGE)	2-B
194	FIRING BAY NO. 3 (X-RANGE)	2-B
198	STEEL PILE RETAINING WALL	4-B
200	BARRICADE	4-B
211	UTILITY BLDG (FOR B262)	5-B
212	CONT BLDG (FOR B262 & B66)	5-B
213	CATCH TANK BLDG	5-B
214	PHYSICAL STRUCT LAB BLDG	7-D
219	OIL STORAGE BLDG	6-B
224	VEHICLE MAINTENANCE	5-C
225	GENL WHSE, RI (QUONSET)	6-C
226	LINEAR CASTING MFG	4-B
227	AIR CONDITIONING BLDG	4-B
228	UTILITY BLDG FOR BLDG 226	4-B
230	GENERAL WHSE, RI (QUONSET)	5-B
231	GENERAL WHSE, RI (QUONSET)	5-B
234	GENERAL WHSE, RI (QUONSET)	6-C
242	FIRING BAY NO. 4	2-B
248	CONTROL BLDG (FOR B375)	4-C
249	UTILITY BLDG (FOR B375)	4-C
256	COMP STRU, SHIP-REC-STORE	7-D
262	INGREDIENT PREP	5-B
271	EXPERIMENTAL TEST BLDG	6-D
272	AREA ADMINISTRATION BLDG	5-C
273	AREA OFCE/LIN CASTING CONT	4-B
274	CHNG BLDG (NEAR BLDG 164)	2-B
275	NG PREP BUILDING	3-C
276	BARRICADE FOR BLDG 275	3-C
277	UTILITY BLDG FOR B275	3-C
288	CONT BLDG FOR B289 & B290	5-B
289	PROCESS RESEARCH MIX BLDG	5-B
290	PROCESS RESEARCH MIX BLDG	5-B
293	SEWAGE LIFT STATION	4-C
300	ADMINISTRATION BLDG	6-C
301	CONTROL HOUSE	3-C
302	MIXING BLDG	3-C
308	WEST CASTING BLDG	4-C
309	UTILITY BLDG	3-C
317	ROCKET CONDITIONING BLDG	3-C
318	BARRICADE FOR BLDG 317	3-C
319	SEWAGE PUMPING STATION	5-C
322	OPEN STORAGE AREA, RI	4-B
324	UTILITY BLDG NEAR B180	4-B
332	CONDITIONING BLDG	4-B
335	UTIL BLDG FOR 288 COMPLEX	5-B
340	CATCH TANK BLDG	6-C
341A	UTILITY BLDG	3-C
344	CENTRAL HEATING PLANT	5-C
350	WHEELING WALK	3-C
351	SCRAP SHED (FOR BLDG 275)	3-C
352	SOLVENT/LACQUER PREP	3-C
353	BARRICADE	3-C
354	UTILITY BLDG FOR B352	3-C
355	SCRAP SHED (FOR BLDG 352)	3-C
356	CASTING BLDG	3-B
357	CONTROL HOUSE FOR B356	3-B
358	SCRAP SHED FOR B356	3-C
359	UTILITY BLDG FOR B356	3-B
360	INSPECTION BLDG	4-B
361	ASSEMBLY BLDG	4-C
362	CURE BAYS	3-B
363	R.C.BYRD INSTITUTE	8-B
364	INHIBITING BUILDING	4-C
365	INERT STORAGE BLDG	6-D
366	HAZARDOUS WASTE STORAGE	5-B
367	X-RANGE CAMERA STORAGE BLDG	2-B
368	PRODUCTION WINDING FAC	7-C
369	802 CURE PITS BLDG	5-B
370	OIL SPILL CONTAINMENT	2-B
371	OIL SPILL CONTAINMENT	4-C
372	CURE FACILITY	3-B
373	MATL PREPARATION FAC	6-D
374	NITRAMINE GRINDING FAC	5-B
375	300 GALLON MIX BLDG	4-C
376	METAL FAB COMPLEX	7-C
378	CLASS 1.4 AL STOR FAC	6-D
380	GENERAL WHSE	6-D
381	BOTTLED GAS STORAGE	6-D
382	CONTROL HOUSE FOR B374	5-B
383	XPL WASTEWATER TREATMENT	5-C
384	LEAD CITRATE BLDG	5-B
385	TOOL STORAGE	7-D
386	IGNITER FABRICATION	5-C
387	IGNITER STORAGE	5-C
388	STORAGE SHED	5-C
389	U.S. FLAG POLE (B300)	8-C
390	WV FLAG POLE (B300)	8-C
391	ATK FLAG POLE (B300)	8-C
392	FINAL ASSEMBLY BLDG	4-B
393	STORAGE SHED FOR BLDG 392	4-B
394	PHYSICAL TESTING LAB	5-C
395	CURE/COND/STORAGE BLDG	5-C
396	5 GAL MIX BLDG	6-C
397	5 GAL MIX BLDG	6-C
398	CTRL/UTIL BLDG FOR 396/397	6-C
399	SCRAP SHED	6-C
400	SUB-SCALE MIX BLDG	6-C
401	TEN POUND MIX BLDG	6-C
402	DISASSY/ASSY/TEST FACILITY	2-B
403	XPL INGREDIENT PREP BLDG	6-C
404	PROPELLANT LAB	6-C
405	MATERIALS LAB	6-C
406	ADHESIVES LAB	6-C
407	DISASSEMBLY COMPLEX	4-C
408	TOOL STORAGE FOR BLDG 407	4-B

GRAPHIC SCALE

250′ 0 250′ 500′ 750′ 1000′

1"= 250′-0"

DRAWING HISTORY	DATE
THIS DRAWING HAS BEEN ARCHIVED PER 1996 STATUS	

APPROVALS	DATE
DRAFTER DRB	10-15-15
CHECKER	
ENGR	
DES SUPV	
AREA SUPV	
SAFETY	
ENG MGR	

ATK TACTICAL SYSTEMS COMPANY, LLC
ALLEGANY BALLISTICS LABORATORY
210 STATE ROUTE 956
ROCKET CENTER, WV 26726-3548

ABL ROCKET CENTER, WV

PLANT 1 GENERAL MAP PLAN AND BUILDING LIST

INTERPRET THIS DRAWING IN ACCORDANCE WITH DOD-STD-100

CAGE CODE 70272	SIZE: D
SCALE: 1" = 250.0'	
NEXT ASSEMBLY / USED ON	
BUILDING NO.	DRAWING PKG
BASE	PLT1
CONTRACTOR DRAWING NO.	REV
1-112-AB	–
SHEET 2 OF 4	
PLT-1	

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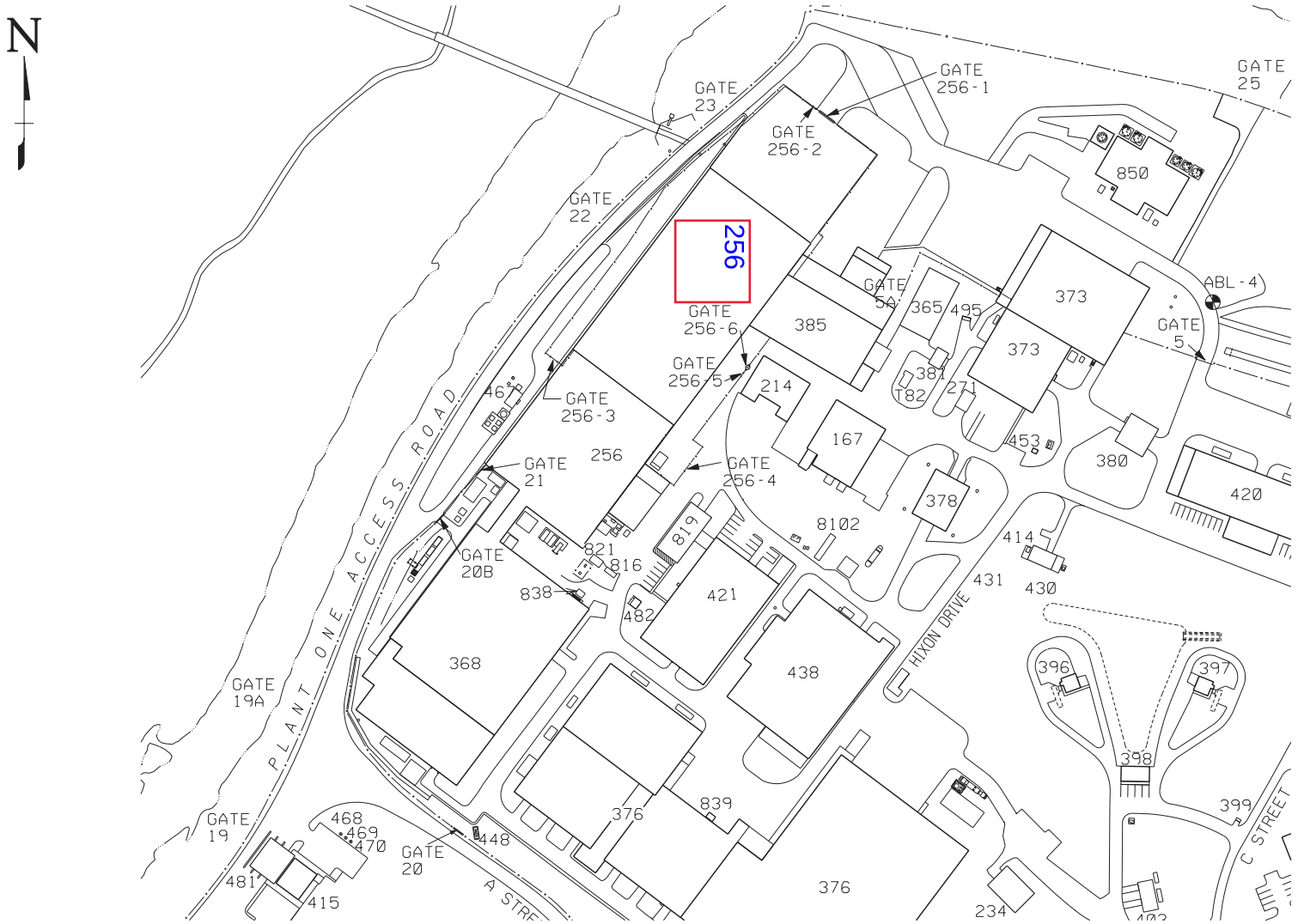


ATTACHMENT C

EQUIPMENT INSTALLATION AND START-UP SCHEDULE

Proposed Installation Date	Proposed Start-Up Date	Emissions Unit (Source)	
		ID No.[1]	Source
10/31/16	09/01/2023	Z-1S	Mandrel Release Coating Table
11/1/16	09/01/2023	Z-2S	Adapter Degreasing Exhaust
3/1/17	09/01/2023	Z-3S	BR-127 Primer Booth
3/1/17	09/01/2023	Z-4S	Adapter/BR-127 Oven
11/1/16	09/01/2023	Z-5S	Interior Degreasing Exhaust
11/1/16	09/01/2023	Z-6S	Degreasing Drying Station
10/31/16	09/01/2023	Z-7S	Chemlok Mixing Hood
10/31/16	09/01/2023	Z-8S	Chemlok Application Booth
10/31/16	09/01/2023	Z-9S	Chemlok Drying Station
10/1/16	09/01/2023	Z-10S	Insulator Prep Exhaust
10/1/16	09/01/2023	Z-11S	Oven for Insulator Drying
2/1/17	09/01/2023	Z-12S	Bondliner Mixing Hood
2/1/17	09/01/2023	Z-13S	Bondliner Application Booth
2/1/17	09/01/2023	Z-14S	Bondliner Drying Station
10/1/16	09/01/2023	Z-15S	Case Machining
11/1/16	09/01/2023	Z-16S	End Closure Adapter Wiping Station

ATTACHMENT D
REGULATORY DISCUSSION

A description of all state and federal regulations which affect the entire Northrop Grumman facility is included in the facility's Title V permits. The process heaters addressed in this application will be included in Part 3 of the facility's Title V permit. The following discussions include only regulations which pertain to the operations which are proposed in this permit application.

--Facility Level Applicable Regulations and Compliance Statements:
---WVDAQ Regulation 4 - Objectionable odors are not a normal occurrence. However, facility will comply with applicable prohibition from emitting objectionable odors by taking all reasonable measures to minimize objectionable odors if such a situation occurs.

---WVDAQ Regulation 7 - Facility will comply with applicable opacity limits (Sections 3.1 and 3.2) by maintaining trained opacity observer personnel to notify plant supervision if a non-compliance condition occurs or by calculations.

---WVDAQ Regulation 11 - Facility will comply with all applicable requirements of this regulation as requested by the West Virginia Air Pollution Control Commission during declared air pollution emergency episodes.

---WVDAQ Regulation 22 - Facility will comply with all applicable requirements of this regulation regarding payment of processing fees for permit applications by prompt payment of all applicable fees.

---WVDAQ Regulation 29 - Facility will comply with all applicable requirements of this regulation regarding any requested submission of air emissions inventory data by timely submission of the required emission inventory.

---WVDAQ Regulation 30 - Facility will comply with all applicable requirements of this regulation regarding its Title V Operating Permit.

---WVDAQ Regulation 31 - Facility will comply with all applicable requirements of this regulation regarding confidential information.

--Existing Permits and Consent Orders:
1. Reg. 13-401 issued 1978. Superceded by 13-0401A issued in 1999. Superceded by 13-0401B issued in May, 2001.
2. Reg. 13-573 issued 1980. Deemed inactive by 13-573A issued in May, 2001.
3. Reg. 13-621 issued 1981. Deemed inactive by 13-621A issued in May, 2001.
4. Reg. 13-898 issued 1986. Superceded by 13-898C issued in May, 2016.
5. Reg. 13-974 issued 1988. Superceded by 13-974A issued in May, 2001. This permit is obsolete and is requested to be cancelled. Boilers under this permit have been shut down, disconnected and replaced by natural gas boilers under Reg. 13-3186 issued August, 2014.
6. Reg. 13-1047 issued 1988. Superceded by 13-1047A issued in July, 2001. Superceded by 13-1047B issued in March, 2002.

7. Reg. 13-1307 issued 1991. Deemed inactive in 1997.
8. Reg. 13-1403 issued 1991. Superceded by 13-1642 issued 1994. Superceded by 13-1694 issued in 1994. Superceded by 13-1694A issued in July, 2001.
9. Reg. 13-1455 issued 1992. Superceded by 13-1455A issued in July, 2001.
10. Reg. 13-1771A issued 2003. Superceded by 13-1771B issued in April, 2004.
11. Reg. 13-1782 issued 1995. Superceded by 13-1782A issued in July, 2001.
12. Reg. 13-1797 issued 1995. Superceded by 13-1797A issued in January, 2002.
13. Reg. 13-1798 issued 1995. Superceded by 13-1798A issued in July, 2001.
14. Reg. 13-2023 issued 1996. Superceded by 13-2023C issued in May, 2014.
15. Reg. 13-2037 issued 1996. Superceded by 13-2037A issued in July, 2001.
16. Reg. 13-2246 issued 1999.
17. Reg. 13-2301 issued 1999. Superceded by 13-2301A issued in July, 2001. Superceded by 13-2606B in April, 2009.
18. Reg. 13-2579A issued in October, 2005.
19. Reg. 13-2606 issued in February, 2005. Superceded by 13-2023C in May, 2014.
20. Reg. 13-2680 issued January, 2007 is obsolete and is requested to be cancelled. Program has ended and equipment has been disconnected.
21. Reg. 13-2754 issued August, 2008 is obsolete and is requested to be cancelled. Program has ended and all equipment has been removed from the facility.
22. CO-R6,13,25-99-35A(95) issued January 5, 2000 (Open Burning). (This amended and updated CO-R6,13,25-95-8 issued November 8, 1995).
23. Reg. 30-05700011-2019 Part 1 issued July, 2019.
24. Reg. 30-05700011-2019 Part 2 issued August, 2019.
25. Reg. 30-05700011-2019 Part 3 issued November, 2019.
26. Reg. 13-3168B issued November, 2019. Superceded by 13-3168C issued May, 2020.
26. Reg. 13-3334A issued in September, 2020.
27. Reg. 13-3408 issued in October, 2018.
28. Reg. 13-3534 issued in January, 2022.
29. G60-C020 issued September, 2010.
30. G60-C066 issued November, 2014.

STAIR 2
Dust Control System
MR 130
FE
STAIR 3
OVEN
HONING AREA
EXHAUST BOOTH
3 DRAWER CURE OVEN
AMBIENT ROTATION
OVERHEAD CRANE IN BAY
12 FOOT MIN HOOK HGT
3 TON CAPACITY
MANDREL PREP
STIPPER
AMBIENT CURE STA
CASE POTTING
GMLRS RM CASES
CASE GLAZING
ONE HOUR CURE STA
CASE INSU FIXTURES
MRB Cage 20ft. x 11 ft
CRANE
2 PL CART
HYDRAULIC ROOM
CONTROL ROOM
READY for Insulation
DEGREASE / CHEMLOK PREP
CMM
FREEZER
62–74 F
Moisture < 40% RH
RESIN PRE–MIX AREA
MANDREL PREP
OVEN 650^ F
HOT BOX
RR 141
RR 140
ULTRASONIC UT TANK 7 X 4
DEGREASE / Bond-liner PREP
OVEN
276'–5"
74'–8 1/8"
Paint BR127
Future Business Opportunity ~ 21,500 sqft.
1. Wind
2. Ambient Cure
3. Heated Cure (3 Drawer Oven)
4. Cool Down
5. Stripping
6. Machining
7. CMM Inspect Tube
8. Bonded Endclosure Prep
9. BEC Installation
a. Tacking 3 hr cure
b. Potting 10 hr amb cure
c. Glazing 1hr cure
10. CMM Inspect Case Sub assy
11. Chemlok Degrease
12. Chemlok Spray 205
13 1 hr amb dry
14. Chemlok Spray 234
15. Weigh Case
16. Insulation lay–up
17. Insulation Cure
18. Dis–assemble Tooling
19. Insulation Trim
20. Weigh Case
21. Hydro–Test
22. UT– Inspection
23. UT Dry (Oven)
24. Degrease for Bond–Lining
25. Oven Dry (2 hrs)
26. Install Foam Dohnut
27. Weigh Case
28. Bond–lining Application
29. Partial Mold Assy/ Install Environmental Closures
30. Stage for Shipment to 3040
RE–INSTALL ROLL–UP
REMOVE OIL TANKS AND FENCE
REMOVE OIL TANKS AND FENCE
STAIR 1
PASS ELEV
LOBBY 103
MR 102
SEC OFF 101

REV 022616

2/10/16: DELETE WATER SHIELDING AREA
2/26/16: DELETE DEGREASE
2/26/16: DELETE FREEZER AT RESIN PRE–MIX
2/26/16: ADDED 8x8 DOOR FOR MOVEMENT INTO FP AREA
2/26/16: CMM RESIZED TO 6–0 x 14–4 PER QUOTE (PRIOR WAS 12 x 20)
2/26/16: OVENS RESIZED TO 10–2 x 13–5 PER QUOTE (PRIOR WAS 15 x 20)
2/26/16: RESIZED FREEZER FOR 16x16 (PRIOR WAS 9–4 x 13–8)

GRAPHIC SCALE

16' 0 16' 32' 48' 64' 80'

?"= 1'–0"

ATTACHMENT G

GMLRS Process Description Of The Points Being Amended

The Guided Multiple Launch Rocket System (GMLRS) is a filament wound, epoxy resin impregnated composite rocket motor casing. The process in Building 256 will encompass winding the cases, curing them in electric ovens, and then preparing the interior surface of the units so that they can later be filled with solid propellant.

The process begins with mandrel preparation *(Z-1S)*, the application of a mold release coating (Frekote 700-NC) to the metal mandrel that is used as a mold for the composite filament winding. The mandrels are placed into the winding machines and the composite filament (Kevlar fiber) is coated with a two-part epoxy resin (an epichlorohydrin Bisphenol A copolymer with amine curatives) and the filament is wound around the mandrel in a specific computer programmed pattern to enhance strength of the cured material. None of the epoxy resin components contain regulated pollutants and the epoxy mixing, winding, and curing operations are not detailed in the emission source information for this application. The SDSs for the resin system are included in the SDS section of the application for information purposes only.

Once the winding process is completed, the mandrels proceed to the ovens where they will continue to rotate at ambient temperature for approximately 48 hours and then go through a several hour heated cure cycle (maximum temperature of 385°F). The cured composite tubes will then be removed from the mandrels. The composite tubes will then undergo a machining process to cut the tubes to length and drill holes for future bonding operations *(Z-15S)*. The machined composite tubes then move to the adapter bonding operation.

Adapters are the metal ends of the rocket motor cases. Adapters to be bonded into the composite tubes must be degreased before further processing. Degreasing is a two-step process that begins with an initial wipe using Acetone followed by a second wipe using Isopropanol (IPA) *(Z-2S)*. After degreasing, the adapters are moved to a spray hood where BR-127 Corrosion Inhibiting Primer is spray applied *(Z-3S)*, then moved to an electric oven to cure *(Z-4S)*.

The inside of the composite tubes are degreased with Acetone and IPA, the ends are honed (hand sanded), and the ends are degreased again with Acetone and IPA to prepare the tube for adapter bonding *(Z-16S)*. The adapters are degreased with Acetone and IPA prior to bonding them into the tube. The adapters are then bonded to the composite tube with Scotch-Weld 2216 epoxy adhesive. A second bonding operation is conducted using EA 9396 adhesive. The bonding adhesives contain negligible quantities of regulated air pollutants.

After adapter bonding, the inside of the tubes are degreased in a two-step process with an initial wipe using Acetone followed by a second wipe using (IPA) *(Z-5S)*. After degreasing the units will dry at ambient temperature *(Z-6S)*.

Once tubes have been degreased and dried, Chemlok 205 Primer will be mixed *(Z-7S or Z-12S)* and applied to the interior surface of the tubes *(Z-8S or Z-13S)*. This primer will be allowed to dry at ambient conditions for an hour *(Drying Station Z-9S or Z-14S*). The process will be repeated using Chemlok 234X NW Adhesive that is mixed *(Z-7S or Z-12S)* applied over the primer to the interior of the tube *(Z-8S or Z-13S)*. The units will then ambient dry for an hour *(Z-9S or Z-14S)*. The adhesive is used to bond a sheet of rubber insulation inside the cases.

After the rubber is installed the units are cured and then they will undergo hydroproof testing. Hydroproof is a test in which the units are filled with water and pressurized to make sure the units are sealed properly. After hydroproof testing the tubes undergo ultrasonic inspection of the tubes and bond joints. After testing, the cases are heat dried to ensure that no water remains in the case or insulation.

After ensuring that the units are dry, the interior has another two-step degreasing process using Acetone followed by IPA *(Z-10S)* and then they are moved to an electric oven to dry completely *(Z11S).*

The final steps are to mix BL-034 Bondliner *(Z-12S or Z-7S)* and spray apply the BL-034 to the interior of the tubes on the surface of the insulators *(Z-13Sor Z-8S)*. After units are sprayed they are moved to a drying station to allow the material to dry *(Z-14S or Z-9S)*.

Following the Bondliner application, the units will be sealed for transportation to the mix/cast area. Construction of a mix/cast facility and final assembly facility for the units will be permitted in a separate permit application at a later date and the facility will be located in a different area of the plant.

The GMLRS program has the potential for orders of up to 6,000 units per year at maximum production which would be 2-3 years in the future. The permit application quantities are based on this maximum production rate.

The emission unit data sheets for the Chemlok operations (Z-7, 8, and 9S) and the bondliner operations (Z-12, 13, and 14S) are written to allow both operations to take place in a single set of equipment. This is to allow operational flexibility if one system is down for maintenance. The emissions were calculated the same for both systems. In the total emissions calculations, only one set of numbers were counted since all three coatings are accounted for in each set of equipment. With both systems installed, the emissions would be broken out between the two systems.

Due to contract numbers increasing, the maximum number of cases manufactured per year is being multiplied by a factor of 2.5 for a maximum of 650 lots per year or 15,600 cases per year. In doing this, the operating schedule will be increasing to 3 shifts/day, 7 days/week to allow for manufacturing flexibility. We are also increasing the daily number of units processed at any emission point will be a maximum of 60 per day. This allows for shorter process time operations to process ahead of other operations.

Attachment I

Emission Units Table

(includes all emission units and air pollution control devices that will be part of this permit application review, regardless of permitting status)

Emission Unit ID[1]	Emission Point ID[2]	Emission Unit Description	Year Installed/ Modified	Design Capacity	Type[3] and Date of Change	Control Device[4]
Z-1S	Fugitive	Mandrel Release Coating Table	2016	N/A	Rate Increase	
Z-2S	Fugitive	Adapter Degreasing Table	2016	N/A	Rate Increase	
Z-3S	Z-3E	BR-127 Primer Booth	2017	2 gal/hr	Rate Increase	Z-1C
Z-4S	Z-4E	Adapter/BR-127 Oven	2017	N/A	Rate Increase	
Z-5S	Z-5E	Interior Degreasing Exhaust	2016	N/A	Rate Increase	
Z-6S	Z-6E	Degreasing Drying Station	2016	N/A	Rate Increase	
Z-7S	Z-7E	Chemlok Mixing Hood	2016	N/A	Rate Increase	
Z-8S	Z-8E	Chemlok Application Booth	2016	1 gal/hr	Rate Increase	Z-2C
Z-9S	Z-9E	Chemlok Drying Station	2016	N/A	Rate Increase	
Z-10S	Z-10E	Insulator Prep Exhaust	2016	N/A	Rate Increase	
Z-11S	Z-11E	Oven for Insulator Drying	2016	N/A	Rate Increase	
Z-12S	Z-12E	Bondliner Mixing Hood	2017	N/A	Rate Increase	
Z-13S	Z-13E	Bondliner Application Booth	2017	1 gal/hr	Rate Increase	Z-3C
Z-14S	Z-14E	Bondliner Drying Station	2017	N/A	Rate Increase	
Z-15S	Z-15E	Case Machining	2016	2 units/hr	Rate Increase	Z-4C
Z-16S	Fugitive	End Closure Adapter Wiping Station	2016	N/A	Rate Increase	

[1] For Emission Units (or Sources) use the following numbering system:1S, 2S, 3S,... or other appropriate designation.
[2] For Emission Points use the following numbering system:1E, 2E, 3E, ... or other appropriate designation.
[3] New, modification, removal
[4] For Control Devices use the following numbering system: 1C, 2C, 3C,... or other appropriate designation.

Attachment J
EMISSION POINTS DATA SUMMARY SHEET

Table 1: Emissions Data

Emission Point ID No. *(Must match Emission Units Table & Plot Plan)*	Emission Point Type[1]	Emission Unit Vented Through This Point *(Must match Emission Units Table & Plot Plan)*		Air Pollution Control Device *(Must match Emission Units Table & Plot Plan)*		Vent Time for Emission Unit *(chemical processes only)*		All Regulated Pollutants - Chemical Name/CAS[3] *(Speciate VOCs & HAPS)*	Maximum Potential Uncontrolled Emissions [4]		Maximum Potential Controlled Emissions [5]		Emission Form or Phase *(At exit conditions, Solid, Liquid or Gas/Vapor)*	Est. Method Used [6]	Emission Concentration [7] (ppmv or mg/m[4])
		ID No.	Source	ID No.	Device Type	Short Term[2]	Max (hr/yr)		lb/hr	ton/yr	lb/hr	ton/yr			
Z-3E	Horizonal stack	Z-3S	BR-127 Primer Booth	Z-1C	Fabric or Paper Filter	10 hr / day	3640	**VOC**	**1.77**	**4591**	**1.77**	**4591**	Vapor	MB	
								2-Ethoxyethanol	0.31	803	0.31	803			
								MEK	1.239	3214	1.239	3214			
								Methanol	0.0177	46	0.0177	46			
								Formaldehyde	0.0011	2.8	0.0011	2.8			
								PM	**0.2**	**20**	**0.01**	**10**	Solid		
								Strontium chromate	0.044	115	0.0049	5.7			
Z-4E	Horizonal stack	Z-4S	BR-127 Drying Oven			10 hr / day	3640	**VOC**	**0.09**	**242**	**0.09**	**242**	Vapor	MB	
								2-Ethoxyethanol	0.016	42	0.016	42			
								MEK	0.063	169	0.063	169			
								Methanol	0.0009	2.42	0.0009	2.42			
								Formaldehyde	0.00005	0.15	0.00005	0.15			
Z-5E	Horizonal stack	Z-5S	Interior Degreasing Exhaust			16 hr / day	5824	VOC-Isopropanol	**4.69**	**12196**	**4.69**	**12196**	Vapor	MB	835
Z-6E	Horizonal stack	Z-6S	Degreasing Drying Station			16 hr / day	5824	VOC-Isopropanol	**0.49**	**642**	**0.49**	**642**	Vapor	MB	87

Z-7E	Horizonal stack	Z-7S	Chemlok Bondline Mixing Hood			4 hr / day (1 hr per batch)	2600 650	**Chemlok 205**							
								VOC	**0.47**	**306**	**0.47**	**306**	Vapor	MB	47
								MEK	0.208	136	0.208	136			58
								Ethyl benzene	0.017	11	0.017	11			41
								MIBK	0.197	128	0.197	128			42
								Xylene	0.049	32	0.049	32			39
								Chemlok 234X							
								VOC	**0.65**	**424**	**0.65**	**424**			59
								Ethyl benzene	0.065	43	0.065	43			55
								Toluene	0.357	233	0.357	233			63
								Xylene	0.228	149	0.228	149			55
								Bondliner							
								Ethyl acetate	**0.45**	**293**	**0.45**	**293**			15
								Max VOC/hr	***0.65***	***424***	***0.65***	***424***			
								Total VOC		***1023***		***1023***			

Z-8E	Horizonal stack	Z-8E	Chemlok Bondline Spray Booth	Z-2C	Fabric or Paper Filter	16 hr / day 8 hr for Chem 205 8 hr for Chem 234X 8 hr for BL 1 hr for each cleanup cycle (2 toluene and 1 MEK)	5824 2912 2912 2912 650x2 650x1	**Chemlok 205**							
								VOC	**1.87**	**3647**	**1.87**	**3647**	Vapor	MB	136
								MEK	0.828	1616	0.828	1616			167
								Ethyl benzene	0.066	128	0.066	128			113
								MIBK	0.782	1524	0.782	1524			120
								Xylene	0.194	379	0.194	379			113
								PM	**0.358**	**697**	**0.018**	**35**	Solid		
								Chemlok 234X							
								VOC	**2.25**	**4379**	**2.25**	**4379**	Vapor		147
								Ethyl benzene	0.225	439	0.225	439			136
								Toluene	1.235	2405	1.235	2405			157
								Xylene	0.789	1536	0.789	1536			136
								PM	**0.06**	**127**	**0.003**	**6**	Solid		
								Bondliner							
								Ethyl acetate	**2.52**	**4908**	**2.52**	**4908**	Vapor		44
								Cleanup							
								Toluene	**1.82**	**2362**	**1.82**	**2362**	Vapor		231
								MEK	**1.68**	**2186**	**1.68**	**2186**			338
								Max VOC/hr	***2.52***	***4908***	***2.52***	***4908***			
								Total VOC		***17482***		***17482***			
								Max PM/hr	***0.358***	***697***	***0.018***	***35***			
								Total PM		***824***		***41***			

Z-9E	Horizonal stack	Z-9S	Chemlok Bondline Drying Station			6 hr / day 2 hr per coating	2184 1300	**Chemlok 205**							
								VOC	**0.098**	**192**	**0.098**	**192**	Vapor	MB	7
								MEK	0.043	85	0.043	85			9
								Ethyl benzene	0.0034	7	0.0034	7			6
								MIBK	0.041	80	0.041	80			6
								Xylene	0.010	20	0.010	20			6
								Chemlok 234X							
								VOC	**0.118**	**231**	**0.118**	**231**			8
								Ethyl benzene	0.012	23	0.018	23			7
								Toluene	0.065	127	0.065	127			8
								Xylene	0.041	81	0.041	81			7
								Bondliner							
								Ethyl acetate	**0.132**	**258**	**0.132**	**258**			3
								Max VOC/hr	***0.132***	***258***	***0.132***	***258***			
								Total VOC		***681***		***681***			
Z-10E	Horizonal stack	Z-10S	Insulator Prep Exhaust			8 hr / day	2912	VOC-Isopropanol	**4.69**	**12196**	**4.69**	**12196**	Vapor	MB	835
Z-11E	Horizonal stack	Z-11S	Insulator Drying Oven			8 hr / day	2912	VOC-Isopropanol	**0.25**	**642**	**0.25**	**642**	Vapor	MB	41

Z-12E	Horizonal stack	Z-12S	Bondline Chemlok Mixing Hood			4 hr / day (1 hr per batch)	2600 650	**Chemlok 205**							
								VOC	**0.47**	**306**	**0.47**	**306**	Vapor	MB	47
								MEK	0.208	136	0.208	136			58
								Ethyl benzene	0.017	11	0.017	11			41
								MIBK	0.197	128	0.197	128			42
								Xylene	0.049	32	0.049	32			39
								Chemlok 234X							
								VOC	**0.65**	**424**	**0.65**	**424**			59
								Ethyl benzene	0.065	43	0.065	43			55
								Toluene	0.357	233	0.357	233			63
								Xylene	0.228	149	0.228	149			55
								Bondliner							
								Ethyl acetate	**0.45**	**293**	**0.45**	**293**			15
								Max VOC/hr	***0.65***	***424***	***0.65***	***424***			
								Total VOC		***1023***		***1023***			

Z-13E	Horizonal stack	Z-13S	Bondline Chemlok Spray Booth	Z-3C	Fabric or Paper Filter	16 hr / day 8 hr for Chem 205 8 hr for Chem 234X 8 hr for BL 1 hr for each cleanup cycle (2 toluene and 1 MEK)	5824 2912 2912 2912 650x2 650x1	**Chemlok 205**							
								VOC	**1.87**	**3647**	**1.87**	**3647**	Vapor	MB	136
								MEK	0.828	1616	0.828	1616			167
								Ethyl benzene	0.066	128	0.066	128			113
								MIBK	0.782	1524	0.782	1524			120
								Xylene	0.194	379	0.194	379			113
								PM	**0.358**	**697**	**0.018**	**35**	Solid		
								Chemlok 234X							
								VOC	**2.25**	**4379**	**2.25**	**4379**	Vapor		147
								Ethyl benzene	0.225	439	0.225	439			136
								Toluene	1.235	2405	1.235	2405			157
								Xylene	0.789	1536	0.789	1536			136
								PM	**0.06**	**127**	**0.003**	**6**	Solid		
								Bondliner							
								Ethyl acetate	**2.52**	**4908**	**2.52**	**4908**	Vapor		44
								Cleanup							
								Toluene	**1.82**	**2362**	**1.82**	**2362**	Vapor		231
								MEK	**1.68**	**2186**	**1.68**	**2186**			338
								Max VOC/hr	***2.52***	***4908***	***2.52***	***4908***			
								Total VOC		***17482***		***17482***			
								Max PM/hr	***0.358***	***697***	***0.018***	***35***			
								Total PM		***824***		***41***			

Z-14E	Horizonal stack	Z-14S	Bondline Chemlok Drying Station			6 hr / day 2 hr per coating	2184 1300	**Chemlok 205**							
								VOC	**0.098**	**192**	**0.098**	**192**	Vapor	MB	7
								MEK	0.043	85	0.043	85			9
								Ethyl benzene	0.0034	7	0.0034	7			6
								MIBK	0.041	80	0.041	80			6
								Xylene	0.010	20	0.010	20			6
								Chemlok 234X							
								VOC	**0.118**	**231**	**0.118**	**231**			8
								Ethyl benzene	0.012	23	0.018	23			7
								Toluene	0.065	127	0.065	127			8
								Xylene	0.041	81	0.041	81			7
								Bondliner							
								Ethyl acetate	**0.132**	**258**	**0.132**	**258**			3
								Max VOC/hr	***0.132***	***258***	***0.132***	***258***			
								Total VOC		***681***		***681***			
Z-15E	Horizonal stack	Z-15S	Case Machining	Z-4C	Cyclone Dust Collector	24 hr / day	8736	PM	0.6	9360	0.06	936			

The EMISSION POINTS DATA SUMMARY SHEET provides a summation of emissions by emission unit. Note that uncaptured process emission unit emissions are not typically considered to be fugitive and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET. Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions). Please complete the FUGITIVE EMISSIONS DATA SUMMARY SHEET for fugitive emission activities.

[1] Please add descriptors such as upward vertical stack, downward vertical stack, horizontal stack, relief vent, rain cap, etc.

[2] Indicate by "C" if venting is continuous. Otherwise, specify the average short-term venting rate with units, for intermittent venting (ie., 15 min/hr). Indicate as many rates as needed to clarify frequency of venting (e.g., 5 min/day, 2 days/wk).

[3] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. **LIST** Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. **DO NOT LIST** H_2, H_2O, N_2, O_2, and Noble Gases.

[4] Give maximum potential emission rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[5] Give maximum potential emission rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[6] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

[7] Provide for all pollutant emissions. Typically, the units of parts per million by volume (ppmv) are used. If the emission is a mineral acid (sulfuric, nitric, hydrochloric or phosphoric) use units of milligram per dry cubic meter (mg/m^3) at standard conditions (68 °F and 29.92 inches Hg) (see 45CSR7). If the pollutant is SO_2, use units of ppmv (See 45CSR10).

Table 2: Release Parameter Data								
Emission Point ID No. *(Must match Emission Units Table)*	Inner Diameter (ft.)	Exit Gas			Emission Point Elevation (ft)		UTM Coordinates (km)	
		Temp. (°F)	Volumetric Flow [1] (acfm) *at operating conditions*	Velocity (fps)	Ground Level *(Height above mean sea level)*	Stack Height [2] *(Release height of emissions above ground level)*	Northing	Easting
Z-3E	2	Ambient	5600	40	672.16	20	143758.17	2249.18
Z-4E	0.5	385	650	55	672.16	20	143758.17	2249.18
Z-5E	0.5	Ambient	600	51	672.16	20	143758.17	2249.18
Z-6E	0.5	Ambient	600	51	672.16	20	143758.17	2249.18
Z-7E	0.83	Ambient	720	22	672.16	20	143758.17	2249.18
Z-8E	0.5	Ambient	1000	85	672.16	20	143758.17	2249.18
Z-9E	0.5	Ambient	1000	85	672.16	20	143758.17	2249.18
Z-10E	0.5	Ambient	600	51	672.16	20	143758.17	2249.18
Z-11E	0.5	350	650	55	672.16	20	143758.17	2249.18
Z-12E	0.83	Ambient	720	22	672.16	20	143758.17	2249.18
Z-13E	0.5	Ambient	1000	85	672.16	20	143758.17	2249.18
Z-14E	0.5	Ambient	1000	85	672.16	20	143758.17	2249.18
Z-15E	1.08	Ambient	3600	40	672.16	20	143758.17	2249.18

[1] Give at operating conditions. Include inerts.
[2] Release height of emissions above ground level.

Attachment K

FUGITIVE EMISSIONS DATA SUMMARY SHEET

The FUGITIVE EMISSIONS SUMMARY SHEET provides a summation of fugitive emissions. Fugitive emissions are those emissions which could not reasonably pass through a stack, chimney, vent or other functionally equivalent opening. Note that uncaptured process emissions are not typically considered to be fugitive, and must be accounted for on the appropriate EMISSIONS UNIT DATA SHEET and on the EMISSION POINTS DATA SUMMARY SHEET.

Please note that total emissions from the source are equal to all vented emissions, all fugitive emissions, plus all other emissions (e.g. uncaptured emissions).

APPLICATION FORMS CHECKLIST - FUGITIVE EMISSIONS
1.) Will there be haul road activities? ☐ Yes ☒ No ☐ If YES, then complete the HAUL ROAD EMISSIONS UNIT DATA SHEET.
2.) Will there be Storage Piles? ☐ Yes ☒ No ☐ If YES, complete Table 1 of the NONMETALLIC MINERALS PROCESSING EMISSIONS UNIT DATA SHEET.
3.) Will there be Liquid Loading/Unloading Operations? ☐ Yes ☒ No ☐ If YES, complete the BULK LIQUID TRANSFER OPERATIONS EMISSIONS UNIT DATA SHEET.
4.) Will there be emissions of air pollutants from Wastewater Treatment Evaporation? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
5.) Will there be Equipment Leaks (e.g. leaks from pumps, compressors, in-line process valves, pressure relief devices, open-ended valves, sampling connections, flanges, agitators, cooling towers, etc.)? ☐ Yes ☒ No ☐ If YES, complete the LEAK SOURCE DATA SHEET section of the CHEMICAL PROCESSES EMISSIONS UNIT DATA SHEET.
6.) Will there be General Clean-up VOC Operations? ☐ Yes ☒ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET.
7.) Will there be any other activities that generate fugitive emissions? ☒ Yes ☐ No ☐ If YES, complete the GENERAL EMISSIONS UNIT DATA SHEET or the most appropriate form.
If you answered "NO" to all of the items above, it is not necessary to complete the following table, "Fugitive Emissions Summary."

FUGITIVE EMISSIONS SUMMARY	All Regulated Pollutants - Chemical Name/CAS [1]	Maximum Potential Uncontrolled Emissions [2]		Maximum Potential Controlled Emissions [3]		Est. Method Used [4]
		lb/hr	ton/yr	lb/hr	ton/yr	
Haul Road/Road Dust Emissions Paved Haul Roads	Not Applicable					
Unpaved Haul Roads	Not Applicable					
Storage Pile Emissions	Not Applicable					
Loading/Unloading Operations	Not Applicable					
Wastewater Treatment Evaporation & Operations	Not Applicable					
Equipment Leaks	Not Applicable					
General Clean-up VOC Emissions	Not Applicable					
Other	Z-1S – VOC (Frekote 700NC) Z-2S – VOC (IPA) Z-2S – VOC (MEK) Z-16S – VOC (IPA) ***TOTAL VOC***	3.04 1.23 0.63 1.234	7910 3210 1640 3210 ***15970***	3.04 1.23 0.63 1.234	7910 3210 1640 3210 ***15970***	MB

[1] List all regulated air pollutants. Speciate VOCs, including all HAPs. Follow chemical name with Chemical Abstracts Service (CAS) number. LIST Acids, CO, CS_2, VOCs, H_2S, Inorganics, Lead, Organics, O_3, NO, NO_2, SO_2, SO_3, all applicable Greenhouse Gases (including CO_2 and methane), etc. DO NOT LIST H_2, H_2O, N_2, O_2, and Noble Gases.

[2] Give rate with no control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[3] Give rate with proposed control equipment operating. If emissions occur for less than 1 hr, then record emissions per batch in minutes (e.g. 5 lb VOC/20 minute batch).

[4] Indicate method used to determine emission rate as follows: MB = material balance; ST = stack test (give date of test); EE = engineering estimate; O = other (specify).

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-1S (Fugitive Emissions)

1. Name or type and model of proposed affected source:

   Mandrel Release Coating Application Table

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   3.04 lbs per hour of Frekote 700-NC mold release agent to winding mandrels for up to 60 cases per 24 hr period. Mold release agent is applied to mandrels prior to winding cases using fiberglass fiber and epoxy resin. Winding may occur 3 shifts a day with a maximum of 60 cases wound per day.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   Case winding takes 6-8 hours per case with up to 60 units being wound in a 24 hour period.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	16	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	3.04	lb/hr	3.55	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of winds each day. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per part to determine actual emissions per hour. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	**TESTING**
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-2S (Fugitive Emissions)

1. Name or type and model of proposed affected source:

   Adapter Degreasing Table

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   1.23 lbs per hour of isopropyl alcohol (IPA) used to degrease adapter pieces (60/hr) prior to applying corrosion inhibitor.
   0.63 lbs per hour of methyl ethyl ketone (MEK) used as a wipe check on adapters after corrosion inhibitor has been applied and cured.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   24 adapter pieces degreased ready for application of corrosion inhibitor. 60 pieces would be processed per day.

   24 adapters with cured corrosion inhibitor. 60 pieces would be processed per day.

   4 hours per day alloted to degreasing operation and 4 hours for cure checks.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	10	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	1.23	lb/hr	1.44	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of adapters degreased and the number of adapters wipe tested to check for complete coating cure. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per part to determine actual emissions per hour. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	TESTING
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-3S (Z-3E)

1. Name or type and model of proposed affected source:

BR-127 Primer Application Booth - Global Finishing Solutions - GFS Wave Booth and Filters

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

1.77 lbs of BR-127 Corrosion Inhibiting Primer used to coat 24 adapters per hour. Estimate that 95% of coating emissions will be lost from application booth and remaining 5% will be lost from the curing oven.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

24 inhibitor coated adapters per hour. A maximum of 60 adapters will be coated per day.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	10	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}	0.2	lb/hr	0.23	grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	1.77	lb/hr	2.07	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
	Formaldehyde	0.001	lb/hr	0.0012	grains/ACF
	Methanol	0.018	lb/hr	0.021	grains/ACF
	Strontium chromate	0.005	lb/hr	0.006	grains/ACF
			lb/hr		grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of adapters coated each day. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per part to determine actual emissions per hour. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	**TESTING**
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	If testing is required by the Director, it will be conducted using the required EPA methods.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-4S (Z-4E)

1. Name or type and model of proposed affected source:

BR-127 Primer Curing Oven (manf. TBD)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

0.1 lbs of BR-127 Corrosion Inhibiting Primer used to coat 24 adapters per hour. Estimate that 95% of coating emissions will be lost from application booth and remaining 5% will be lost from the curing oven.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

24 inhibitor coated adapters per hour. A maximum of 60 adapters will be coated per day.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	10	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	0.1	lb/hr	0.12	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of adapters coated each day. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per part to determine actual emissions per hour. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	**TESTING**
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-5S (Z-5E)

1. Name or type and model of proposed affected source:

   Interior Degreasing Exhaust for Chemlok (manufacturer TBD)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   4.69 lbs of isopropyl alcohol (IPA) used to degrease the interior of a maximum of 60 rocket motor cases per 24 hour period. Estimate that 95% of degreasing emissions will be lost from the degreasing exhaust and remaining 5% will be lost from the Degreasing Drying Station for Chemlok.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   5 rocket motor cases ready to have Chemlok applied to the interior surface of the cases. (Max of 60 cases per 24 hours)

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	16	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	4.69	lb/hr	5.47	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of rocket motor cases degreased each day. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per part to determine actual emissions per hour. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	TESTING
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-6S (Z-6E)

1. Name or type and model of proposed affected source:

Interior Degreasing Drying Station (manufacturer TBD)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

0.49 lbs of isopropyl alcohol (IPA) used to degrease the interior of a maximum of 60 rocket motor cases per 24 hours. This rate is based on an estimate that 95% of degreasing emissions will be lost from the degreasing exhaust and remaining 5% will be lost from the Drying Station.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

12 rocket motor cases ready to have Chemlok applied to the interior surface of the cases after degreasing.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	16	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	0.49	lb/hr	0.57	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of rocket motor cases degreased each day. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per part to determine actual emissions per hour. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	TESTING
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-7S (Z-7E)

1. Name or type and model of proposed affected source:

   Chemlok Mixing Hood / Bondliner Mixing Hood - LabConco Basic 47
   (The intent is to have 2 separate hoods for Chemlok and bondliner mixing. However, we would like to permit the mixing hood to accommodate both Chemlok and bondliner mixing in the event that we only have a single hood installed prior to startup as well as a backup in case one or the other would be down for maintenance for any reason.)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   1.12 lbs of VOC from the operations of weighing out and mixing Chemlok with thinning solvent to prepare for Chemlok application to the interior surfaces of rocket motor cases. ~ 8 gallons of material are mixed per lot of 24 units sprayed each day. There are 2 separate mixing operations for Chemlok 205/MEK (3.75 gal) and Chemlok 234X/Toluene (4.69 gal). It is estimated that there will be about a 2% emission loss during this process. Each mixing operation will be completed in less than 1 hour per shift.

   0.45 lbs of VOC from the operations of weighing out and mixing bonliner ingredients to prepare for bondliner application to the interior insulator surfaces of rocket motor cases. ~ 4 gallon of bondliner is mixed per lot of 24 units sprayed each ay. It is estimated that there will be about a 2% emission loss during this process. Each mixing operation will be completed in less than 1 hour per shift.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   3.75 gallons of Chemlok 205/MEK mixture.
   4.69 gallons of Chemlok 234X/Toluene mixture.

   3.6 gallons of bondliner mixture.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	4	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	0.47 (Chemlok 205) 0.65 (Chemlok 234X) 0.45 (bondliner)	lb/hr	0.55 0.76 0.53	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
	Ethyl benzene	0.016 (Chemlok 205) 0.065 (Chemlok 234X)	lb/hr	0.019 0.039	grains/ACF
	MIBK	0.196 (Chemlok 205)	lb/hr	0.229	grains/ACF
	Toluene	0.23 (Chemlok 234X)	lb/hr	0.27	grains/ACF
	Xylene	0.05 (Chemlok 205) 0.36 (Chemlok 234X)	lb/hr	0.06 0.42	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of batches mixed per day with batch weights. The daily number of batches shall be added to a spreadsheet with emission rates per lot to determine emissions per year. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	**TESTING**
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-8S (Z-8E)

1. Name or type and model of proposed affected source:

Chemlok Application Booth / Bondliner Application Booth - Pillar M-1740 Spray System
(There are 2 separate booths for Chemlok and bondliner application. However, we would like to permit the application booth to accommodate both Chemlok and bondliner spraying as a backup in case one or the other would be down for maintenance for any reason.)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

The Chemlok Application Booth will be used twice per shift for a 6 hour period each time. The first application is Chemlok 205/MEK at a rate of 0.893 gallons per lot. The second application is Chemlok 234X/Toluene at a rate of 0.969 gallons per lot. Each spray cycle coats the interior surface of 24 units with the adhesive primer mixture in a 6 hour period. It is estimated that 95% of emissions will be lost from the application booth and the remaining 5% will be emitted from the Chemlok Drying Station. In addition, two 1 hour periods per shift will be used to clean the coating equipment lines and spray pots after each Chemlok process using MEK for the Chemlok 205 and Toluene for the Chemlok 234X. It is estimated that there will be a loss of about 0.5 gallons of each solvent during cleanup (3.36 and 3.63 lbs respectively).

See Section 5 for continuation of Bondliner information.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

A maximum of 24 units coated with the Chemlok 205 mixture or a maximum of 24 units coated with the Chemlok 234X mixture.

A maximum of 24 units coated with the bondliner mixture.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

Section 5 - Not applicable.

Continuation of Section 3 for bondliner:
The Bondliner Application Booth will be used each shift for a 6 hour period. Bondliner mixture is applied at a rate of 1.27 gallons per lot. The spray cycle coats the interior insulated surface of 24 units with the bondliner mixture in a 6 hour period. It is estimated that 95% of emissions will be lost from the application booth and the remaining 5% will be emitted from the Chemlok Drying Station. In addition, a 1 hour period per shift will be used to clean the coating equipment lines and spray pots after the spray process using toluene. It is estimated that there will be a loss of about 0.5 gallons of toluene during cleanup (3.63 lbs).

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	16	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}	0.36 (Chemlok 205) 0.097 (Chemlok 234X)	lb/hr	0.42 0.113	grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	1.87 / 2.25 / 2.52 (205/234X/BL) 1.68 / 1.82 / 1.82 (cleanup)	lb/hr	2.18 / 2.63 / 2.94 1.96 / 2.12 / 2.12	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
	Ethyl benzene	0.065 (Chemlok 205) 0.225 (Chemlok 234X)	lb/hr	0.076 0.263	grains/ACF
	MIBK	0.782 (Chemlok 205)	lb/hr	0.912	grains/ACF
	Toluene	1.235 (Chemlok 234X)	lb/hr	1.441	grains/ACF
	Xylene	0.194 (Chemlok 205) 0.789 (Chemlok 234X)	lb/hr	0.226 0.921	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of units coated per day. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per lot to determine actual emissions per hour. Emissions will be broken into spray booth and drying station portions. The daily cleanup solvents shall be recorded for each spray application. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	TESTING
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	If testing is required by the Director, it will be conducted using the required EPA methods.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-9S (Z-9E)

1. Name or type and model of proposed affected source:

Chemlok Drying Station / Bondliner Drying Station - Pillar M-1740 Spray System
(There are 2 separate drying stations for Chemlok and bondliner application. However, we would like to permit the drying stations to accommodate both Chemlok and bondliner drying as a backup in case one or the other would be down for maintenance for any reason.)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

The Chemlok Drying Station will be used twice per shift for a 3 hour period each time for drying of Chemlok. The first time will be drying time for Chemlok 205/MEK at a rate of 0.047 gallons per lot. The second time will be drying time for Chemlok 234X/Toluene at a rate of 0.051 gallons per lot. This rate is based on an estimate that 95% of emissions will be lost from the application booth and the remaining 5% will be emitted from the Chemlok Drying Station.

The Bondliner Drying Station will be used each shift for a 3 hour period. This will be drying time for the Bondliner at a rate of 0.0335 gallons per lot. It is estimated that 95% of emissions will be lost from the application booth and the remaining 5% will be emitted from the Bondliner Drying Station.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

A maximum of 24 dried units coated with the Chemlok 205 mixture or a maximum of 24 dried units coated with the Chemlok 234X mixture.

A maximum of 24 dried units coated with the Bondliner mixture.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	6	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	0.098 (Chemlok 205) 0.118 (Chemlok 234X) 0.132 (Bondliner)	lb/hr	0.114 0.138 0.154	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
	Ethyl benzene	0.003 (Chemlok 205) 0.012 (Chemlok 234X)	lb/hr	0.004 0.014	grains/ACF
	MIBK	0.041 (Chemlok 205)	lb/hr	0.048	grains/ACF
	Toluene	0.065 (Chemlok 234X)	lb/hr	0.076	grains/ACF
	Xylene	0.010 (Chemlok 205) 0.041 (Chemlok 234X)	lb/hr	0.012 0.048	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of units coated per day. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per lot to determine actual emissions per hour. Emissions will be broken into spray booth and drying station portions. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	**TESTING**
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-10S (Z-10E)

1. Name or type and model of proposed affected source:

   Insulator Preparation Exhaust (manufacturer TBD)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   2.85 gallons of isopropyl alcohol (IPA) used to degrease the insulator in the interior of a maximum of 60 rocket motor cases in a 24 hour period. This is based on an estimate that 95% of degreasing emissions will be lost from the degreasing exhaust and remaining 5% will be lost from the Insulator Drying Oven.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   A maximum of 24 insulated rocket motor cases per hour ready to have bond liner material applied to the interior of the cases.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	8	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	4.69	lb/hr	5.47	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of rocket motor cases degreased each day. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per part to determine actual emissions per hour. Emissions will be broken into degreasing drying portions. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	TESTING
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-11S (Z-11E)

1. Name or type and model of proposed affected source:

   Insulator Drying Oven - Grieve Model MTC 8128-500

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   0.99 lbs of IPA used to degrease a maximum of 60 insulated cases per 24 hour period. Estimate that 95% of coating emissions will be lost from degreasing exhaust and remaining 5% will be lost from the drying oven. Insulators must be dried at 140 F to ensure that no IPA remains absorbed in the insulator. This ensures that bond liner applied to the insulator will coat and cure correctly.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   A maximum of 60 insulated cases ready for application of bond liner per day.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	8	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	0.25	lb/hr	0.292	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of units degreased each day. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per part to determine actual emissions per hour. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	**TESTING**
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-12S (Z-12E)

1. Name or type and model of proposed affected source:

Bondliner Mixing Hood / Chemlok Mixing Hood - LabConco Basic 47
(There are 2 separate hoods for Chemlok and bondliner mixing. However, we would like to permit the mixing hood to accommodate both Chemlok and bondliner mixing in the event as a backup in case one or the other would be down for maintenance for any reason.)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

0.45 lbs of VOC from the operations of weighing out and mixing bonliner ingredients to prepare for bondliner application to the interior insulator surfaces of rocket motor cases. ~ 4 gallon of bondliner is mixed per lot of 24 units sprayed each day. It is estimated that there will be about a 2% emission loss during this process. Each mixing operation will be completed in less than 1 hour per shift.

1.12 lbs of VOC from the operations of weighing out and mixing Chemlok with thinning solvent to prepare for Chemlok application to the interior surfaces of rocket motor cases. ~ 8 gallons of material are mixed per lot of 24 units sprayed each day. There are 2 separate mixing operations for Chemlok 205/MEK (3.75 gal) and Chemlok 234X/Toluene (4.69 gal). It is estimated that there will be about a 2% emission loss during this process. Each mixing operation will be completed in less than 1 hour per shift.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

3.6 gallons of bondliner to be applied to a lot of 24 rocket motor cases.

3.75 gallons of Chemlok 205/MEK mixture.
4.69 gallons of Chemlok 234X/Toluene mixture.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	4	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	0.45 (Bondliner) 0.47 (Chemlok 205) 0.65 (Chemlok 234X)	lb/hr	0.53 0.55 0.76	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
	Ethyl benzene	0.016 (Chemlok 205) 0.065 (Chemlok 234X)	lb/hr	0.019 0.039	grains/ACF
	MIBK	0.196 (Chemlok 205)	lb/hr	0.229	grains/ACF
	Toluene	0.23 (Chemlok 234X)	lb/hr	0.27	grains/ACF
	Xylene	0.05 (Chemlok 205) 0.36 (Chemlok 234X)	lb/hr	0.06 0.42	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of batches mixed per shift with batch weights. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per lot to determine actual emissions per hour. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	TESTING
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-13S (Z-13E)

1. Name or type and model of proposed affected source:

Bondliner Application Booth / Chemlok Application Booth - Pillar M-1740 Spray System
(The intent is to have 2 separate booths for Chemlok and bondliner application. However, we would like to permit the application booth to accommodate both Chemlok and bondliner spraying in the event that we only have a single booth installed prior to startup as well as a backup in case one or the other would be down for maintenance for any reason.)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

The Bondliner Application Booth will be used each shift for a 3 hour period. Bondliner mixture is applied at a rate of 1.27 gallons per lot. The spray cycle coats the interior insulated surface of 24 units with the bondliner mixture in a 6 hour period. It is estimated that 95% of emissions will be lost from the application booth and the remaining 5% will be emitted from the Chemlok Drying Station. In addition, a 1 hour period per shift will be used to clean the coating equipment lines and spray pots after the spray process using toluene. It is estimated that there will be a loss of about 0.5 gallons of toluene during cleanup (3.63 lbs).

See Section 5 for continuation of Chemlok information.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

A maximum of 24 units coated with the bondliner mixture.

A maximum of 24 units coated with the Chemlok 205 mixture or a maximum of 12 units coated with the Chemlok 234X mixture.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

Section 5 - Not applicable.
Continuation of Section 3 for Chemlok:
The Chemlok Application Booth will be used twice per shift for a 6 hour period each time. The first application is Chemlok 205/MEK at a rate of 0.893 gallons per lot. The second application is Chemlok 234X/Toluene at a rate of 0.969 gallons per lot. Each spray cycle coats the interior surface of 24 units with the adhesive primer mixture in a 6 hour period. It is estimated that 95% of emissions will be lost from the application booth and the remaining 5% will be emitted from the Chemlok Drying Station. In addition, two 1 hour periods per shift will be used to clean the coating equipment lines and spray pots after each Chemlok process using MEK for the Chemlok 205 and Toluene for the Chemlok 234X. It is estimated that there will be a loss of about 0.5 gallons of each solvent during cleanup (3.36 and 3.63 lbs respectively).

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	16	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}	0.36 (Chemlok 205) 0.097 (Chemlok 234X)	lb/hr	0.42 0.113	grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	2.52 / 1.87 / 2.25 (BL/205/234X) 1.82 / 1.68 / 1.82 (cleanup)	lb/hr	2.94 / 2.18 / 2.63 2.12 / 1.96 / 2.12	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
	Ethyl benzene	0.065 (Chemlok 205) 0.225 (Chemlok 234X)	lb/hr	0.076 0.263	grains/ACF
	MIBK	0.782 (Chemlok 205)	lb/hr	0.912	grains/ACF
	Toluene	1.235 (Chemlok 234X)	lb/hr	1.441	grains/ACF
	Xylene	0.194 (Chemlok 205) 0.789 (Chemlok 234X)	lb/hr	0.226 0.921	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of units coated per day. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per lot to determine actual emissions per hour. Emissions will be broken into spray booth and drying station portions. The daily cleanup solvents shall be recorded for each spray application. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	TESTING
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	If testing is required by the Director, it will be conducted using the required EPA methods.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-14S (Z-14E)

1. Name or type and model of proposed affected source:

Bondliner Drying Station / Chemlok Drying Station - Pillar M-1740 Spray System
Ther are 2 separate drying stations for Chemlok and bondliner application. However, we would like to permit the drying stations to accommodate both Chemlok and bondliner drying as a backup in case one or the other would be down for maintenance for any reason.)

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

The Bondliner Drying Station will be used each shift for a 3 hour period. This will be drying time for the Bondliner at a rate of 0.0335 gallons per lot. It is estimated that 95% of emissions will be lost from the application booth and the remaining 5% will be emitted from the Bondliner Drying Station.

The Chemlok Drying Station will be used twice per shift for a 3 hour period each time for drying of Chemlok. The first time will be drying time for Chemlok 205/MEK at a rate of 0.047 gallons per lot. The second time will be drying time for Chemlok 234X/Toluene at a rate of 0.051 gallons per lot. This rate is based on an estimate that 95% of emissions will be lost from the application booth and the remaining 5% will be emitted from the Chemlok Drying Station.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

A maximum of 24 dried units coated with the Bondliner mixture.

A maximum of 24 dried units coated with the Chemlok 205 mixture or a maximum of 24 dried units coated with the Chemlok 234X mixture.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	6	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	0.132 (Bondliner) 0.098 (Chemlok 205) 0.118 (Chemlok 234X)	lb/hr	0.154 0.114 0.138	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
	Ethyl benzene	0.003 (Chemlok 205) 0.012 (Chemlok 234X)	lb/hr	0.004 0.014	grains/ACF
	MIBK	0.041 (Chemlok 205)	lb/hr	0.048	grains/ACF
	Toluene	0.065 (Chemlok 234X)	lb/hr	0.706	grains/ACF
	Xylene	0.010 (Chemlok 205) 0.041 (Chemlok 234X)	lb/hr	0.012 0.048	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of units coated per day. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per lot to determine actual emissions per hour. Emissions will be broken into spray booth and drying station portions. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	**TESTING**
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-15S (Z-15E)

1. Name or type and model of proposed affected source:

   Doosan PUMA 3100 ULY Machining Center
   14" Delta Band Saw Model 28-400 with 18 tpi metal cutting blade. or equivalent
   Powermmatic Belt Sander Model 31A or equivalent
   Honing Operation

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   Not more than 4 Kevlar Composite Tubes approximately 84" long x 9-1/8" OD x 1/8" wall.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   For each Composite Tube processed, the System will yield the following Kevlar composite Components approx 9-1/8" Dia, with 1/8" wall. Tube 74" Long, Sample Ring 1/2" Long, Inspection Ring 2" long, Four Samples 1"x 1/2" waste Drop, and approximately 5 cubic inches of Kevlar Composite dust. The volume of dust produced by each piece of equipment discharging into the collection system described in Attachment M is estimated as follows: Doosan Puma 3100 ULY: 4 cubic inches, Band Saw: 0.03 cubic Inches, Belt Sander: 0.05 cubic inches, Honing Operation: 0.8 cubic inches. Total dust emissions per hour into the dust collector are not anticipated to exceed 10 cubic inches.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   None

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

None

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

None

(c) Theoretical combustion air requirement (ACF/unit of fuel):

None @ None °F and None psia.

(d) Percent excess air: N/A

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

N/A

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

N/A

(g) Proposed maximum design heat input: N/A × 10^6 BTU/hr.

7. Projected operating schedule:

Hours/Day	24	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ °F and psia

a.	NO_X	N/A	lb/hr	N/A	grains/ACF
b.	SO_2	N/A	lb/hr	N/A	grains/ACF
c.	CO	N/A	lb/hr	N/A	grains/ACF
d.	PM_{10}	0.6	lb/hr	0.7	grains/ACF
e.	Hydrocarbons	N/A	lb/hr	N/A	grains/ACF
f.	VOCs	N/A	lb/hr	N/A	grains/ACF
g.	Pb	N/A	lb/hr	N/A	grains/ACF
h.	Specify other(s)				
	N/A	N/A	lb/hr	N/A	grains/ACF
	N/A	N/A	lb/hr	N/A	grains/ACF
	N/A	N/A	lb/hr	N/A	grains/ACF
	N/A	N/A	lb/hr	N/A	grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
Continuous monitoring of Pressure drop across after-Filter utilizing manometer integrated with strobe alarm. Proper functionality of manometer and strobe to be verified on regular PM schedule TBD.	A daily record shall be kept of the number of units machined each day. The daily numbers shall be added to a spreadsheet with emission rates per part to determine actual emissions per year. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	TESTING

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty
N/A

Attachment L
EMISSIONS UNIT DATA SHEET
GENERAL

To be used for affected sources other than asphalt plants, foundries, incinerators, indirect heat exchangers, and quarries.

Identification Number (as assigned on *Equipment List Form*): Z-16S (Fugitive Emissions)

1. Name or type and model of proposed affected source:

   Bonded End Closure Adapter Wiping Table

2. On a separate sheet(s), furnish a sketch(es) of this affected source. If a modification is to be made to this source, clearly indicated the change(s). Provide a narrative description of all features of the affected source which may affect the production of air pollutants.

3. Name(s) and maximum amount of proposed process material(s) charged per hour:

   1.234 lbs per hour of isopropyl alcohol (IPA) used to degrease adapter pieces (end closures) and tubes (max 60/day) prior to applying adhesive for bonding.

4. Name(s) and maximum amount of proposed material(s) produced per hour:

   A maximum of 60 tubes with end closures installed per day.

5. Give chemical reactions, if applicable, that will be involved in the generation of air pollutants:

   Not applicable.

* The identification number which appears here must correspond to the air pollution control device identification number appearing on the *List Form*.

6. Combustion Data (if applicable):

(a) Type and amount in appropriate units of fuel(s) to be burned:

Not applicable.

(b) Chemical analysis of proposed fuel(s), excluding coal, including maximum percent sulfur and ash:

(c) Theoretical combustion air requirement (ACF/unit of fuel):

@ °F and psia.

(d) Percent excess air:

(e) Type and BTU/hr of burners and all other firing equipment planned to be used:

(f) If coal is proposed as a source of fuel, identify supplier and seams and give sizing of the coal as it will be fired:

(g) Proposed maximum design heat input: $\times 10^6$ BTU/hr.

7. Projected operating schedule:

Hours/Day	8	Days/Week	7	Weeks/Year	52

8. Projected amount of pollutants that would be emitted from this affected source if no control devices were used:

@ 68 °F and 14.7 psia

a.	NO_X		lb/hr		grains/ACF
b.	SO_2		lb/hr		grains/ACF
c.	CO		lb/hr		grains/ACF
d.	PM_{10}		lb/hr		grains/ACF
e.	Hydrocarbons		lb/hr		grains/ACF
f.	VOCs	1.23	lb/hr	1.44	grains/ACF
g.	Pb		lb/hr		grains/ACF
h.	Specify other(s)				
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF
			lb/hr		grains/ACF

NOTE: (1) An Air Pollution Control Device Sheet must be completed for any air pollution device(s) used to control emissions from this affected source.

(2) Complete the Emission Points Data Sheet.

9. Proposed Monitoring, Recordkeeping, Reporting, and Testing
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING	RECORDKEEPING
None.	A daily record shall be kept of the number of adapters wiped for bonding end closures. The daily numbers and the hours of processing time shall be added to a spreadsheet with emission rates per part to determine actual emissions per hour. Emissions shall be calculated on a rolling 12 month calendar to ensure compliance with the annual emission limits. Records shall be maintained for a period of at least 5 years and shall be available upon request.
REPORTING	**TESTING**
Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year per.	None.

MONITORING. PLEASE LIST AND DESCRIBE THE PROCESS PARAMETERS AND RANGES THAT ARE PROPOSED TO BE MONITORED IN ORDER TO DEMONSTRATE COMPLIANCE WITH THE OPERATION OF THIS PROCESS EQUIPMENT OPERATION/AIR POLLUTION CONTROL DEVICE.

RECORDKEEPING. PLEASE DESCRIBE THE PROPOSED RECORDKEEPING THAT WILL ACCOMPANY THE MONITORING.

REPORTING. PLEASE DESCRIBE THE PROPOSED FREQUENCY OF REPORTING OF THE RECORDKEEPING.

TESTING. PLEASE DESCRIBE ANY PROPOSED EMISSIONS TESTING FOR THIS PROCESS EQUIPMENT/AIR POLLUTION CONTROL DEVICE.

10. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty

Attachment M
Air Pollution Control Device Sheet
(OTHER COLLECTORS)

Control Device ID No. (must match Emission Units Table): Z-1C (Z-3S)

Equipment Information

1. Manufacturer: Global Finishing Solutions Model No. GFS Wave	2. Control Device Name: GFS Wave Filter Type: Single-stage filtration media
3. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.	
4. On a separate sheet(s) supply all data and calculations used in selecting or designing this collection device.	
5. Provide a scale diagram of the control device showing internal construction.	
6. Submit a schematic and diagram with dimensions and flow rates.	
7. Guaranteed minimum collection efficiency for each pollutant collected: 90%	
8. Attached efficiency curve and/or other efficiency information.	
9. Design inlet volume: 5600 SCFM	10. Capacity: 5600 SCFM
11. Indicate the liquid flow rate and describe equipment provided to measure pressure drop and flow rate, if any. Spray pot pressure is expected to be ~25 psi. The face velocity on the booth will be maintained at a level of at least 100 fpm at the face of the booth. A manometer will be installed to measure the pressure drop across the filter bank to determine when the filters need to be changed.	
12. Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment.	
13. Description of method of handling the collected material(s) for reuse of disposal. Filters will be collected in a cubic yard box with other rags and paint contaminated materials to be shipped to a licensed hazardous waste TSDF for treatment.	

Gas Stream Characteristics

14. Are halogenated organics present?	☐ Yes	☒ No
Are particulates present?	☒ Yes	☐ No
Are metals present?	☒ Yes	☐ No

15. Inlet Emission stream parameters:	**Maximum**	**Typical**
Pressure (mmHg):	Ambient	Ambient
Heat Content (BTU/scf):	NA	NA
Oxygen Content (%):	NA	NA
Moisture Content (%):	NA	NA
Relative Humidity (%):	NA	40

16. Type of pollutant(s) controlled: ☐ SO_x ☐ Odor
☒ Particulate (type): ☐ Other

17. Inlet gas velocity: NA ft/sec

18. Pollutant specific gravity: NA

19. Gas flow into the collector:
5600 ACF @ Ambient °F and 14.7 PSIA

20. Gas stream temperature:
Inlet: Ambient °F
Outlet: Ambient °F

21. Gas flow rate:
Design Maximum: 5600 ACFM
Average Expected: 5600 ACFM

22. Particulate Grain Loading in grains/scf:
Inlet: 0.457
Outlet: 0.002

23. Emission rate of each pollutant (specify) into and out of collector:

Pollutant	IN Pollutant		Emission Capture Efficiency %	OUT Pollutant		Control Efficiency %
	lb/hr	grains/acf		lb/hr	grains/acf	
A PM	0.2	0.23	99.5	0.01	0.012	90
B						
C						
D						
E						

24. Dimensions of stack: NA Height 20 ft. Diameter 2 ft.

25. Supply a curve showing proposed collection efficiency versus gas volume from 25 to 130 percent of design rating of collector.

Particulate Distribution

26. Complete the table: Particulate Size Range (microns)	Particle Size Distribution at Inlet to Collector: Weight % for Size Range	Fraction Efficiency of Collector: Weight % for Size Range
0 – 2	Overspray (Particle size distribution is not known)	See attachment
2 – 4		
4 – 6		
6 – 8		
8 – 10		
10 – 12		
12 – 16		
16 – 20		
20 – 30		
30 – 40		
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100		

27. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification): None

28. Describe the collection material disposal system:

Filters will be collected in a cubic yard box with other rags and paint contaminated materials to be shipped to a licensed hazardous waste TSDF for treatment.

29. Have you included ***Other Collectores Control Device*** in the Emissions Points Data Summary Sheet?

30. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING: A manometer will be installed on the booth to check the pressure drop across the filters and set points will be marked to indicate adequate draw through the systems. Operating procedures shall include language that requires the manometer be checked prior to use to ensure that the system is running at adequate draw and the checks to be recorded.	RECORDKEEPING: Filters will be checked daily prior to spraying operations. Manometer and filter checks will be recorded each day and records will be maintained for five years.
REPORTING: Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year.	TESTING: If testing is required by the Director, it will be conducted using the required EPA methods.

MONITORING:	Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

31. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
90%

32. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
90%

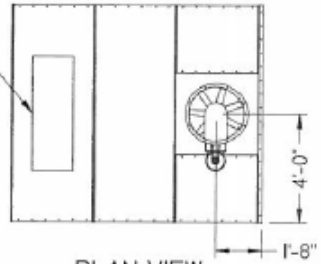
33. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
None specified

NOTE
1. BOOTH IS FABRICATED FROM UNPAINTED 18 GA. GALVANIZED SHEET STEEL; PRE-PUNCHED AND COMPANION FLANGED FOR BOLT TOGETHER ASSEMBLY.

FAN & MOTOR DATA		
DIA.	CFM @ .98" S.P.	MOTOR H.P.
24"	5,600	2.0

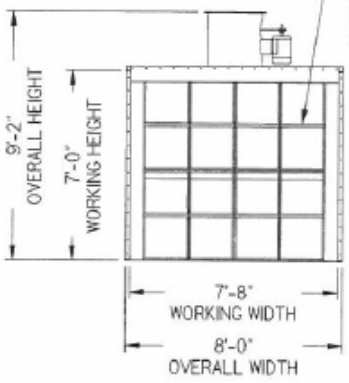
TYPE	ENCLOSURE	PHASE	VOLTAGE
T1B	TEFC	1	DUAL-VOLT
T3S	TEFC	3	575
T3T	TEFC	3	TRI-VOLT
X1B	EXPL. PROOF	1	DUAL-VOLT
X3S	EXPL. PROOF	3	575
X3T	EXPL. PROOF	3	TRI-VOLT

(1) 48" 4 TUBE DUAL VOLTAGE CLASS I DIV. 2 INSIDE ACCESS FLUORESCENT LIGHT FIXTURES (WITH TUBES)



PLAN VIEW

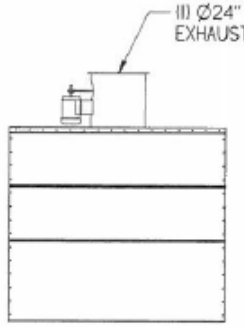
(16) 20 x 20 EXHAUST FILTERS W/ (1) GRID & 4 RUBBER TIPS PER FILTER CELL.



FRONT ELEVATION

SIDE ELEVATION

(1) Ø24" TUBE AXIAL EXHAUST UNIT



BACK ELEVATION

BARRIE, ONTARIO, CANADA
DELEVAN, WISCONSIN, USA
DALLAS, TEXAS, USA
PHONE: 1-800-668-5872 or 1-800-648-8738

GLOBAL FINISHING SOLUTIONS™

CONCEPT REVISION

REV.	DATE	BY

CONTROL REVISION

REV.	DATE	BY

PROJECT

CUSTOMER

for

DESCRIPTION
FPG-876.100
INDUSTRIAL BOOTH

APPROVED BY

SCALE	DATE
NTS	
DRAWN BY	REVIEWED BY
dquick	

WORK ORDER NUMBER

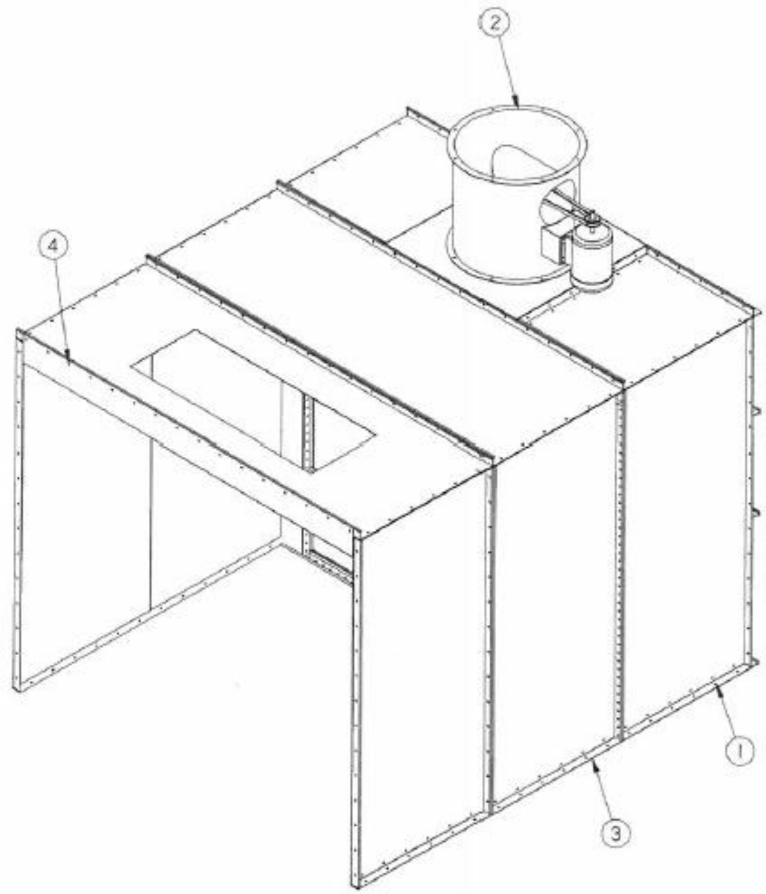
DRAWING NUMBER
-01

SHEET
1 OF 6

#	B	D	Sled	Item	Qty	Part Number	Description	Material
				1	1	FPSEX-0807-24	EXHAUST CHAMBER 7'-8" ID. x 7' H	
				2	1	FAN-24VP-020001	24" EXHAUST FAN	-
				3	1	FPCWD-080706	WORKING DEPTH 5'-6" W x 7' H	
				4	1	FCJG8-0920	FIRE CURTAIN 92"	18 GA.

INSPECTED AND INVENTORIED BY ____________

PACKED BY ____________



GLOBAL FINISHING SOLUTIONS™

BARRIE, ONTARIO, CANADA
OSSEO, WISCONSIN, USA
DALLAS, TEXAS, USA
PHONE: 1-800-488-5872 or 1-800-845-8735

CONCEPT REVISION

REV	DATE	BY
REV	DATE	BY
REV	DATE	BY
REV	DATE	BY

CONTROL REVISION

REV	DATE	BY
REV	DATE	BY

PROJECT

CUSTOMER

for

DESCRIPTION

FPG-876.100

INDUSTRIAL BOOTH

APPROVED BY

SCALE: NTS | DATE:

DRAWN BY: dquick | REVIEWED BY

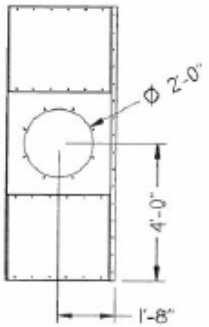
WORK ORDER NUMBER

DRAWING NUMBER -02

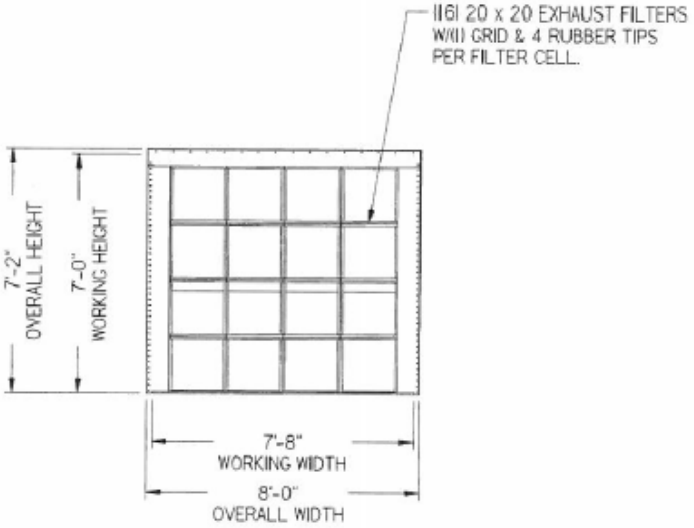
SHEET 2 OF 6

REVISED 03/15/2007

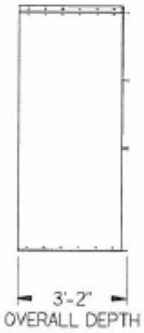
NOTE:
1. CHAMBER IS FABRICATED FROM UNPAINTED 18 GA. GALVANIZED SHEET STEEL; PRE-PUNCHED AND COMPANION FLANGED FOR BOLT TOGETHER ASSEMBLY.



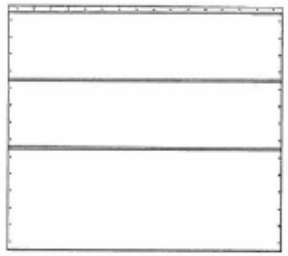
PLAN VIEW



FRONT VIEW



SIDE VIEW



BACK VIEW

GLOBAL FINISHING SOLUTIONS™

BARRIE, ONTARIO, CANADA
GRAND RAPIDS, MI USA
DALLAS, TEXAS, USA
PHONE: 1-800-848-5572 or 1-800-848-0739

CONCEPT REVISION

REV	DATE	BY

CONTROL REVISION

REV	DATE	BY

PROJECT

CUSTOMER

for

DESCRIPTION
FPGEX-0807-24
EXHAUST CHAMBER

APPROVED BY

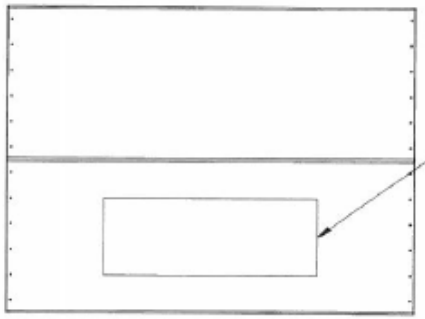
SCALE	DATE
NTS	
DRAWN BY	REVIEWED BY
dquick	

WORK ORDER NUMBER

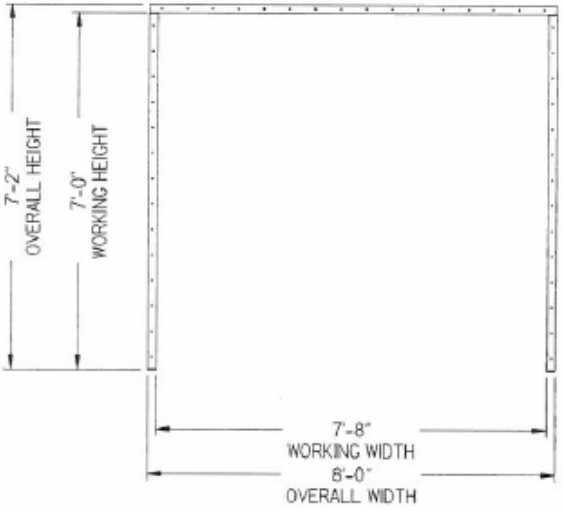
DRAWING NUMBER
-03

SHEET
3 OF 6

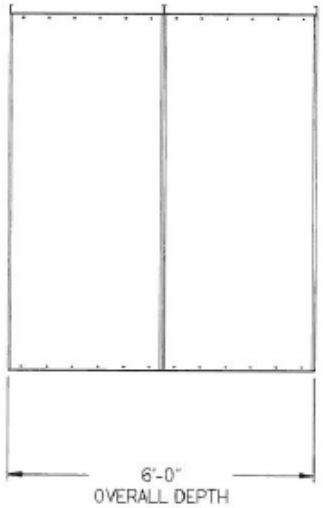
NOTE:
1. BOOTH IS FABRICATED FROM UNPAINTED 18 GA. GALVANIZED SHEET STEEL, PRE-PUNCHED AND COMPANION FLANGED FOR BOLT TOGETHER ASSEMBLY.



PLAN VIEW



FRONT ELEVATION



SIDE ELEVATION

GLOBAL FINISHING SOLUTIONS™

BARRIE, ONTARIO, CANADA
OSSEO, WISCONSIN, USA
DALLAS, TEXAS, USA
PHONE: 1-800-465-5972 or 1-800-846-8759

CONCEPT REVISION

REV.	DATE	BY

CONTROL REVISION

REV.	DATE	BY

PROJECT

CUSTOMER

for

DESCRIPTION
FPGWD-080706
LAYOUT

APPROVED BY

SCALE:	DATE:
NTS	
DRAWN BY:	REVIEWED BY:
dquick	

WORK ORDER NUMBER

DRAWING NUMBER
-05

SHEET
5 OF 6

REVISED 03/15/2007

Attachment M
Air Pollution Control Device Sheet
(OTHER COLLECTORS)

Control Device ID No. (must match Emission Units Table): Z-2C (Z-8S)

Equipment Information

1. Manufacturer: Pillar Model No. N/A	2. Control Device Name: GFS Wave Filter Type: Single-stage filtration media
3. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.	
4. On a separate sheet(s) supply all data and calculations used in selecting or designing this collection device.	
5. Provide a scale diagram of the control device showing internal construction.	
6. Submit a schematic and diagram with dimensions and flow rates.	
7. Guaranteed minimum collection efficiency for each pollutant collected: 90%	
8. Attached efficiency curve and/or other efficiency information.	
9. Design inlet volume: 1000 SCFM	10. Capacity: 1000
11. Indicate the liquid flow rate and describe equipment provided to measure pressure drop and flow rate, if any. Differential Pressure Sensor	
12. Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment.	
13. Description of method of handling the collected material(s) for reuse of disposal. Filters will be collected in a cubic yard box with other rags and paint contaminated materials to be shipped to a licensed hazardous waste TSDF for treatment.	

Gas Stream Characteristics

14. Are halogenated organics present?	☐ Yes	☒ No
Are particulates present?	☒ Yes	☐ No
Are metals present?	☐ Yes	☒ No

15. Inlet Emission stream parameters:	**Maximum**	**Typical**
Pressure (mmHg):		760
Heat Content (BTU/scf):		
Oxygen Content (%):		
Moisture Content (%):		
Relative Humidity (%):		40

16. Type of pollutant(s) controlled: ☐ SO_x ☐ Odor
☒ Particulate (type): ☐ Other

17. Inlet gas velocity: 9000 ft/sec

18. Pollutant specific gravity:

19. Gas flow into the collector:
ACF @ 68 °F and 14.9 PSIA

20. Gas stream temperature:
Inlet: 70 °F
Outlet: 70 °F

21. Gas flow rate:
Design Maximum: 1000 ACFM
Average Expected: 1000 ACFM

22. Particulate Grain Loading in grains/scf:
Inlet: 0.268
Outlet: 0.031

23. Emission rate of each pollutant (specify) into and out of collector:

Pollutant	IN Pollutant		Emission Capture Efficiency %	OUT Pollutant		Control Efficiency %
	lb/hr	grains/acf		lb/hr	grains/acf	
A Chemlok 205	0.36	0.42	99.5	0.018	0.021	90
B Chemlok 234	0.06	0.07	99.5	0.003	0.004	90
C BL-034	Neglible	Neglible	N/A	N/A	N/A	N/A
D						
E						

24. Dimensions of stack: Height 20 ft. Diameter 1 ft.

25. Supply a curve showing proposed collection efficiency versus gas volume from 25 to 130 percent of design rating of collector.

Particulate Distribution

26. Complete the table:	Particle Size Distribution at Inlet to Collector	Fraction Efficiency of Collector
Particulate Size Range (microns)	**Weight % for Size Range**	**Weight % for Size Range**
0 – 2	Overspray particles size not known	See filter info attached
2 – 4		
4 – 6		
6 – 8		
8 – 10		
10 – 12		
12 – 16		
16 – 20		
20 – 30		
30 – 40		
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100		

27. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):

None.

28. Describe the collection material disposal system:

Filters will be collected in a cubic yard box with other rags and paint contaminated materials to be shipped to a licensed hazardous waste TSDF for treatment.

29. Have you included ***Other Collectores Control Device*** in the Emissions Points Data Summary Sheet? None

30. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING: A manometer will be installed on the booth to check the pressure drop across the filters and set points will be marked to indicate adequate draw through the systems. Operating procedures shall include language that requires the manometer be checked prior to use to ensure that the system is running at adequate draw and the checks to be recorded.	RECORDKEEPING: Filters will be checked daily prior to spraying operations. Manometer and filter checks will be recorded each day and records will be maintained for five years.
REPORTING: Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year.	TESTING: If testing is required by the Director, it will be conducted using the required EPA methods.

MONITORING:	Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

31. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
90%

32. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
90%

33. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
None specified.

Attachment M
Air Pollution Control Device Sheet
(OTHER COLLECTORS)

Control Device ID No. (must match Emission Units Table): Z-3C (Z-13S)

Equipment Information

1. Manufacturer: Pillar Model No. N/A	2. Control Device Name: GFS Wave Filter Type: Single-stage filtration media
3. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.	
4. On a separate sheet(s) supply all data and calculations used in selecting or designing this collection device.	
5. Provide a scale diagram of the control device showing internal construction.	
6. Submit a schematic and diagram with dimensions and flow rates.	
7. Guaranteed minimum collection efficiency for each pollutant collected: 90%	
8. Attached efficiency curve and/or other efficiency information.	
9. Design inlet volume: 1000 SCFM	10. Capacity: 1000
11. Indicate the liquid flow rate and describe equipment provided to measure pressure drop and flow rate, if any. Differential Pressure Sensor	
12. Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment.	
13. Description of method of handling the collected material(s) for reuse of disposal. Filters will be collected in a cubic yard box with other rags and paint contaminated materials to be shipped to a licensed hazardous waste TSDF for treatment.	

Gas Stream Characteristics

14. Are halogenated organics present?	☐ Yes	☒ No
Are particulates present?	☒ Yes	☐ No
Are metals present?	☐ Yes	☒ No

15. Inlet Emission stream parameters:	**Maximum**	**Typical**
Pressure (mmHg):		760
Heat Content (BTU/scf):		
Oxygen Content (%):		
Moisture Content (%):		
Relative Humidity (%):		40

16. Type of pollutant(s) controlled: ☐ SO_x ☐ Odor
☒ Particulate (type): ☐ Other

17. Inlet gas velocity: 9000 ft/sec

18. Pollutant specific gravity:

19. Gas flow into the collector:
ACF @ 68 °F and 14.9 PSIA

20. Gas stream temperature:
Inlet: 70 °F
Outlet: 70 °F

21. Gas flow rate:
Design Maximum: 1000 ACFM
Average Expected: 1000 ACFM

22. Particulate Grain Loading in grains/scf:
Inlet: 0.268
Outlet: 0.031

23. Emission rate of each pollutant (specify) into and out of collector:

Pollutant	IN Pollutant		Emission Capture Efficiency %	OUT Pollutant		Control Efficiency %
	lb/hr	grains/acf		lb/hr	grains/acf	
A Chemlok 205	0.36	0.42	99.5	0.018	0.021	90
B Chemlok 234	0.06	0.07	99.5	0.003	0.004	90
C BL-034	Neglible	Neglible	N/A	N/A	N/A	N/A
D						
E						

24. Dimensions of stack: Height 20 ft. Diameter 1 ft.

25. Supply a curve showing proposed collection efficiency versus gas volume from 25 to 130 percent of design rating of collector.

Particulate Distribution

26. Complete the table:	Particle Size Distribution at Inlet to Collector	Fraction Efficiency of Collector
Particulate Size Range (microns)	Weight % for Size Range	Weight % for Size Range
0 – 2	Overspray particles size not known	See filter info attached
2 – 4		
4 – 6		
6 – 8		
8 – 10		
10 – 12		
12 – 16		
16 – 20		
20 – 30		
30 – 40		
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100		

27. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):

None.

28. Describe the collection material disposal system:

Filters will be collected in a cubic yard box with other rags and paint contaminated materials to be shipped to a licensed hazardous waste TSDF for treatment.

29. Have you included ***Other Collectores Control Device*** in the Emissions Points Data Summary Sheet? None

30. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING: A manometer will be installed on the booth to check the pressure drop across the filters and set points will be marked to indicate adequate draw through the systems. Operating procedures shall include language that requires the manometer be checked prior to use to ensure that the system is running at adequate draw and the checks to be recorded.	RECORDKEEPING: Filters will be checked daily prior to spraying operations. Manometer and filter checks will be recorded each day and records will be maintained for five years.
REPORTING: Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year.	TESTING: If testing is required by the Director, it will be conducted using the required EPA methods.

MONITORING:	Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

31. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
90%

32. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
90%

33. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
None specified.

Attachment M
Air Pollution Control Device Sheet
(MECHANICAL COLLECTOR-CYCLONE)

Control Device ID No. (must match Emission Units Table): Z-4C (Z-15S)

Equipment Information

1. Manufacturer: Aget Manufacturing Company

   Model No. 30SN100-PL-SP

2. Method: ☐ Wet ☒ Dry
   ☐ Single-stage
   ☐ Multiple: number
   ☐ In series: number

3. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.

4. Provide a diagram of the proposed simple cyclone or multicyclone system with examples of the parameters identified below:

5. Simple cyclone system (show units):

Major cylinder diameter:		in.
Major cylinder length:		in.
Cone length:		in.
Gas outlet diameter:	13	in.
Gas outlet length:		in.
Gas inlet height:	186	in.
Gas inlet weight:		in.
Dust outlet diameter:		in.
Pressure drop across the cyclone:		in. H_2O

Describe the collected dust discharge valves and system: No discharge Valves

6. Multicyclone system (show units):

Major cylinder diameter:	N/A	in.
Major cylinder length:	N/A	in.
Cone length:	N/A	in.
Gas outlet diameter:	N/A	in.
Gas outlet length:	N/A	in.
Gas inlet height:	N/A	in.
Gas inlet weight:	N/A	in.
Dust outlet diameter:	N/A	in.
Pressure drop across the system:	N/A	in. H_2O
Number of tubes:	N/A	
Tube diameter:	N/A	in.
Tube length:	N/A	in.

Describe the collected dust discharge valves and system: N/A

7. More than one cyclone:
   Number of cyclones: 1
   Arrangement: ☐ Parallel ☐ Series
   Pressure drop across the system: TBD in. H_2O

8. On a separate sheet answer the following questions for each cyclone and attach:

Major cylinder diameter:	in.	Gas inlet weight:	in.
Major cylinder length:	in.	Dust outlet diameter:	in.
Cone length:	in.	Pressure drop across the system:	in. H_2O
Gas outlet diameter:	in.	Number of tubes:	
Gas outlet length:	in.	Tube diameter:	in.

Describe the collected dust discharge valves and systems:
Cyclone Air discharges into an Afterfilter utilizing 13.5 lb. napped Polypropylene Sateen Filters with Cabosil preload.

9. Guaranteed collection efficiency:
   Minimum: 80 %

10. Efficiency of cyclone:
    At design maximum: %
    At average Operation: %

11. Method of handling material removed:
    Large particulate falls into 20 gallon Drums integrated with the Cyclone, and Afterfilter. Drums to be emptied daily. Filters to be changed out when excessive pressure drop detected.

Gas Stream Characteristics

12. Particle characteristics (for particulate matter):
    - Type of material: Kevlar-Carbon Fiber Composite
    - Particle density: 0.057 pounds per cubic inch
    - Emission rate at collector outlet: lb/hr
      grains/ACF
    - Particulate matter inlet rate to device: 0.6 lb/hr
      0.01grains/ACF

13. Total flow rate:
    - Design maximum: 3800 acfm
    - Average expected: 3600 acfm

14. Gas Stream Temperature:
    - Inlet: AMB. °F
    - Outlet: AMB. °F

15. Gas flow rate into collector: 3600 acfm at Ambient °F and Atmospheric PSIA

16. Viscosity of gas stream at the above temperature and pressure: .003 lb/sec-ft

17. Inlet gas velocity: Varies by collection point from15-40 ft/sec

18. Particulate Grain Loading in grains/scf:
    - Inlet:
    - Outlet:

19. Supply a curve showing particulate collection efficiency versus gas volume from 25 to 100 percent of design rating of collector.

Particulate Distribution

20. Complete the table:

Particulate Size Range (microns)	Particle Size Distribution at Inlet to Collector Weight % for Size Range	Fraction Efficiency of Collector Weight % for Size Range
0 – 2	0.81	99.93
2 – 4	1.35	100
4 – 6	2.42	100
6 – 8	3.44	100
8 – 10	4.28	100
10 – 12	4.92	100
12 – 16	5.79	100
16 – 20	6.33	100
20 – 30	7.02	100
30 – 40	7.34	100
40 – 50	7.56	100
50 – 60	7.74	100
60 – 70	7.89	100
70 – 80	8.02	100
80 – 90	8.12	100
90 – 100	8.20	100
>100	8.77	100

21. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):
None

22. Describe the collection material disposal system:
Waste material collected in drums to be emtied daily into trash container. (nonhazardous Waste)

23. Have you included ***Mechanical Collector (Cyclone) Control Device*** in the Emissions Points Data Summary Sheet?

24. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING:	RECORDKEEPING:
Continous monitoring of Pressure drop across after-Filter utilizing manometer integrated with strobe alarm. proper functionality of manometer and strobe to be verified on regular PM schedule TBD.	
REPORTING:	TESTING:

MONITORING:	Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

25. Manufacturer's Guaranteed Capture Efficiency for each air pollutant.
Estimated @ 85% for entire system. Most Losses are anticipated in the Machining center where 80% of the particulate matter is generated. Machining particles may be slung out of the range of their intended capture hood. The machine enclosure will likely contain stray particulate matter, forcing it to accumulate on flat surfaces near the bottom of the machine where it can be removed during end of shift clean-up. The Honing operation is expected to be nearly 100% efficient as the surface of the work piece is effectively internal to the Ducting system.

26. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
99.99%

27. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
N/A

Attachment M
Air Pollution Control Device Sheet
(OTHER COLLECTORS)

Control Device ID No. (must match Emission Units Table): Z-5C (Z-9S/Z-9E)

Equipment Information

1. Manufacturer: Pillar Model No. N/A	2. Control Device Name: GFS Wave Filter Type: Single-stage filtration media
3. Provide diagram(s) of unit describing capture system with duct arrangement and size of duct, air volume, capacity, horsepower of movers. If applicable, state hood face velocity and hood collection efficiency.	
4. On a separate sheet(s) supply all data and calculations used in selecting or designing this collection device.	
5. Provide a scale diagram of the control device showing internal construction.	
6. Submit a schematic and diagram with dimensions and flow rates.	
7. Guaranteed minimum collection efficiency for each pollutant collected: 90%	
8. Attached efficiency curve and/or other efficiency information.	
9. Design inlet volume: 1000 SCFM	10. Capacity: 1000
11. Indicate the liquid flow rate and describe equipment provided to measure pressure drop and flow rate, if any. Differential Pressure Sensor	
12. Attach any additional data including auxiliary equipment and operation details to thoroughly evaluate the control equipment.	
13. Description of method of handling the collected material(s) for reuse of disposal. Filters will be collected in a cubic yard box with other rags and paint contaminated materials to be shipped to a licensed hazardous waste TSDF for treatment.	

Gas Stream Characteristics

14. Are halogenated organics present?	☐ Yes	☒ No
Are particulates present?	☒ Yes	☐ No
Are metals present?	☐ Yes	☒ No

15. Inlet Emission stream parameters:	**Maximum**	**Typical**
Pressure (mmHg):		760
Heat Content (BTU/scf):		
Oxygen Content (%):		
Moisture Content (%):		
Relative Humidity (%):		40

16. Type of pollutant(s) controlled: ☐ SO_x ☐ Odor
☒ Particulate (type): ☐ Other

17. Inlet gas velocity: 9000 ft/sec

18. Pollutant specific gravity:

19. Gas flow into the collector:
ACF @ 68 °F and 14.9 PSIA

20. Gas stream temperature:
Inlet: 70 °F
Outlet: 70 °F

21. Gas flow rate:
Design Maximum: 1000 ACFM
Average Expected: 1000 ACFM

22. Particulate Grain Loading in grains/scf:
Inlet: 0.268
Outlet: 0.031

23. Emission rate of each pollutant (specify) into and out of collector:

Pollutant	IN Pollutant		Emission Capture Efficiency %	OUT Pollutant		Control Efficiency %
	lb/hr	grains/acf		lb/hr	grains/acf	
A Chemlok 205	0.36	0.42	99.5	0.018	0.021	90
B Chemlok 234	0.06	0.07	99.5	0.003	0.004	90
C BL-034	Neglible	Neglible	N/A	N/A	N/A	N/A
D						
E						

24. Dimensions of stack: Height 20 ft. Diameter 1 ft.

25. Supply a curve showing proposed collection efficiency versus gas volume from 25 to 130 percent of design rating of collector.

Particulate Distribution

26. Complete the table:	Particle Size Distribution at Inlet to Collector	Fraction Efficiency of Collector
Particulate Size Range (microns)	Weight % for Size Range	Weight % for Size Range
0 – 2	Overspray particles size not known	See filter info attached
2 – 4		
4 – 6		
6 – 8		
8 – 10		
10 – 12		
12 – 16		
16 – 20		
20 – 30		
30 – 40		
40 – 50		
50 – 60		
60 – 70		
70 – 80		
80 – 90		
90 – 100		
>100		

27. Describe any air pollution control device inlet and outlet gas conditioning processes (e.g., gas cooling, gas reheating, gas humidification):

None.

28. Describe the collection material disposal system:

Filters will be collected in a cubic yard box with other rags and paint contaminated materials to be shipped to a licensed hazardous waste TSDF for treatment.

29. Have you included ***Other Collectores Control Device*** in the Emissions Points Data Summary Sheet? None

30. **Proposed Monitoring, Recordkeeping, Reporting, and Testing**
Please propose monitoring, recordkeeping, and reporting in order to demonstrate compliance with the proposed operating parameters. Please propose testing in order to demonstrate compliance with the proposed emissions limits.

MONITORING: A manometer will be installed on the booth to check the pressure drop across the filters and set points will be marked to indicate adequate draw through the systems. Operating procedures shall include language that requires the manometer be checked prior to use to ensure that the system is running at adequate draw and the checks to be recorded.	RECORDKEEPING: Filters will be checked daily prior to spraying operations. Manometer and filter checks will be recorded each day and records will be maintained for five years.
REPORTING: Emissions from this process shall be reported annually as part of the annual emissions inventory submitted by April 1 of each year.	TESTING: If testing is required by the Director, it will be conducted using the required EPA methods.

MONITORING:	Please list and describe the process parameters and ranges that are proposed to be monitored in order to demonstrate compliance with the operation of this process equipment or air control device.
RECORDKEEPING:	Please describe the proposed recordkeeping that will accompany the monitoring.
REPORTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.
TESTING:	Please describe any proposed emissions testing for this process equipment on air pollution control device.

31. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
90%

32. Manufacturer's Guaranteed Control Efficiency for each air pollutant.
90%

33. Describe all operating ranges and maintenance procedures required by Manufacturer to maintain warranty.
None specified.

Emission Totals by Source

Emission Unit ID		Emission Point ID	Material	Gallons Emitted per Lot	lb/gal	VOCw%	VOC HAP%	PM%	PM HAP%
Z-1S	Mandrel Release Coating	Fugitive	Frekote 700-NC	1.934	6.29	100%	0.00%	0%	0.0%
Z-2S	Adapter Degreasing Table	Fugitive	IPA	0.75	6.58	100%	0%	0%	0%
Z-2S	Adapter Degreasing Table	Fugitive	MEK	0.375	6.73	100%	0%	0%	0%
Z-3S	BR-127 Primer Booth	Z-3E	BR-127	1.06875	7.34	90%	1.06%	10%	2.5%
Z-4S	Adapter/BR-127 Oven	Z-4E	BR-127	0.05625	7.34	90%	1.06%	10%	2.5%
Z-5S	Interior Degreasing Exhaust (Chemlok)	Z-5E	IPA	2.85	6.58	100%	0%	0%	0%
Z-6S	Degreasing Drying Station (Chemlok)	Z-6E	IPA	0.15	6.58	100%	0%	0%	0%
Z-7S	Chemlok Mixing Hood	Z-7E	Chemlok 205 mix	0.075	7.42	85%	39%	15%	0%
Z-7S	Chemlok Mixing Hood	Z-7E	Chemlok 234X mix	0.0938	7.63	91%	91%	3%	0%
Z-8S	Chemlok Application Booth	Z-8E	Chemlok 205 mix	0.893	7.42	84.6%	39.1%	15.4%	0%
Z-8S	Chemlok Application Booth	Z-8E	Chemlok 234X mix	0.969	7.63	91.1%	91.1%	2.5%	0.0%
Z-8S	Chemlok Application Booth (Cleanup)	Z-8E	MEK	0.5	6.73	100%	0%	0%	0%
Z-8S	Chemlok Application Booth (Cleanup)	Z-8E	Toluene	0.5	7.27	100%	100%	0%	0%
Z-9S	Chemlok Drying station	Z-9E	Chemlok 205 mix	0.047	7.42	84.6%	39.1%	15.4%	0%
Z-9S	Chemlok Drying station	Z-9E	Chemlok 234X mix	0.051	7.63	91.1%	91.1%	2.5%	0.0%
Z-10S	Insulator Prep Exhaust	Z-10E	IPA	2.85	6.58	100%	0%	0%	0%
Z-11S	Insulator Drying Oven	Z-11E	IPA	0.15	6.58	100%	0%	0%	0%
Z-12S	Bondliner Mixing Hood	Z-12E	Mix	0.072	7.82	80%	0%	0%	0%
Z-13S	Bondliner Application Booth	Z-13E	BL-004	1.2065	7.82	79.99%	0%	0.01%	0%
Z-13S	Bondliner Application Booth (Cleanup)	Z-13E	Toluene	0.5	7.27	100%	100%	0%	0%
Z-14S	Bondliner Drying Station	Z-14E	BL-004	0.0635	7.82	79.99%	0%	0.01%	0%
Z-15S	Case Machining	Z-15E	PM						
Z-16S	Exhaust for End Closure Adapter Wipe	Fugitive	IPA	0.75	6.58	100.00%	0%	0.00%	0%

Emission Totals by Source

Estimate losses from drying stations will be about 5% of total emissions with remaining bulk of emissions from the primary source (degreasing area, chemlok booth, bondliner booth)

Estimate approximately 2% loss of VOCs from mix hood to be calculated at year end based on the number of batches mixed.

*PM emissions include an overspray factor of 50% with 90% filter efficiency.

ACETONE EMISSIONS

Z-1S	Mandrel Cleaning	Acetone	0.125	6.61	0%	0%	0%	0%
Z-2S	Adapter Degreasing Table	Acetone	1.875	6.61	0%	0%	0%	0%
Z-5S	Interior Degreasing Exhaust (Chemlok)	Acetone	2.85	6.61	0%	0%	0%	0%
Z-6S	Degreasing Drying Station (Chemlok)	Acetone	0.15	6.61	0%	0%	0%	0%
Z-10S	Insulator Prep Exhaust	Acetone	0.5	6.61	0%	0%	0%	0%
Z-10S	Interior Degreasing Exhaust (BL-004)	Acetone	2.85	6.61	0%	0%	0%	0%
Z-11S	Degreasing Drying Station (BL-004)	Acetone	0.15	6.61	0%	0%	0%	0%
Z-16S	End Closure Adapter Bonding	Acetone	1.875	6.61	0%	0%	0%	0%

Emission Totals by Source

					Emissions Per Lot of 24 Units				
Emission Unit ID		Emission Point ID	Material	Gallons Emitted per Lot	lb VOC emitted	lb HAP VOC emitted	lb PM emitted*	lb HAP PM emitted*	Lots Per Day
Z-1S	Mandrel Release Coating	Fugitive	Frekote 700-NC	1.934	12.17	0.00	0.00	0.00	2.5
Z-2S	Adapter Degreasing Table	Fugitive	IPA	0.75	4.94	0.00	0.00	0.00	2.5
Z-2S	Adapter Degreasing Table	Fugitive	MEK	0.375	2.52	0.00	0.00	0.00	2.5
Z-3S	BR-127 Primer Booth	Z-3E	BR-127	1.06875	7.06	0.08	0.039	0.0098	2.5
Z-4S	Adapter/BR-127 Oven	Z-4E	BR-127	0.05625	0.37	0.004	0.000	0.000	2.5
Z-5S	Interior Degreasing Exhaust (Chemlok)	Z-5E	IPA	2.85	18.76	0.00	0.00	0.00	2.5
Z-6S	Degreasing Drying Station (Chemlok)	Z-6E	IPA	0.15	0.99	0.00	0.00	0.00	2.5
Z-7S	Chemlok Mixing Hood	Z-7E	Chemlok 205 mix	0.075	0.47	0.22	0.00	0.00	2.5
Z-7S	Chemlok Mixing Hood	Z-7E	Chemlok 234X mix	0.0938	0.65	0.65	0.00	0.00	2.5
Z-8S	Chemlok Application Booth	Z-8E	Chemlok 205 mix	0.893	5.61	2.59	0.05	0.00	2.5
Z-8S	Chemlok Application Booth	Z-8E	Chemlok 234X mix	0.969	6.74	6.74	0.01	0.00	2.5
Z-8S	Chemlok Application Booth (Cleanup)	Z-8E	MEK	0.5	3.36	0.00	0.00	0.00	2.5
Z-8S	Chemlok Application Booth (Cleanup)	Z-8E	Toluene	0.5	3.63	3.63	0.00	0.00	2.5
Z-9S	Chemlok Drying station	Z-9E	Chemlok 205 mix	0.047	0.30	0.14	0.00	0.00	2.5
Z-9S	Chemlok Drying station	Z-9E	Chemlok 234X mix	0.051	0.35	0.35	0.00	0.00	2.5
Z-10S	Insulator Prep Exhaust	Z-10E	IPA	2.85	18.76	0.00	0.00	0.00	2.5
Z-11S	Insulator Drying Oven	Z-11E	IPA	0.15	0.99	0.00	0.00	0.00	2.5
Z-12S	Bondliner Mixing Hood	Z-12E	Mix	0.072	0.45	0.00	0.00	0.00	2.5
Z-13S	Bondliner Application Booth	Z-13E	BL-004	1.2065	7.55	0.00	0.00	0.00	2.5
Z-13S	Bondliner Application Booth (Cleanup)	Z-13E	Toluene	0.5	3.63	3.63	0.00	0.00	2.5
Z-14S	Bondliner Drying Station	Z-14E	BL-004	0.0635	0.40	0.00	0.00	0.00	2.5
Z-15S	Case Machining	Z-15E	PM						2.5
Z-16S	Exhaust for End Closure Adapter Wipe	Fugitive	IPA	0.75	4.94	0.00	0.00	0.00	2.5
					104.65	18.05	0.10	0.01	

Emission Totals by Source

Estimate losses from drying stations will be about 5% of total emissions with rema
(degreasing area, chemlok booth, bondliner booth)
Estimate approximately 2% loss of VOCs from mix hood to be calculated at year e
*PM emissions include an overspray factor of 50% with 90% filter efficiency.

		ACETONE EMISSIONS	
Z-1S	Mandrel Cleaning	Acetone	0.125
Z-2S	Adapter Degreasing Table	Acetone	1.875
Z-5S	Interior Degreasing Exhaust (Chemlok)	Acetone	2.85
Z-6S	Degreasing Drying Station (Chemlok)	Acetone	0.15
Z-10S	Insulator Prep Exhaust	Acetone	0.5
Z-10S	Interior Degreasing Exhaust (BL-004)	Acetone	2.85
Z-11S	Degreasing Drying Station (BL-004)	Acetone	0.15
Z-16S	End Closure Adapter Bonding	Acetone	1.875

Emission Totals by Source

						Emissions Per Hour			
Emission Unit ID		Emission Point ID	Material	Gallons Emitted per Lot	Hours Per Lot	lb VOC emitted	lb HAP VOC emitted	lb PM emitted*	lb HAP PM emitted*
Z-1S	Mandrel Release Coating	Fugitive	Frekote 700-NC	1.934	4	3.04	0.00	0.00	0.00
Z-2S	Adapter Degreasing Table	Fugitive	IPA	0.75	4	1.23	0.00	0.00	0.00
Z-2S	Adapter Degreasing Table	Fugitive	MEK	0.375	4	0.63	0.00	0.00	0.00
Z-3S	BR-127 Primer Booth	Z-3E	BR-127	1.06875	4	1.77	0.02	0.010	0.0025
Z-4S	Adapter/BR-127 Oven	Z-4E	BR-127	0.05625	4	0.09	0.00	0.00	0.00
Z-5S	Interior Degreasing Exhaust (Chemlok)	Z-5E	IPA	2.85	4	4.69	0.00	0.00	0.00
Z-6S	Degreasing Drying Station (Chemlok)	Z-6E	IPA	0.15	2	0.49	0.00	0.00	0.00
Z-7S	Chemlok Mixing Hood	Z-7E	Chemlok 205 mix	0.075	1	0.47	0.22	0.00	0.00
Z-7S	Chemlok Mixing Hood	Z-7E	Chemlok 234X mix	0.0938	1	0.65	0.65	0.00	0.00
Z-8S	Chemlok Application Booth	Z-8E	Chemlok 205 mix	0.893	3	1.87	0.86	0.018	0.00
Z-8S	Chemlok Application Booth	Z-8E	Chemlok 234X mix	0.969	3	2.25	2.25	0.003	0.00
Z-8S	Chemlok Application Booth (Cleanup)	Z-8E	MEK	0.5	2	1.68	0.00	0.00	0.00
Z-8S	Chemlok Application Booth (Cleanup)	Z-8E	Toluene	0.5	2	1.82	1.82	0.00	0.00
Z-9S	Chemlok Drying station	Z-9E	Chemlok 205 mix	0.047	3	0.098	0.045	0.00	0.00
Z-9S	Chemlok Drying station	Z-9E	Chemlok 234X mix	0.051	3	0.118	0.118	0.00	0.00
Z-10S	Insulator Prep Exhaust	Z-10E	IPA	2.85	4	4.69	0.00	0.00	0.00
Z-11S	Insulator Drying Oven	Z-11E	IPA	0.15	4	0.25	0.00	0.00	0.00
Z-12S	Bondliner Mixing Hood	Z-12E	Mix	0.072	1	0.45	0.00	0.00	0.00
Z-13S	Bondliner Application Booth	Z-13E	BL-004	1.2065	3	2.52	0.00	0.00	0.00
Z-13S	Bondliner Application Booth (Cleanup)	Z-13E	Toluene	0.5	2	1.82	1.82	0.00	0.00
Z-14S	Bondliner Drying Station	Z-14E	BL-004	0.0635	3	0.132	0.00	0.00	0.00
Z-15S	Case Machining	Z-15E	PM		24			0.06	
Z-16S	Exhaust for End Closure Adapter Wipe	Fugitive	IPA	0.75	4	1.234	0.00	0.00	0.00
						31.99	7.80	0.09	0.00

Emission Totals by Source

Estimate losses from drying stations will be about 5% of total emissions with rema
(degreasing area, chemlok booth, bondliner booth)
Estimate approximately 2% loss of VOCs from mix hood to be calculated at year e
*PM emissions include an overspray factor of 50% with 90% filter efficiency.

		ACETONE EMISSIONS	
Z-1S	Mandrel Cleaning	Acetone	0.125
Z-2S	Adapter Degreasing Table	Acetone	1.875
Z-5S	Interior Degreasing Exhaust (Chemlok)	Acetone	2.85
Z-6S	Degreasing Drying Station (Chemlok)	Acetone	0.15
Z-10S	Insulator Prep Exhaust	Acetone	0.5
Z-10S	Interior Degreasing Exhaust (BL-004)	Acetone	2.85
Z-11S	Degreasing Drying Station (BL-004)	Acetone	0.15
Z-16S	End Closure Adapter Bonding	Acetone	1.875

Emission Totals by Source

						2023 Mod Emissions Emissions Per Year			
Emission Unit ID		Emission Point ID	Material	Gallons Emitted per Lot	Max Lots Per Year	lb VOC emitted	lb HAP VOC emitted	lb PM emitted*	lb HAP PM emitted*
Z-1S	Mandrel Release Coating	Fugitive	Frekote 700-NC	1.934	650.00	7908.89	0.00	0.00	0.00
Z-2S	Adapter Degreasing Table	Fugitive	IPA	0.75	650.00	3209.42	0.00	0.00	0.00
Z-2S	Adapter Degreasing Table	Fugitive	MEK	0.375	650.00	1639.28	0.00	0.00	0.00
Z-3S	BR-127 Primer Booth	Z-3E	BR-127	1.06875	650.00	4590.81	54.07	25.50	6.38
Z-4S	Adapter/BR-127 Oven	Z-4E	BR-127	0.05625	650.00	241.62	2.85	0.00	0.00
Z-5S	Interior Degreasing Exhaust (Chemlok)	Z-5E	IPA	2.85	650.00	12195.78	0.00	0.00	0.00
Z-6S	Degreasing Drying Station (Chemlok)	Z-6E	IPA	0.15	650.00	641.88	0.00	0.00	0.00
Z-7S	Chemlok Mixing Hood	Z-7E	Chemlok 205 mix	0.075	650.00	306.32	141.55	0.00	0.00
Z-7S	Chemlok Mixing Hood	Z-7E	Chemlok 234X mix	0.0938	650.00	423.88	423.88	0.00	0.00
Z-8S	Chemlok Application Booth	Z-8E	Chemlok 205 mix	0.893	650.00	3647.29	1685.37	34.84	0.00
Z-8S	Chemlok Application Booth	Z-8E	Chemlok 234X mix	0.969	650.00	4378.85	4378.85	6.33	0.00
Z-8S	Chemlok Application Booth (Cleanup)	Z-8E	MEK	0.5	650.00	2185.71	0.00	0.00	0.00
Z-8S	Chemlok Application Booth (Cleanup)	Z-8E	Toluene	0.5	650.00	2361.98	2361.98	0.00	0.00
Z-9S	Chemlok Drying station	Z-9E	Chemlok 205 mix	0.047	650.00	191.96	88.70	0.00	0.00
Z-9S	Chemlok Drying station	Z-9E	Chemlok 234X mix	0.051	650.00	230.47	230.47	0.00	0.00
Z-10S	Insulator Prep Exhaust	Z-10E	IPA	2.85	650.00	12195.78	0.00	0.00	0.00
Z-11S	Insulator Drying Oven	Z-11E	IPA	0.15	650.00	641.88	0.00	0.00	0.00
Z-12S	Bondliner Mixing Hood	Z-12E	Mix	0.072	650.00	292.88	0.00	0.00	0.00
Z-13S	Bondliner Application Booth	Z-13E	BL-004	1.2065	650.00	4907.77	0.00	0.03	0.00
Z-13S	Bondliner Application Booth (Cleanup)	Z-13E	Toluene	0.5	650.00	2361.98	2361.98	0.00	0.00
Z-14S	Bondliner Drying Station	Z-14E	BL-004	0.0635	650.00	258.30	0.00	0.00	0.00
Z-15S	Case Machining	Z-15E	PM		650.00			936.00	
Z-16S	Exhaust for End Closure Adapter Wipe	Fugitive	IPA	0.75	650.00	3209.42	0.00	0.00	0.00
						68022.14	11729.68	1002.71	6.38
						34.01	5.86	0.501	0.0032

Emission Totals by Source

Estimate losses from drying stations will be about 5% of total emissions with rema
(degreasing area, chemlok booth, bondliner booth)
Estimate approximately 2% loss of VOCs from mix hood to be calculated at year e
*PM emissions include an overspray factor of 50% with 90% filter efficiency.

		ACETONE EMISSIONS	
Z-1S	Mandrel Cleaning	Acetone	0.125
Z-2S	Adapter Degreasing Table	Acetone	1.875
Z-5S	Interior Degreasing Exhaust (Chemlok)	Acetone	2.85
Z-6S	Degreasing Drying Station (Chemlok)	Acetone	0.15
Z-10S	Insulator Prep Exhaust	Acetone	0.5
Z-10S	Interior Degreasing Exhaust (BL-004)	Acetone	2.85
Z-11S	Degreasing Drying Station (BL-004)	Acetone	0.15
Z-16S	End Closure Adapter Bonding	Acetone	1.875

Z-1S: Mandrel Release Coating Table

Material	SDS	g/cm3	lb/gal	VOCw%	VOC HAP%	PM%	PM HAP%	Usage for 1 Case (grams)	Usage for 1 Case (cc)	Usage for 1 Case (oz)	1 Lot (oz)	1 Lot (gallons)	Amount Mixed/Used (Gallons)	Amount for 15600 Units (oz)	gal	Total Lbs	Lbs VOC
Frekote 700-NC	997	0.754	6.29	100%	0.00%	0%	0.0%	230	305.04	10.3	247.6	1.934	1.934	160927.3	1257.24	7909.80	7909.80
Acetone	34	0.792	6.61	0%	0%	0%	0%			12.0	288.0	2.25	2.25	187200	1462.50	9664.86	0.00

Frekote 700-NC			MW
Dibutyl ether	142-96-1	20%	130.23
Naphtha, hydrotreated heavy	64742-48-9	74%	
Alkanes, C7-10-iso-	90622-56-3	3%	
Octane	111-65-9	3%	

Z-5S: Interior Degreasing Exhaust; Z-6S: Interior Degreasing Drying Station
Z-7S: Chemlok Mixing Hood; Z-8S Chemlok Spray Booth; Z-9S: Chemlok Drying Station

Material	SDS #	g/cm3	lb/gal	VOCw%	VOC HAP%	PM%	PM HAP%	Usage for 1 Case (grams)	Usage for 1 Case (cc)	Usage for 1 Case (oz)	1 Lot (oz)	1 Lot (gallons)	Amount Mixed/Used (Gallons)	Amount exhaust	Total Lbs Mixed	Total Lbs Exhausted	Lbs VOC	Lbs PM	Amount Waste Drum
Acetone	34	0.792	6.61	0%	0%	0%	0%			16.0	384	3	4	3		12886.47	0.00	0.00	1
Isopropyl Alcohol	49	0.789	6.58	100%	0%	0%	0%			16.0	384	3	4	3		12837.66	12837.66	0.00	1
Chemlok 205 primer (5:3) 15 sputum Cups	284	0.94	7.84	75.42%	62.58%	24.6%	0%			6.25	150	1.17							
MEK 9 Sputum Cups	10	0.806	6.73	100%	0%	0%	0%			3.75	90	0.70							
As mixed Chemlok 205 Primer		0.8898	7.4241	84.6%	39.1%	15.4%	0%			10	240	1.88	3.75	0.94	18096.18	4526.64	3831.24	695.41	2.81
Gun test 35-45 grams per 10 seconds								135	151.7	5.13	5.1	0.04							
First Coat Spray (12-14 seconds)								63	70.81	2.39	57.5	0.45							
Second Coat Spray (12-14 Seconds)								63	70.81	2.39	57.5	0.45							
Cleanup with MEK (Chemlok 205)	10	0.806	6.73	100%	0%	0%	0%			10.67	256.0	2.00	2	0.5		2185.71	2185.71	0.00	1.5
Chemlok 234X NW adhesive 15 sputum Cups	2568	0.959	8.00	82.1%	82.1%	5%	0%			6.25	150	1.17							
Toluene (1:1) 15 sputum Cups	3	0.871	7.27	100%	100%	0%	0%			6.25	150	1.17							
As mixed Chemlok 234X Primer		0.9150	7.6348	91.1%	91.1%	2.5%	0.0%			12.5	300	2.34	4.69	1.01	23262.16	5029.60	4579.95	125.74	3.67
Gun test 40-50 grams per 10 seconds								150	163.9	5.54	5.5	0.04							
First Coat Spray (12-14 seconds)								70	76.50	2.59	62.1	0.49							
Second Coat Spray (12-14 Seconds)								70	76.50	2.59	62.1	0.49							
Cleanup with Toluene (Chemlok 234)	3	0.871	7.27	100%	100%	0%	0%			10.67	256	2.00	2	0.5		2361.98	2361.98	0.00	1.5

Totals identified in wipe cleaning tables.

Degreasing with acetone and IPA - 24 units degreased in 2 hours each for acetone and IPA
Chemlok 205 - 24 units over 2 hours, 1 hour cleanup followed by Chemlok 234X - 24 units over 2 hours with 1 hour cleanup

VOC and HAP content for mixtures (from Chemlok Mix tab)

Chemlok 205 (as mixed)	
Ethyl benzene	3.5%
MIBK	41.8%
Xylene	10.4%
MEK	44.3%
Chemlok 234X (as mixed)	
Ethyl benzene	10.02%
Xylene	35.07%
Toluene	54.91%

Molecular weights

Chemlok 205 (as mixed)		**88.57**
Ethyl benzene	106.17	3.70
MIBK	100.16	41.84
Xylene	106.16	11.09
MEK	72.11	31.95
Chemlok 234X (as mixed)		**98.46**
Ethyl benzene	106.17	10.64
Xylene	106.16	37.23
Toluene	92.14	50.60
IPA	60.10	

Z-10S: Insulator Prep Exhaust

Material	SDS	g/cm3	lb/gal	VOCw%	VOC HAP%	PM%	PM HAP%	Usage for 1 Case (grams)	Usage for 1 Case (cc)	Usage for 1 Case (oz)	1 Lot (oz)	1 Lot (gallons)	Amount Mixed/Used (Gallons)	Amount exhaust	Total Lbs Mixed	Total Lbs Exhausted	Lbs VOC
Acetone	34	0.792	6.61	0%	0%	0%	0%			2.7	64.0	0.5	0.5				

Z-10S: Insulator Prep Exhaust; Z-11S Oven for Insulator Drying
Z-12S: Bondliner Mixing Booth; Z-13S: Bondliner Spray Booth; Z-14S: Bondliner Drying Station

Material	SDS	g/cm3	lb/gal	VOCw%	VOC HAP%	PM%	PM HAP%	Grams per Bondliner mix 2 mixes per Lot)	Usage for 1 Case (grams)	Usage for 1 Case (cc)	Usage for 1 Case (oz)	1 Lot (oz)	1 Lot (gallons)	Amount Mixed/Used (Gallons)	Amount exhaust	Amount Waste Drum	Amount for 6000 Units (oz)	gal	lbs
Acetone	34	0.792	6.61	0%	0%	0%	0%				16	384	3	4	3	1	249600	1950	12886.5
Isopropyl Alcohol	49	0.789	6.58	100%	0%	0%	0%				16	384	3	4	3	1	249600	1950	12837.7
Mix BL-034	2193	0.938	7.82	79.99%	0%	0.01%	0%	3200					3.61	3.61	1.27	2.34			
Rhodamine B Dye 0.01%	331	1.25	10.43	0%	0%	100%	0%	0.32											
Ethyl Acetate 79.99%	108	0.902	7.53	100%	0%	0%	0%	2559.68											
Hydroxyl-Terminated Polybutadiene 5%	315	0.9	7.51	0%	0%	0%	0%	160											
Desmodur N-100 15%	201	1.14	9.51	0%	0%	0%	0%	480											
Gun test 10-16 grams per 30 seconds									9.3	9.95	0.34	8.1	0.06				5251.415	41.03	321.0
First Coat Spray (167 inches 1 inch per second)									89.1	94.99	3.21	77.1	0.60				50113.5	391.51	3063.0
Second Coat Spray (167 inches 1 inch per second)									89.1	94.99	3.21	77.1	0.60				50113.5	391.51	3063.0
Cleanup with Toluene	3	0.871	7.27	100%	100%	0%	0%				2.67	64	0.5	2	0.5	1.5	41600	325	2362.0

1 lot = 24 motors

Ingredient % from Chemlok Mix Ratios tab		Ingred	
Molecular weight	%	MW	Mix MW
Rhodamine B Dye	0.01%	442.55	0.04426
Ethyl Acetate	79.99%	88.11	70.4792
Hydroxyl-Terminated Polybutadiene	5%	2400	120
Desmodur N-100	15%	500	75
			265.523

Max production is 24 units per day, but bondlining will complete 24 units in a single 8 hour shift with only 1 shift per day bondlined

Z-2S: Adapter Degreasing Table; Z-3S: BR-127 Primer Booth; Z-4S: Adapter/BR-127 Primer Oven

Material	SDS	g/cm3	lb/gal	VOCw%	VOC HAP%	PM%	PM HAP%	Usage for 1 Case (grams)	Usage for 1 Case (cc)	Usage for 1 Case (oz)	1 Lot (oz)	1 Lot (gallons)	Amount Mixed/Used (Gallons)	Amount for 15600 Units (oz)	gal	lb
BR-127 Primer	310	0.88	7.34	90%	1.06%	10%	2.5%			6.0	144.0	1.125	1.125	93600	731.25	5369.36
Acetone	34	0.792	6.61	0%	0%	0%	0%			10.0	240.0	1.875	1.875	156000	1218.75	8054.05
Isopropyl Alcohol	49	0.789	6.58	100%	0%	0%	0%			2.0	96.0	0.75	0.75	31200	243.75	1604.71
MEK	10	0.806	6.73	100%	0%	0%	0%			1	48.0	0.375	0.375	15600	121.88	819.64

From Mark White
I just received a message from H&W who has been spraying the BR127 on our GMLRS adapters. They said they have been using 3 ounces per part which equates to 6 ounces per rocket motor. Our max expected rate is 6000 motors / year or 281.25 gallons of BR127 per year.

New expected max rate is 15,600 cases/year

		Z-3S lb/hr HAP VOC	Z-3S lb/hr HAP PM
Formaldehyde	0.06%	0.001	
Methanol	1.0%	0.018	
Strontium chromate	2.5%		0.0050
		0.019	0.0050

BR-127		MW	
Methanol	1%	32.04	0.3204
2-Ethoxyethanol	17.5%	90.12	15.771
MEK	70%	72.11	50.477
Formaldehyde	0.06%	30.03	0.018018
Strontium chromate	2.50%	203.614	5.09035
			71.68

Chemlok 234X (82.1% VOCw as listed in Section 9)			82.1%
Ethyl benzene (20% or less)	20%	22.2%	18.2%
Xylene (70% or less)	70%	77.8%	63.9%
	90%	100.0%	

To determine Ethyl benzene and xylene amounts

Add amounts together and determine % of each in total

Use the calculated % and multiple by the VOC% of the material

Chemlok 234X / Toluene is mixed 1:1					Z-8S	Z-9S	Z-7S
	50%	50%	Mixture		lb/hr HAP	lb/hr HAP	lb/hr HAP
Ethyl benzene	18.2%		9.1%	10.02%	0.34	0.018	0.055
Xylene	63.9%		31.9%	35.07%	1.18	0.062	0.193
Toluene		100%	50.0%	54.91%	1.85	0.097	
			91.1%	100.00%	3.37	0.177	0.248

Chemlok 205 (75.42% VOCw as listed in Section 9)			75.42%
Ethyl benzene	5%	6.25%	4.7%
MIBK	60%	75.00%	56.6%
Xylene	15%	18.75%	14.1%
	80%	100%	

Chemlok 205 / MEK mixed 5:3 2.81 lb/hr VOC emissions

					Z-8S	Z-9S	Z-7S	
	62.5%	37.5%	Mixture		lb/hr HAP	lb/hr HAP	lb/hr HAP	
Ethyl benzene	4.7%		2.9%	3.5%	0.08	0.004	0.019	0.074
MIBK	56.6%		35.4%	41.8%	0.99	0.052	0.230	0.230
Xylene	14.1%		8.8%	10.4%	0.25	0.013	0.057	0.2503
MEK		100%	37.5%	44.3%	**1.32**	**0.070**	0.306	
			84.6%	100.0%				0.55

ATTACHMENT O
MONITORING, RECORDKEEPING, REPORTING AND TESTING PLAN

Monitoring

Z-3S (Z-1C); Z-8S (Z-2C); and Z-13S (Z-3C)
Each of these units are spray booths with filters for control of particulate matter (PM). Manometers or differential pressure gauges will be installed on each of these units to check the pressure drop across the filters and set points will be marked to indicate adequate draw through the systems. Operating procedures for each piece of equipment will include language that require the manometers or gauges be checked prior to use to ensure that the system is running at adequate draw and the checks to be recorded.

Z-15S (Z-4C) – Cyclone for Case Machining
The system will utilize a manometer with an integrated strobe alarm and will continuously monitor the pressure drop across after-filter. The manometer and alarm will be added to the regular Preventative Maintenance on an at least annual basis, or more often if advised by the manufacturer.

Recordkeeping

Engineering estimates from development motors are available for units that will be manufactured. The most efficient way to track emissions is tracking the number of units processed at each emission source and calculating emissions based on known emission rates multiplied by the number of units processed each day. We are proposing recordkeeping per the table below for each source. Record forms have been generated for each source and are attached to this plan. The GMLRS program will be using a production software system called Solumina. The program is an electronic system that replaces hard copy operating procedures and hand written records for production. The forms that are attached indicate what data must be tracked, but the daily production floor input may be into the Solumina system rather than hand written sheets. Reports will be run on a monthly basis to allow for emissions calculations at the end of each month. Monthly totals will be rolled up into 12 month rolling totals for each emission point.

Manometers (or differential pressure gauges) will be checked to ensure adequate air flow on units Z-3S, Z-8S, or Z-13S each day prior to use and the checks shall be recorded as part of the Daily Filter Check Records.

Daily Filter Checks will be made to ensure that filters are in place and in good condition prior to any spray operations in Z-3S, Z-8S, or Z-13S. These will be completed to ensure compliance with visible emission requirements. See form in attached Record Forms file.

The Cyclone (Z-4C) and its associated alarm system shall have preventative maintenance conducted at least annually and records shall be maintained.

For operations such as hand application of mold releases, degreasing, and wipe cleaning, processing hours have been estimated based on program development of single units. Actual hours may be higher or lower than what is estimated in the permit application.

Records to be Maintained

Emission Source ID	Emission Point ID	Records
Z-1S	Z-1E	Daily records of the number of winds made and hours of application of Frekote 700-NC.
Z-2S	Z-2E	Daily records of number of adapters degreased and wipe checked and hours of processing time.
Z-3S	Z-3E	Daily records of number of adapters coated and hours of processing time. Emissions are split 95% / 5% between spray booth and oven. Daily manometer and filter checks to ensure that filters are in place and in good condition prior to spray operations.
Z-4S	Z-4E	Daily records of number of adapters coated and hours of processing time. Emissions are split 95% / 5% between spray booth and oven.
Z-5S	Z-5E	Daily records of number of cases degreased and hours of processing time. Emissions are split 95% / 5% between exhaust and drying station.
Z-6S	Z-6E	Daily records of number of cases degreased and hours of processing time. Emissions are split 95% / 5% between exhaust and drying station.
Z-7S	Z-7E	Daily records of batches mixed with batch weights.
Z-8S	Z-8E	Daily records of number of cases sprayed and hours of processing time. Emissions are split 95% / 5% between spray booth and drying station. Daily manometer and filter checks to ensure that filters are in place and in good condition prior to spray operations.
Z-9S	Z-9E	Daily records of number of cases sprayed and hours of processing time. Emissions are split 95% / 5% between spray booth and drying station.
Z-10S	Z-10E	Daily records of number of cases degreased and hours of processing time. Emissions are split 95% / 5% between exhaust and drying station.
Z-11S	Z-11E	Daily records of number of cases degreased and hours of processing time. Emissions are split 95% / 5% between exhaust and drying station.
Z-12S	Z-12E	Daily records of batches mixed with batch weights.
Z-13S	Z-13E	Daily records of number of cases sprayed and hours of processing time. Emissions are split 95% / 5% between spray booth and drying station. Daily manometer and filter checks to ensure that filters are in place and in good condition prior to spray operations.
Z-14S	Z-14E	Daily records of number of cases sprayed and hours of processing time. Emissions are split 95% / 5% between spray booth and drying station.
Z-15S	Z-15E	Daily records of the number of cases machined. Daily manometer checks for the cyclone.
Z-16S	Z-16E	Daily records of number of adapters degreased and wipe checked and hours of processing time.

Reporting
Emissions from all emission points associated with this permit will be included in the Annual Emissions Inventory submitted by April 1 of each year.

Testing
None.

Proposed Emission Limits Table

Emission Point ID	Pollutant	Annual Emissions (lb/yr)
Z-1E	VOC	7909
Z-2E	VOC	4849
Z-3E	VOC PM	4591 26
Z-4E	VOC	242
Z-5E	VOC	12196
Z-6E	VOC	642
Z-7E / Z-12E	VOC	1023
Z-8E / Z-13E	VOC PM	19844 41
Z-9E / Z-14E	VOC	681
Z-10E	VOC	12196
Z-11E	VOC	642
Z-15E	PM	936
Z-16E	VOC	3209
TOTAL	**VOC** **PM**	**68024** **1003**

The hours of operation for mold release application, wipe cleaning and degreasing operations are based on engineering estimates from single units during program development and are subject to increase or decrease based on actual, multi-unit production methods. Therefore, we are requesting that no specific hourly limits be set in the permit, but rather use annual totals only. If hourly limits are required, we are requesting that they be set 50% higher than those listed in the application in case processing times for hand operations are significantly faster than development numbers have shown.

NORTHROP GRUMMAN

Northrop Grumman Corporation
Defense Systems Group
Alliant Techsystems Operations LLC
ABL Operations
210 State Route 956
Rocket Center. WV 26726

May 25, 2023

Mineral Daily News-Tribune
21 Shamrock Dr.
Keyser, WV 26726

Attn: Legal Ad Department

Please run the enclosed legal notice as required by the WV Division of Air Quality and forward a copy of the affidavit of publication to me. If possible, could you please expedite its printing?

Thank you.

Sincerely,

Sue Ellen Foor

Sue Ellen Foor
Environmental Engineer
Alliant Techsystems Operations LLC
Allegany Ballistics Laboratory

cc: Chris Scanlan

NORTHROP GRUMMAN

Northrop Grumman Corporation
Defense Systems Group
Alliant Techsystems Operations LLC
ABL Operations
210 State Route 956
Rocket Center. WV 26726

May 24, 2023

Notice is given that Alliant Techsytems Operations LLC – ABL Operations (a division of Northrop Grumman) has applied to the West Virginia Department of Environmental Protection, Division of Air Quality, for a Class II Administrative Update to R13-3334A to increase production rates and associated emissions at its facility located on 210 State Route, near Keyser in Mineral County, West Virginia. The latitude and longitude coordinates are: 39.561degress latitude, -78.833 degrees longitude.

The applicant estimates that the increased potential change to discharge the following Regulated Air Pollutants will be:
Volatile Organic Compounds (VOC) = 20.41 TPY
Particulate Matter (PM) = 0.301 TPY
Hazardous Air Pollutant Volatile Organic Compounds (HAP-VOC) = 3.52 TPY
Hazardous Air Pollutant Particulate Matter (HAP-PM) = 0.0019 TPY

Startup of operation began on or about the January 1, 2020. Written comments will be received by the West Virginia Department of Environmental Protection, Division of Air Quality, 601 57th Street, SE, Charleston, West Virginia, 25304, for a period of 30 days calendar days from the date of publication of this notice.

Any questions regarding this permit application should be directed to the DAQ at (304) 926-0499, extension 1227, during normal business hours.
Dated this the 24th day of May, 2023.

5/24/2023

By: Northrop Grumman
Alliant Techsystems Operations LLC – ABL Operations
Bill Hixon
Director of ABL Operations
210 State Route 956
Rocket Center, West Virginia 26726-3548

Attachment S

Title V Permit Revision Information

1. New Applicable Requirements Summary	
Mark all applicable requirements associated with the changes involved with this permit revision:	
☐ SIP	☐ FIP
☒ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☒ NESHAP (45CSR15)	☐ Nonattainment NSR (45CSR19)
☐ Section 111 NSPS (Subpart(s)_____)	☐ Section 112(d) MACT standards (Subpart(s)_____)
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☐ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☒ 45CSR27 State enforceable only rule
☐ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☐ Compliance Assurance Monitoring (40CFR64) [1]
☐ NO_x Budget Trading Program Non-EGUs (45CSR1)	☐ NO_x Budget Trading Program EGUs (45CSR26)

[1] If this box is checked, please include **Compliance Assurance Monitoring (CAM) Form(s)** for each Pollutants Specific Emission Unit (PSEU) (See Attachment H to Title V Application). If this box is not checked, please explain why **Compliance Assurance Monitoring** is not applicable:

There are no CAM requirements associated with this process.

2. Non Applicability Determinations

List all requirements, which the source has determined not applicable to this permit revision and for which a permit shield is requested. The listing shall also include the rule citation and a rationale for the determination.

45CSR21– Regulation to Prevent and Control Air Pollution from the Emission of Volatile Organic Compounds. The facility is not located in a county that is currently subject to 45CSR21, and is therefore currently exempt from this regulation.

40CFR63, Subpart GG, Section 63.745 – National Emission Standards for Aerospace Manufacturing Operations. The painting operations at this facility are exempted from Section 63.745 Primer and Topcoat operations because Specialty Coatings (definition per 63. 742) are used for all painting operations. Specialty Coating applications are covered by Control Technology Guidelines (CTG) EPA-453/R-97-004 enacted under 45CSR21 for RACT control of VOCs. However, the facility is not located in an area that is subject to 45CSR21, and is therefore, not subject to any CTG guidelines for Specialty Coating application.

40CFR63, Subpart PPP – National Emission Standards for Polyether Polyol Production. The facility manufactures Terathane Polyethylene Glycol Block Copolymer (TPEG), which is a Polyether Polyol. However, the operation is exempted from this MACT because there are no HAPs used or generated during the manufacturing operation.

40CFR63, Subpart GGGGG – National Emission Standards for Site Remediation. The facility currently has one site under remediation for groundwater contamination. This site is a Superfund site and is thus exempt from the MACT requirements. The facility also has a second site, which will begin remediation as part of a RCRA corrective action program within the next year. This second site would also be exempted since it is being conducted under a RCRA corrective action permit. In addition, neither site would generate emissions of more than 1 megagram per year of HAPs.

40CFR63, Subpart PPPPP – National Emission Standards for Hazardous Air Pollutants from Engine Test Sells/Stands (05/27/03)- This rule applies to the X-Range Static Rocket Motor Firing facility (Group 00Q). However, per 40CFR63.9290(b) & (d)(2) it is exempt from the requirements of this Subpart due to facility was existing source on May 14, 2002 (partially modified in summer of 2002, Source Q-3S) and also, it is used exclusively for rocket motors testing.

40CFR63, Subpart WWWWW – National Emission Standards for Reinforced Plastic Composites Manufacturing. the facility manufactures composite based rocket motor chambers and aircraft components. However, the facility is exempt from this MACT because none of the resin or fiber systems used, contain HAPs.

☒ **Permit Shield Requested** *(not applicable to Minor Modifications)*

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

3. Suggested Title V Draft Permit Language

Are there any changes involved with this Title V Permit revision outside of the scope of the NSR Permit revision? ☐ Yes ☒ No If Yes, describe the changes below.

Also, please provide **Suggested Title V Draft Permit language** for the proposed Title V Permit revision (including all applicable requirements associated with the permit revision and any associated monitoring /recordkeeping/ reporting requirements), OR attach a marked up pages of current Title V Permit. Please include appropriate citations (Permit or Consent Order number, condition number and/or rule citation (e.g. 45CSR§7-4.1)) for those requirements being added / revised.

See Attachment O –

4. Active NSR Permits/Permit Determinations/Consent Orders Associated With This Permit Revision		
Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
R13-3334A	09/02/20	Section 4.0
	/ /	
	/ /	

5. Inactive NSR Permits/Obsolete Permit or Consent Orders Conditions Associated With This Revision		
Permit or Consent Order Number	Date of Issuance	Permit/Consent Order Condition Number
	/ /	
	/ /	

6. Change in Potential Emissions	
Pollutant	Change in Potential Emissions (+ or -), TPY
VOC	20.41 TPY
HAP	3.53 TPY
PM	5.10 TPY

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.

7. Certification For Use Of Minor Modification Procedures ***(Required Only for Minor Modification Requests)***

Note:	*This certification must be signed by a responsible official. Applications without a signed certification will be returned as incomplete. The criteria for allowing the use of Minor Modification Procedures are as follows:*

i. Proposed changes do not violate any applicable requirement;

ii. Proposed changes do not involve significant changes to existing monitoring, reporting, or recordkeeping requirements in the permit;

iii. Proposed changes do not require or change a case-by-case determination of an emission limitation or other standard, or a source-specific determination for temporary sources of ambient air quality impacts, or a visibility increment analysis;

iv. Proposed changes do not seek to establish or change a permit term or condition for which there is no underlying applicable requirement and which permit or condition has been used to avoid an applicable requirement to which the source would otherwise be subject (synthetic minor). Such terms and conditions include, but are not limited to a federally enforceable emissions cap used to avoid classification as a modification under any provision of Title I or any alternative emissions limit approved pursuant to regulations promulgated under § 112(j)(5) of the Clean Air Act;

v. Proposed changes do not involve preconstruction review under Title I of the Clean Air Act or 45CSR14 and 45CSR19;

vi. Proposed changes are not required under any rule of the Director to be processed as a significant modification;

Notwithstanding subparagraph 45CSR§30-6.5.a.1.A. (items i through vi above), minor permit modification procedures may be used for permit modifications involving the use of economic incentives, marketable permits, emissions trading, and other similar approaches, to the extent that such minor permit modification procedures are explicitly provided for in rules of the Director which are approved by the U.S. EPA as a part of the State Implementation Plan under the Clean Air Act, or which may be otherwise provided for in the Title V operating permit issued under 45CSR30.

Pursuant to 45CSR§30-6.5.a.2.C., the proposed modification contained herein meets the criteria for use of Minor permit modification procedures as set forth in Section 45CSR§30-6.5.a.1.A. The use of Minor permit modification procedures are hereby requested for processing of this application.

(Signed): _____ Date: 5 / 24 /2023
(Please use blue ink) *(Please use blue ink)*

Named (typed): *Bill Hixon* Title: *Director of ABL Operations*

Note: Please check if the following included (if applicable):

☐	Compliance Assurance Monitoring Form(s)
☒	Suggested Title V Draft Permit Language (See Attachment O)

All of the required forms and additional information can be found under the Permitting Section of DAQ's website, or requested by phone.