BAE SYSTEMS

ORDNANCE SYSTEMS INC.
4050 Peppers Ferry Road, Route 114
Radford, VA 24141
Mail: P.O. Box 1, Radford, VA 24143
Telephone (540) 639-7323

August 14, 2024

Ashby R. Scott
Hazardous Waste Permit Writer
Office of Financial Responsibility and Waste Programs
Virginia Department of Environmental Quality
1111 East Main Street, Suite 1400
Richmond, VA 23219

Subject: **Variance Request to Recycle Secondary Hazardous Material**
Radford Army Ammunition Plant, Radford, Virginia

Dear Mr. Scott:

BAE Systems Ordnance Systems Inc. (OSI), operating contractor for Radford Army Ammunition Plant (RFAAP) respectfully submits the attached Variance Request for review and approval.

If you have any questions or comments, please contact me at 540.525.2311 or horace.downs@baesystems.com.

Respectfully,

Dean Downs
Principal Environmental Engineer
BAE Systems, OSI

Coordination with RFAAP Staff: Matthew J. Alberts
Matthew Alberts

Enclosure: Additional Certification Document
Attachment A – CEMS Quarterly Emissions Summary Reports
Attachment B – Summary of RATA and ACA Results

cc: RFAAP ACO Staff/ Alberts
File

BAE SYSTEMS

ORDNANCE SYSTEMS INC.
4050 Peppers Ferry Road, Route 114
Radford, VA 24141
Mail: P.O. Box 1, Radford, VA 24143
Telephone (540) 639-7323

Certification of submission to Ashby Scott (Virginia Department of Environmental Quality) of the Variance Request for Recycling Hazardous Secondary Materials from offsite at the RFAAP NAC/SAC.
Radford Army Ammunition Plant, Radford, Virginia.

DOCUMENT CERTIFICATION FORM

Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE:		DATE:	
NAME:	Adrien G. Humphreys	REGISTRATION:	20656
TITLE:	Lieutenant Colonel, US Army Commanding	ADDRESS:	PO Box 2
COMPANY:	U.S. Army		Radford, VA 24143

SIGNATURE:		DATE:	
NAME:	Aron Theroux	REGISTRATION:	20656
TITLE:	General Manager, RFAAP	ADDRESS:	PO Box 1
COMPANY:	BAE Systems Ordnance Systems Inc.		Radford, VA 24143

24-0900-087
D. Downs

United States Environmental Protection Agency
RCRA SUBTITLE C SITE IDENTIFICATION FORM

1. Reason for Submittal (Select only one.)

☑	Obtaining or updating an EPA ID number for on-going regulated activities (Items 10-17 below) that will continue for a period of time.
☐	Submitting as a component of the Hazardous Waste Report for _____ (Reporting Year)
	☐ Site was a TSD facility, a reverse distributor, and/or generator of ≥ 1,000 kg of non-acute hazardous waste, > 1 kg of acute hazardous waste, or > 100 kg of acute hazardous waste spill cleanup in **one or more months of the reporting year** (or State equivalent LQG regulations)
☐	Notifying that regulated activity is no longer occurring at this Site
☐	Obtaining or updating an EPA ID number for conducting Electronic Manifest Broker activities
☐	Submitting a new or revised Part A (permit) Form

2. Site EPA ID Number

V	A	1	2	1	0	0	2	0	7	3	0

3. Site Name

Radford Army Ammunition Plant

4. Site Location Address

Street Address **4050 Peppers Ferry Road**		
City, Town, or Village **Radford**		County **Montgomery/Pulaski**
State **Virginia**	Country **United States**	Zip Code **24141**
Latitude	Longitude	☐ Use Lat/Long as Primary Address

5. Site Mailing Address ☐ Same as Location Street Address

Street Address **P.O. Box 1**		
City, Town, or Village **Radford**		
State **Virginia**	Country **United States**	Zip Code **24143**

6. Site Land Type

☐ Private ☐ County ☐ District ☑ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

7. North American Industry Classification System (NAICS) Code(s) for the Site (at least 5-digit codes)

A. (Primary)	**325311**	C.	**332992**
B.	**32592**	D.	**332993**

8. Site Contact Information

☑ Same as Location Address

First Name **Melissa**	MI	Last Name **Lincoln**
Title **Environmental Specialist, BAE Systems**		
Street Address **4050 Peppers Ferry Road, P.O. Box 1**		
City, Town, or Village **Radford**		
State **Virginia**	Country **United States**	Zip Code **24141**
Email **melissa.lincoln@baesystems.us**		
Phone **540-639-7087**	Ext	Fax **N/A**

9. Legal Owner and Operator of the Site

A. Name of Site's Legal Owner

☐ Same as Location Address

Full Name **U.S. Army**	Date Became Owner (mm/dd/yyyy) **4/1/1941**

Owner Type

☐ Private ☐ County ☐ District ☑ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

Street Address **P.O. Box 2**		
City, Town, or Village **Radford**		
State **Virginia**	Country **United States**	Zip Code **24143**
Email		
Phone	Ext	Fax
Comments		

B. Name of Site's Legal Operator

☐ Same as Location Address

Full Name **BAE Systems, Ordnance Systems Inc.**	Date Became Operator (mm/dd/yyyy) **7/1/2012**

Operator Type

☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

Street Address **P.O. Box 1**		
City, Town, or Village **Radford**		
State **Virginia**	Country **United States**	Zip Code **24141**
Email		
Phone	Ext	Fax
Comments		

10. Type of Regulated Waste Activity (at your site)

Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities

☑ Y ☐ N	1. Generator of Hazardous Waste—If "Yes", mark only one of the following—a, b, c	
☑	a. LQG	-Generates, in any calendar month, 1,000 kg/mo (2,200 lb/mo) or more of non-acute hazardous waste (includes quantities imported by importer site); or - Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lb/mo) of acute hazardous waste; or - Generates, in any calendar month or accumulates at any time, more than 100 kg/mo (220 lb/mo) of acute hazardous spill cleanup material.
☐	b. SQG	100 to 1,000 kg/mo (220-2,200 lb/mo) of non-acute hazardous waste and no more than 1 kg (2.2 lb) of acute hazardous waste and no more than 100 kg (220 lb) of any acute hazardous spill cleanup material.
☐	c. VSQG	Less than or equal to 100 kg/mo (220 lb/mo) of non-acute hazardous waste.
☐ Y ☑ N	2. Short-Term Generator (generates from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section. *Note: If "Yes", you MUST indicate that you are a Generator of Hazardous Waste in Item 10.A.1 above.*	
☑ Y ☐ N	3. Treater, Storer or Disposer of Hazardous Waste—Note: Part B of a hazardous waste permit is required for these activities.	
☐ Y ☑ N	4. Receives Hazardous Waste from Off-site	
☐ Y ☑ N	5 Recycler of Hazardous Waste	
☐	a. Recycler who stores prior to recycling	
☐	b. Recycler who does not store prior to recycling	
☐ Y ☑ N	6. Exempt Boiler and/or Industrial Furnace—If "Yes", mark all that apply.	
☐	a. Small Quantity On-site Burner Exemption	
☐	b. Smelting, Melting, and Refining Furnace Exemption	

B. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g. D001, D003, F007, U112). Use an additional page if more spaces are needed.

D001	**D002**	**D003**	**D004**	**D005**	**D006**	**D007**
D008	**D009**	**D010**	**D011**	**D018**	**D030**	**D035**
F003	**F005**	**F039**	**K044**	**K045**	**K047**	**K111**
P042	**P081**	**U002**	**U069**	**U080**	**U088**	**U102**
U105	**U108**	**U117**	**U134**	**U151**	**U154**	**U159**

C. Waste Codes for State Regulated (non-Federal) Hazardous Wastes. Please list the waste codes of the State hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

11. Additional Regulated Waste Activities (NOTE: Refer to your State regulations to determine if a separate permit is required.)

A. Other Waste Activities

☐ Y ☑ N	1. Transporter of Hazardous Waste—If "Yes", mark all that apply.
☐	a. Transporter
☐	b. Transfer Facility (at your site)
☐ Y ☑ N	2. Underground Injection Control
☐ Y ☑ N	3. United States Importer of Hazardous Waste
☐ Y ☑ N	4. Recognized Trader—If "Yes", mark all that apply.
☐	a. Importer
☐	b. Exporter
☐ Y ☑ N	5. Importer/Exporter of Spent Lead-Acid Batteries (SLABs) under 40 CFR 266 Subpart G—If "Yes", mark all that apply.
☐	a. Importer
☐	b. Exporter

B. Universal Waste Activities

☐ Y ☑ N	1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) - If "Yes" mark all that apply. Note: Refer to your State regulations to determine what is regulated.
☐	a. Batteries
☐	b. Pesticides
☐	c. Mercury containing equipment
☐	d. Lamps
☐	e. Aerosol Cans
☐	f. Other (specify) _____
☐	g. Other (specify) _____
☐ Y ☑ N	2. Destination Facility for Universal Waste Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities

☐ Y ☑ N	1. Used Oil Transporter—If "Yes", mark all that apply.
☐	a. Transporter
☐	b. Transfer Facility (at your site)
☐ Y ☑ N	2. Used Oil Processor and/or Re-refiner—If "Yes", mark all that apply.
☐	a. Processor
☐	b. Re-refiner
☐ Y ☑ N	3. Off-Specification Used Oil Burner
☐ Y ☑ N	4. Used Oil Fuel Marketer—If "Yes", mark all that apply.
☐	a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
☐	b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Pharmaceutical Activities

☑ Y ☐ N	1. Operating under 40 CFR Part 266, Subpart P for the management of hazardous waste pharmaceuticals—if "Yes", mark only one. Note: See the item-by-item instructions for definitions of healthcare facility and reverse distributor.
☑	a. Healthcare Facility
☐	b. Reverse Distributor
☐ Y ☑ N	2. Withdrawing from operating under 40 CFR Part 266, Subpart P for the management of hazardous waste pharmaceuticals. Note: You may only withdraw if you are a healthcare facility that is a VSQG for all of your hazardous waste, including hazardous waste pharmaceuticals.

12. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262, Subpart K.

☐ Y ☑ N	A. Opting into or currently operating under 40 CFR Part 262, Subpart K for the management of hazardous wastes in laboratories— If "Yes", mark all that apply. Note: See the item-by-item instructions for definitions of types of eligible academic entities.
☐	1. College or University
☐	2. Teaching Hospital that is owned by or has a formal written affiliation with a college or university
☐	3. Non-profit Institute that is owned by or has a formal written affiliation with a college or university
☐ Y ☑ N	B. Withdrawing from 40 CFR Part 262, Subpart K for the management of hazardous wastes in laboratories.

13. Episodic Generation

☐ Y ☑ N	Are you an SQG or VSQG generating hazardous waste from a planned or unplanned episodic event, lasting no more than 60 days, that moves you to a higher generator category. If "Yes", you must fill out the Addendum for Episodic Generator.

14. LQG Consolidation of VSQG Hazardous Waste

☐ Y ☑ N	Are you an LQG notifying of consolidating VSQG Hazardous Waste Under the Control of the Same Person pursuant to 40 CFR 262.17(f)? If "Yes", you must fill out the Addendum for LQG Consolidation of VSQG hazardous waste.

15. Notification of LQG Site Closure for a Central Accumulation Area (CAA) (optional) OR Entire Facility (required)

☐ Y ☑ N	LQG Site Closure of a Central Accumulation Area (CAA) or Entire Facility.
	A. ☐ Central Accumulation Area (CAA) or ☐ Entire Facility
	B. Expected closure date: _____ mm/dd/yyyy
	C. Requesting new closure date: _____ mm/dd/yyyy
	D. Date closed : _____ mm/dd/yyyy ☐ 1. In compliance with the closure performance standards 40 CFR 262.17(a)(8) ☐ 2. Not in compliance with the closure performance standards 40 CFR 262.17(a)(8)

16. Notification of Hazardous Secondary Material (HSM) Activity

☑ Y ☐ N	Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 260.30, 40 CFR 261.4(a)(23), (24), (25), or (27)? If "Yes", you must fill out the Addendum to the Site Identification Form for Managing Hazardous Secondary Material.

17. Electronic Manifest Broker

☐ Y ☑ N	Are you notifying as a person, as defined in 40 CFR 260.10, electing to use the EPA electronic manifest system to obtain, complete, and transmit an electronic manifest under a contractual relationship with a hazardous waste generator?

18. Comments (include item number for each comment)

The Radford Army Ammunition Plant (RFAAP) is a government-owned, contractor-operated industrial installation responsible to the U.S. Army and is operated by BAE Systems Ordnance Systems Inc. The mission of RFAAP is to manufacture energetics for the U.S. Army and allies. Additionally, commercial producers operate and lease portions of RFAAP through facility use arrangements.

10.B. - Additional Waste Codes for Federally Regulated Hazardous Wastes handled at Site: U213.

19. Certification I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations. **Note: For the RCRA Hazardous Waste Part A permit Application, all owners and operators must sign (see 40 CFR 270.10(b) and 270.11)**.

Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy)
Printed Name (First, Middle Initial Last) **Adrien G Humphreys**	Title **Lieutenant Colonel, US Army**
Email **adrien.g.humphreys.mil@army.mil**	

Signature of legal owner, operator or authorized representative	Date (mm/dd/yyyy)
Printed Name (First, Middle Initial Last) **Aron Theroux**	Title **General Manager**
Email **aron.theroux@baesystems.us**	

ADDENDUM TO THE SITE IDENTIFICATION FORM: NOTIFICATION OF HAZARDOUS SECONDARY MATERIAL ACTIVITY

ONLY fill out this form if:

- You are located in a State that allows you to manage excluded hazardous secondary material (HSM) under 40 CFR 260.30, 261.4(a)(23), (24), (25), or (27) (or state equivalent; See https://www.epa.gov/hw/where-2018-definition-solid-waste-rule-effect for a list of eligible states; AND
- You are or will be managing excluded HSM in compliance with 40 CFR 260.30, 261.4(a)(23), (24), (25), or (27) (or state equivalent) or have stopped managing excluded HSM in compliance with the exclusion(s) and do not expect to manage any amount of excluded HSM under the exclusion(s) for at least one year. Do not include any information regarding your hazardous waste activities in this section. Note: If your facility was granted a solid waste variance under 40 CFR 260.30 prior to July 13, 2015, your management of HSM under 40 CFR 260.30 is grandfathered under the previous regulations and you are not required to notify for the HSM management activity excluded under 40 CFR 260.30.

1. Reason for Notification (Include dates where requested)

☑ Facility will begin managing excluded HSM as of **9/1/2024** (mm/dd/yyyy).

☐ Facility is still managing excluded HSM/re-notifying as required by March 1 of each even-numbered year.

☐ Facility has stopped managing excluded HSM as of _____ (mm/dd/yyyy) and is notifying as required.

2. Description of Excluded HSM Activity. Please list the appropriate codes (see Code List section of the instructions) and quantities, in short tons, to describe your excluded HSM activity ONLY (do not include any information regarding your hazardous wastes). Use additional pages if more space is needed.

A. Facility Code	B. Waste Code(s) for HSM	C. Estimate Short Tons of excluded HSM to be managed annually	D. Actual Short Tons of excluded HSM that was managed during the most recent odd-numbered year	E. Land-based Unit Code
07	D002	18,000,000	0	NA
07	D002	9,000,000	0	NA

VARIANCE REQUEST TO RECYCLE HAZARDOUS SECONDARY MATERIAL – SPENT ACID
RADFORD ARMY AMMUNITION PLANT, RADFORD, VIRGINIA
EPA ID#: VA1210020730

14 August 2024

BAE SYSTEMS

REVISION HISTORY:

REVISION	DATE	APPROVAL	DESCRIPTION
Official Submittal	8/14/2024	BAE Env	

Contents

BAE SYSTEMS

ACRONYMS & CUI LEGEND

CO - Carbon Monoxide

DEQ - Virginia Department of Environmental Quality

EPA - Environmental Protection Agency

MOC - Management of Change

NAC/SAC - Nitric Acid Concentrator/Sulfuric Acid Concentrator

NC - Nitrocellulose

NG - Nitroglycerin

NGMA - Nitroglycerin Mixed Acid

NOx - Nitrous Oxides

PHA - Process Hazards Analysis

PSM - Process Safety Management

RCRA - Resource Conservation and Recovery Act

RFAAP - Radford Army Ammunition Plant

RMP - Risk Management Plan

SNA - Strong Nitric Acid

SSA - Strong Sulfuric Acid

VHMR - Virginia Hazardous Waste Management Regulations

VPDES - Virginia Pollutant Discharge Elimination System

SECTION 1. BACKGROUND

BAE Systems, Ordnance Systems Inc. (BAE) is petitioning to exclude a specific waste stream from classification as a solid waste, according to 9VAC 20-60-1390. This variance request will allow the Radford Army Ammunition Plant (RFAAP) to accept and recycle hazardous secondary material that will be transferred to our site for reclamation under 40 CRF 261.4(a)(24). According to 9VAC20-60-261, Virginia has not adopted the most recent iterations of the Federal regulations and retains 40 CFR 261.4(a)(24) as it appears in EPA's Definition of Solid Waste rule (80 FR 1694, January 13, 2015). The United States Environmental Protection Agency (EPA) granted final authorization to the state of Virginia for revisions to the hazardous waste program under the Resource Conservation and Recovery Act (RCRA) (87 FR 200, October 18, 2022). The specific requirements, with additional details, are described in this report to demonstrate how this facility meets the requirements under the Verified Recycler Exclusion.

RFAAP is seeking to obtain a variance from the Virginia Department of Environmental Quality (DEQ), in order to be considered a verified recycler of spent acid.

RFAAP has been contacted by three facilities, one located in Tennessee, one on-site tenant and the third in Florida, that generate a similar spent acid stream to what is produced at RFAAP, through the manufacturing of Nitroglycerin (NG) and Nitrocellulose. The facilities operate explosive and/or propellant manufacturing processes and R&D operations. RFAAP has recycled this material in the past, however changes in the rules and interpretations caused the cessation of off-site spent acid recycling at RFAAP.

As a part of routine production activities, RFAAP buys and receives weak nitric acid and Nitroglycerin Mixed Acid (NGMA) for use in the manufacturing process. These processes produce an acid stream byproduct, referred to as "spent acid" and/or "pyro acid." RFAAP concentrates purchased weak nitric acid and recycles several spent acidic streams from onsite production activities via the Nitric Acid Concentrator/Sulfuric Acid Concentrator (NACSAC) unit. The NACSAC takes a weak acid or spent acid stream and concentrates the sulfuric and nitric acids. The resulting reclaimed nitric acid and sulfuric acid are recirculated at RFAAP into the Nitrocellulose (NC) manufacturing process. Historically, RFAAP has accepted spent acid from these facilities and recycled this material. However, in the latter half of 2020 this practice ceased, because of challenges to the classification of the materials. Regulatory uncertainty surrounding spent acid has made recycling this material difficult. This spent acid waste stream would be considered a hazardous secondary material under current regulatory definitions.

In order to resume acceptance of spent acid from off site, the information below is provided to explain the legitimacy of the recycling practices and other requirements set forth under the Verified Recycler Exclusion.

Section 2. Conditions of verified recycler exclusion

A. Provisions Applicable to the Hazardous Secondary Materials Generator, the Reclamation Facility, and any Intermediate Facility

1. *Prohibition on speculative accumulation*

RFAAP will be considered the Reclamation Facility. The Generators will transport spent acid to the RFAAP NACSAC via a tanker truck via interstate travel. There will be no Intermediate Facility, spent acid will leave the generators facility and travel directly to RFAAP to be unloaded. Business units and Operation Managers between RFAAP and the generators will coordinate, approve, and schedule each tanker delivery of spent acid. RFAAP has a limited number of spent acid storage tanks, such that speculative accumulation can not occur. If RFAAP spent acid inventories are too high, no deliveries will be accepted. Each tank will be turned over at least once per month. During a calendar year, RFAAP's process for recycling spent acid is continuous, except during shutdowns for preventative maintenance.

The accepted spent acid will be stored in one of several spent acid storage tanks, based on availability and capacity at time of delivery. The delivery date will be recorded on inventory tickets and the accumulation period will be tracked, traceable, and made available to inspectors upon request.

2. *Notification*

RFAAP is providing this variance request to fulfill the notification requirements. Information is provided on EPA Form 8700-12, provided in **Attachment I**, to ensure the following requirements are provided:

- Name, address, EPA ID
- Name and phone number of contact
- NAICS
- Exclusion under which hazardous secondary materials will be managed
- When RFAAP expects to begin managing hazardous secondary materials
- List of hazardous secondary materials that will be managed
- Material managed in land-based unit
- Quantity of hazardous secondary material to be managed annually (21 trucks per week)

If at any time, RFAAP stops managing spent acid and does not expect to manage spent acid as hazardous secondary material for at least a year, the facility will re-notify within 30 days using EPA Form 8700-12. RFAAP will also send a notification by March 1 of each even numbered year after variance is issued.

3. *Hazardous secondary materials must be contained*

Spent acid, managed as hazardous secondary material, accepted by RFAAP will be contained in one of several spent acid storage tanks managed in the facility's acid tank

farm. The acid tank farm contains multiple tanks, all are located within secondary containment dikes. Administrative procedures, preventative maintenance inspections, and engineered controls ensure the adequacy and maintenance of the tank farm. Acid will be contained and delivered in tanker trucks and unloaded in most cases within hours of arrival, should anything preclude immediate unloading, transfer of material will be completed within 24 hours of arriving at the facility, and no other shipments would be accepted until the issues are resolved.

RFAAP acknowledges that spent acid released to the environment from storage containers would be subject to hazardous waste regulations, unless immediately cleaned up.

4. *Emergency preparedness and response*
RFAAP is considered a large quantity generator of hazardous waste, irrespective of the proposed acceptance and storage of spent acid, as hazardous secondary material. Therefore, our site maintains a Hazardous Waste Contingency Plan, updated regularly and shared with local emergency responders. There is an onsite Fire Department, trained and supplied, to respond to major emergencies at RFAAP. Mutual aid agreements exist with multiple local emergency agencies. An intercom and emergency alarm system is utilized at RFAAP and tested at regular intervals, in the event of any major emergency.

5. *Exclusion is limited to recycling performed within the United States*
RFAAP acknowledges that recycling of spent acid will be performed within the United States and solely at the site's NAC/SAC unit.

B. Provisions Applicable to the Hazardous Secondary Material Generator

1. Transport to a Verified Recycler
The generator of the spent acid (hazardous secondary material) will transport spent acid to RFAAP only when RFAAP is considered a verified reclamation facility and has received a variance from Virginia Department of Environmental Quality. There will be no intermediate facility between the generator and RFAAP. Transport will be accomplished by tanker truck and interstate vehicle transport.

2. Recordkeeping
Coordination with generators will confirm that documents will be retained for at least three years. The following will be recorded on bill of lading that will be signed and copied for each delivery of spent acid to RFAAP.

- Date of shipment
- Transporter information
- Generator information (Company name and address)
- Reclaimer information (RFAAP name and address)
- Type (spent acid) and quantity in the shipment

Copies of the records will be electronically submitted to each generator after each delivery from their facility, for verification of receipt of material by RFAAP and that the material has not been discarded. Records will be retained for no less than three years.

3. Provisions Applicable to the Transportation of Hazardous Secondary Materials

Transportation of spent acid from each generator Company to RFAAP may take up to two days. There will be no transfers or consolidations of the hazardous secondary material between the generator Company and RFAAP. All shipments will be direct to RFAAP and transportation will be accomplished using a licensed hazardous waste transporter.

C. Provisions Applicable to the Reclamation Facility and any Intermediate Facilities

1. Recordkeeping

The same records listed in Section 2 above, will be maintained at RFAAP, as the Reclaimer. Documents will be retained for no less than three years. There will be no intermediate facility and there will be no subsequent shipments offsite for further reclamation. All recycling activities will take place at RFAAP within the NAC/SAC unit

2. Storage of Hazardous Secondary Materials

The details for the storage of the accepted spent acid can be found in Section 1 above. The acid storage tank farm at RFAAP was constructed and is managed with specifications appropriate for storage of multiple acids, and include weak nitric acid, strong nitric acid, strong sulfuric acid, and spent acid. The spent acid that will be accepted by RFAAP will be managed, stored, and recycled in an identical way to the spent acid produced within normal RFAAP production activities.

3. Management of recycling residuals

The NACSAC building is equipped with heat exchangers, pumps, piping, glass lined vessels, control valves as well as meters monitoring temperature, pressure, conductivity, density, and flow. Several utilities service the NAC/SAC process, such as steam, cooled water, chilled water and natural gas. The NAC/SAC recovers spent acids and produces strong nitric acid (SNA) and strong sulfuric acid (SSA), in addition to a process vessel which breaks down organic matter in the spent acid. The spent acid consists mainly of nitric acid, sulfuric acid, water, and trace amounts of energetic material, varying in concentration and composition. The spent acid is fed into the NACSAC to produce the end products of SNA and SSA. Other residuals produced include wastewater and air emissions.

The excess wastewater is sent to the acidic wastewater system, where it is neutralized and ultimately discharged into the New River. RFAAP maintains multiple wastewater treatment sewer lines and stormwater outfalls with permitted coverage under a Virginia Pollutant Discharge Elimination System (VPDES) discharge permit (Permit No. VA0000248).

The NAC/SAC has two air pollution control devices, an ABS tower and a Thermal Oxidizer. The ABS tower recovers and controls nitrous oxide (NOx) gases by utilizing pressure and temperature to react NOx in compressed air with demineralized water, producing weak nitric acid. The weak acid is returned through the system as feed stock. A Thermal Oxidizer is utilized to treat carbon monoxide (CO) produced from the organics in the spent acid. Air

emissions from the NACSAC and acid storage areas are covered under the facility's air permit. The air permit sets limitations, monitoring, record-keeping, testing and reporting requirements that apply to the NAC/SAC and other air emissions sources in the Acid Area.

4. Financial Assurance

RFAAP is a federally owned facility. According to 40 CFR §261.140 (b), States and the Federal government are exempt from the financial assurance requirements of the subpart.

5. Verification of the Recycler

a. The intermediate or reclamation facility must demonstrate that the reclamation process for the hazardous secondary materials is legitimate

The hazardous secondary material, spent acid, will be legitimately recycled as it provides a useful contribution to the existing recycling process and production at RFAAP. Nitric acid and sulfuric acid are valuable ingredients, used by the recycler (RFAAP) for use in commercial production as an ingredient in propellant manufacturing. The spent acid is a valuable source that can be continually recycled into SNA and SSA. It is beneficial to derive SNA and SSA from recycling, rather than to continually purchase as raw materials and dispose of the material once used.

The hazardous secondary material, spent acid, will be transferred, stored, and managed in a safe and appropriate manner, as a valuable commodity, and in a similar manner as the management of raw acids at RFAAP. There are numerous engineering and administrative controls for acid storage (raw or spent) in the acid tank farm which ensures proper storage and containment.

The products of the recycling of spent acid do not contain the following:

- Significant concentrations of hazardous constituents.
- Contain concentrations of hazardous constituents at levels that are significantly elevated from those found in analogous raw products.
- Exhibit a hazardous characteristic that analogous products do not exhibit.

The SNA and SSA produced by recycling via the NACSAC are identical to raw, purchased acids.

b. The intermediate or reclamation facility must satisfy the financial assurance condition in § 261.4(a)(24)(vi)(F)

This section of the regulations directly cite Subpart H under 40 CFR §261 for the requirements for financial assurance. As stated above, states and the Federal government are exempt from the financial assurance requirements of the subpart. Because RFAAP is a federally owned facility, the financial assurance conditions do not apply.

c. The intermediate or reclamation facility must not be subject to a formal enforcement action

RFAAP has not been subject to formal enforcement action and is not classified as a significant non-complier under RCRA subtitle C

d. The intermediate or reclamation facility must have the equipment and trained personnel to safely manage the hazardous secondary material and must meet emergency preparedness and response requirements

The facility has existing equipment and trained personnel to safely manage the hazardous secondary material, spent acid. RFAAP has been recycling and managing the same material in a continuous recycling process successfully for more than 10 years with this facility. RFAAP maintains a Hazardous Waste Contingency Plan, updated regularly and shared with local emergency responders. Additionally, there is an onsite Fire Department, trained and supplied, to respond to major emergencies at RFAAP. Mutual aid agreements exist with multiple local emergency agencies. An intercom emergency alarm system is utilized at RFAAP and tested at regular intervals, in the event of any major emergency.

e. If residuals are generated from the reclamation of the excluded hazardous secondary materials, the reclamation facility must have the permits required (if any) to manage the residuals

As mentioned in sections above, there are wastewater and air emission residuals produced by this recycling activity.

The excess wastewater from NACSAC is sent to the acidic wastewater system, where it is neutralized and ultimately discharged into the New River. RFAAP maintains multiple wastewater treatment sewer lines and stormwater outfalls with permitted coverage under a Virginia Pollutant Discharge Elimination System (VPDES) discharge permit (Permit No. VA0000248).

Air emissions from the NAC/SAC and acid storage area are covered under the facility's air permit. Air emission controls are in place to reduce and minimize any environmental impact from facility operations.

f. The intermediate or reclamation facility must address the potential for risk to proximate populations from unpermitted releases of the hazardous secondary material to the environment

RFAAP is a large facility with several Process Safety Management (PSM) and Risk Management Plan (RMP)-covered processes. Tthese programs require both management of change (MOC) requirements and in-depth evaluations of risks associated with the handling and possible release scenarios associated with strong acid releases. The risks of acid tank farm storage and NACSAC operations are fully evaluated, explored, and updated by Process Hazard Analysis (PHA) every five years or when major process changes occur. The PHA process and the resulting

recommendations help the organization identify a range of risks, evaluate the consequences of hazardous chemical releases for the facility and surrounding public, and mitigate those hazards and risks.

The risk matrix that is utilized during a PHA evaluation, takes into account frequency and magnitude of health, safety, and environmental risks for every node of a system. For the environmental aspect, this includes evaluating releases no matter how small or large, including if releases leave the site boundaries. The last full PHA evaluation of the NAC/SAC and acid tank farms was completed in 2020.

Additionally, there are numerous engineering and administrative safeguards including relief systems/alarms/controls, containment dikes, operating procedures for emergency shutdown and release response.

As stated earlier, the facility has an internal award-winning fire department, fully capable and trained in hazardous material response. RFAAP also maintains support agreements with Montgomery County, Pulaski County and the City of Radford fire departments should additional assistance be required. Onsite responders include trained hazardous materials technicians. Additional support can be mobilized through the state if additional hazardous material teams are required.

D. ADDITIONAL CONSIDERATIONS

Not all states have adopted the new rules and may not consider the transported spent acid a secondary hazardous material, but a hazardous waste. In these and other states, spent acid material spilled would need to be treated as if it were a hazardous waste spill. RFAAP is requiring all spent acid shipments that are to be recycled as secondary hazardous material at RFAAP to be transported by licensed hazardous waste transporters. This will ensure that shipments will be in compliance with all state regulations, and should an incident occur, it is managed by individuals trained in hazardous waste management and spill response.